From: John Barry Smith <barry@johnbarrystsmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: phil.randall@faa.gov
Subject: private aviation safety databases

Gloria.R.LaRoche@faa.gov
Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 26

phil.randall@faa.gov wrote:
FAAST Safety

Dear Ms. LaRoche and Mr. Randall, Monday, July 30, 2007

Please scour http://www.montereypeninsulaairport.com
http://www.ntsb.org, a private aviation safety database, for clues that could help avert otherwise unforeseen incidents and accidents in that the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation is the cause of Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, TWA Flight 800. A big clue is that non plug cargo doors are a menace and can be corrected with a plug type door.

Regards,

John Barry Smith
541 Country Club Drive
FAA creates office for datamining safety specialists
By John Croft
The US Federal Aviation Administration says approval is "imminent" for a new internal safety office within the agency that will scour public and private aviation safety databases for clues that could help avert otherwise unforeseen incidents and accidents.

Called the Office of Analytical Services, the new organisation will be headed by Jay Pardee, former manager of the FAA's engine and propeller certification directorate and, since 2005, a senior adviser specialising in aviation safety analysis. It will comprise a small "nimble" full-time staff, says Pardee.

The new organisation formalises what had previously been an ad hoc group of about 12 FAA employees called upon to on a part-time basis to analyse information from a wide range of de-identified reports, including airline Flight Operational Quality Assurance (FOQA) and Aviation Safety Action Partnership (ASAP) databases.

By having the two sources of information, analysts with the aid
of computer programs that automatically review enormous amounts of data generated on a daily basis, will in theory be able to alert operators or the FAA to a potential incident by linking otherwise disparate happenings.

Close to 20 airlines have FOQA programmes and more than 50 airlines have FAA-approved ASAP programmes for pilots. A smaller number have separate ASAP programmes for mechanics, flight attendants and dispatchers.

The FAA plans to continue working with NASA researchers at the Ames Research Centre to develop the "vulnerability and discovery tools" that will sift through FOQA, ASAP and other public and private databases to highlight abnormal situations related to aircraft performance, operational procedures or location.

Pardee says the key to success will be coming up with processes to "tease out from the data the undesirable aircraft states", not just for airlines, but eventually for air taxis and general aviation as well.

Pardee says a full package of automated routines should be available from NASA within three years.

Data-mining will be a key element in the agency's goal of halving the current 9.1 fatalities per 100 million "persons on board", a new metric the FAA put in place earlier this year, to 4.6 by 2025.

Pardee says the previous measure -- fatalities per 100,000 departures for scheduled air carrier and charter operations - did not adequately express to the public the actual risk in taking a commercial flight.

From: John Barry Smith <barry@johnbarrysmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Gloria.R.LaRoche@faa.gov
Subject: So, I'm not the only one telling you something is wrong at Boeing and FAA Renton.

Dear Ms. LaRoche,

So, I'm not the only one telling you something is wrong at Boeing and FAA Renton. I'm a private citizen using public FAA reports to alert you of hazards of non plug cargo doors. Please evaluate my alert as you said you would.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org

Eastman had been "disgruntled" by Boeing's response to concerns about safety inspections to the company and to the US Federal Aviation Administration according to the court.

DATE: 11/07/07
SOURCE: Flightglobal.com
Ex-Boeing worker charged for leaking sensitive information
A former Boeing employee has been charged with 16 counts of computer trespass for leaking sensitive information to the media. Gerald Lee Eastman, a quality assurance inspector in Boeing's Seattle-based propulsion division, was arrested in May last year and then sacked after the aircraft manufacturer investigated claims he had downloaded and passed on sensitive internal documents to newspapers. A Seattle police detective alleged that Eastman had downloaded documents that contained information he did not have authorisation to access and shared some of it with reporters at the Seattle Times and the Seattle Post-Intelligencer. Boeing said it took such allegations "seriously" and followed them up.

Eastman had been "disgruntled" by Boeing's response to concerns about safety inspections to the company and to the US Federal Aviation Administration according to the court. A search of Mr Eastman's home uncovered more than 300,000 pages of Boeing-related documents, leading to his arrest. Mr Eastman told reporters that he was disappointed by the charges and said that what he had done was "allowed" for under Boeing policy.
Date: September 6, 2009 12:03:10 AM PDT
To: Gloria.R.LaRoche@faa.gov
Subject: Re: Response to your inquiry

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210

Dear Ms. LaRoche, Friday, July 6, 2007

I've just returned from Lockerbie, Scotland doing research and the crash site is so serene. There are green hills and sheep everywhere. The SCCRC has just overturned the conviction of a man accused of the 'bombing.' These early model Boeing 747 inflight breakups are so very controversial even years later. There is a inquiry now into Air India Flight 182 and the conspiracy guys for TWA Flight 800 will never sleep. All breakups of course had that sudden loud sound on the CVR followed by an abrupt power cut to the other recorders...and many other evidence matches to United Airlines Flight 811.

Anyway....Safety. I was a safety inspector in the Army investigating hazardous noise complaints which were making the workers deaf. Years earlier I was a safety officer in the Navy investigating safety issues in the workplace during aircraft maintenance. In both cases I noticed that when I inquired as to actual details and got the runaround, there were safety problems. By runarounds I mean distractions, evasions, half truths, and personal attacks.

Flight Standards Office in Renton is giving you and me those exact runarounds. They avoid the specific issues raised by me, non plug cargo doors are causing crashes, and instead evade with nonsense of nine year old letters and try to stifle the promised
evaluations. They have refused to do what you asked them to do and Mr. Bahrami said he would do, give a complete evaluation of the data I provided.

Why is that? My experience as a safety inspector shows that evasions are red flag alerts to inquire further. I would hope you are doing that quietly now.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org

Below is memorial at site where wreckage from Pan Am Flight 103 fell onto house and killed seven inside.

At 10:55 AM -0400 5/2/07, Gloria.R.LaRoche@faa.gov wrote:
Mr. Smith,

I hope by now you've received the e-note on the group that is looking into your concerns on non-plug type cargo doors. That would be Sandra Brown, of the Transport Airplane Directorate Office (425) 227-2100.
She would be the best person to coordinaal a response from their technical staff.

Sincerely,

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229

From: John Barry Smith <barry@johnbarrystmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Ali Bahrami
Cc: moinofboeing@yahoo.com, Steve.Ramdeen@faa.gov,
Tim.Shaver@faa.gov, phil.randall@faa.gov,
peter.wilhelmsen@faa.gov, Moin.Abuhlhosn@faa.gov,
Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV,
Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov,
Tom.McSweeny@faa.dot.gov, Lyle.Streeter@faa.dot.gov
Subject: Something fishy...

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229

Dear Ms. LaRoche, Wednesday, May 30, 2007

I have just received a land letter (with the wrong address) from FAA Transport

I shall subsequently refer to the letter as the 'Mr. Bahrami/Ms. Brown' letter.

Two letters from FAA officials were included for reference, one from Mr. Ron Wojnar and another from Mr. Neil D. Schalekamp. (Letters scanned and enclosed below.)

The above disappointing Mr. Bahrami/Ms. Brown letter (encl 2) with enclosures reads fishy, Mr. LaRoche and here's why:

1. Mr. Bahrami on April 20, 2007 said he was gathering information from his Transport Standards staff regarding my safety concerns related to cargo doors and will provide a complete response to my request within 30 days (encl 3). However, he did not provide a complete response or even an incomplete one regarding cargo doors, in fact, he did not sign the letter at all. There was an illegible signature that I deduce is Ms. Sandra Brown, only because you told me she would be the person to coordinate a response from their technical staff.

2. Ms. LaRoche, you did not ask Transport Airplane Directorate if they had had any correspondence from me in the distant past, you had asked them and Mr. Bahrami had stated he would provide a complete response to my concerns regarding nonplug cargo doors. TAD has declined to follow your guidance. The refusal is strangely based upon nine year old letters from TAD to me. I did not go to TAD, I was directed there by you and Mr. Phil Randall of FAAST independently.

Instead of providing a 'complete response' TAD responded with a rather testy letter that is evasive and misleading by telling me they would no longer correspond with me, the issue is closed and there is no reason to 'revisit' their earlier position. That response is not a professional way to interact with an aviation professional who is polite, factual, and raises legitimate safety concerns.

3. The two letter enclosures (encl 2) from Mr. Wojnar and Mr. Schalekamp are personal in nature and use the pronoun, "I", and yet both are identical. One of those officials is fibbing.

4. The identical letters make a rather bizarre assertion, "It appears that you are
determined to impose your theory about the events that led to this unfortunate accident upon the official investigators." Would that I could but the idea of a citizen 'imposing' anything on official investigators is funny. I responded to the letter from Mr. Schalekamp with a letter enclosed below (encl 5) which was also addressed to Mr. Lyle Streeter and Mr. Bob Breneman, two FAA officials familiar with the wiring/cargo door explanation for TWA Flight 800. My written response is very exact and I enclose it only to show the depth of my research and my attention to detail. My response also rebuts allegations in the identical two letters form Mr. Wojnar and Mr. Schalekamp.

5. The Mr. Bahrami/Ms. Brown letter of 24 May, 2007 ends with "Therefore, we see no reason to revisit our earlier position on this issue." Well, Ms. LaRoche, which 'earlier position'? One earlier position agrees with me as quoted below, the forward cargo door of TWA Flight 800 did have an outward explosion at event time and is thus worthy of evaluation to the dangers of non plug cargo doors today, the issue recently put before TAD by you, not the probable cause of a Boeing 747 crash which was an issue nine years ago. Mr. Schalekamp makes a perfectly reasonable observation and conclusion regarding the forward cargo door of TWA Flight 800 rupturing open. He later modifies his early position to match that of NTSB.

Mr. Neil Schalekamp. Manager, Propulsion/Mechanical Systems and Cabin Safety Branch, FAA, in a 30 Jan 98 letter to me:
Mr. Schalekamp writes: "While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

6. At the very same time I was writing to Mr. Bahrami, after being directed to his office with my concerns about non plug cargo doors in early model Boeing 747s, he was actually writing and promulgating a proposed rule for an AD (encl 6) about the concerns of the FAA about non plug cargo doors in early model Boeing 747s.

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
14 CFR Part 39
[Docket No. FAA-2007-28257; Directorate Identifier 2007-NM-034-AD]
RIN 2120-AA64
Airworthiness Directives; Boeing Model 747-100, -200B, -200C, and -200F Series Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Boeing Model 747-100, -200B, -200C, and -200F series airplanes. This proposed AD would require performing repetitive inspections for cracks in the fuselage skin at the cutout of the bulk cargo door light, and corrective actions if necessary. This proposed AD also provides terminating action for airplanes with a certain type of damage. This proposed AD results from a report of a 2-inch crack through the fuselage skin and internal bonded doubler at the cutout of the bulk cargo door light. We are proposing this AD to detect and correct cracks in the fuselage skin at the cutout of the bulk cargo door light, which could result in reduced structural integrity of the fuselage at the bulk cargo door and consequent rapid decompression of the fuselage.

DATES: We must receive comments on this proposed AD by July 9, 2007. Issued in Renton, Washington, on May 15, 2007.

Ali Bahrami,
Manager, Transport Airplane Directorate, Aircraft Certification Service.

Ms. LaRoche, to abruptly reject this aviator who agrees with the safety goals of TAD regarding non plug cargo doors in Boeing 747-100s and -200s and offers documents, pictures, text, and analysis to support the FAA goals while at the same time the TAD is asking for comments from the public on the exact subject, is contradictory at best, bewildering at worst and fishy always.

7. The FAA enclosed letters to me from long ago do not address any technical issues with non plug doors but get into personality issues of implied harassment, evasions, contradictions of probable cause, misstatement of fact, and an abrupt dismissal of further contact. Those out of date letters are then used as an excuse to avoid providing what you asked for and Mr. Bahrami said he would do, give me a complete response within 30 days of my safety concerns regarding non plug cargo doors in present and newly designed commercial airliners which require certificates of airworthiness.

It appears to me the embedded Boys in Renton choose not to enter into discussion with me for unclear reasons. If I were to submit to the temptation to do tit for tat with the arrogance of Renton brushoffs I would say their attitude stinks. Something is rotten in Renton. But I won't get personal, of course, because emotional outbursts do no good for anyone. Impetuous annoyances are a distraction from the real issue of life and death in aviation safety, something the priceless Airworthiness Certificate
addresses.

8. The Mr. Bahrami/Ms. Brown letter ends with, "We have reviewed your current submissions and found no new information." Well, what submissions? I only provided a bare outline to TAD about cargo doors. They never asked me for anything new or for a complete presentation. There is much new.

The Mr. Bahrami/Ms. Brown letter does not make sense. It is an attempt at a brushoff. It is rude. It ignores the fact that safety advances and discoveries are made every day and certainly since 1998. I offer China Airlines Flight 611 in 2003 as another early model Boeing 747 which suddenly exploded in flight leaving a shattered and split longitudinally cargo door in the wreckage debris field from which much was learned about hull ruptures in early model Boeing 747s.

Ms. LaRoche, the issue nine years ago was the cause of an airplane crash. The current issue is the inherent dangers of non plug cargo doors, actually any non plug door, hatch, or window on a pressurized hull. TAD has not done what they said they would do which was to give a complete response from their Standards staff on my submitted analysis based on many airplane crashes. I was looking forward to such a report.

Allow me please to digress into transportation design philosophy for a moment. When humans first used machines such as boats, bicycles, trains, cars, and planes to move about, they did not go very high or very low. The vehicles were open and unpressurized. However, after time the boats became submarines and the planes flew very high so the interiors became enclosed and kept at comfortable pressure levels while the outside environments became hostile by being either very dense or very loose.

Personally, some of the best flying I ever had was in an unpressurized Navy patrol plane, a P2V-5FS, as we flew at 1500 feet at 180 knots around the Florida Keys looking for Soviet ships bringing in or taking out missiles from Cuba in 1962. We had the after station hatches open, the ocean was blue, the air was warm, and it was all great fun.

I later flew in a high altitude supersonic carrier jet over N. Vietnam which had a pressurized cockpit and full time oxygen masks. The machine had adapted to its environment to accommodate human limitations.

The P-2 was WW II technology while the RA-5C was 1960s technology. Times change and the machines had to adapt and pressurized cockpits were invented. Then the Comet became the first pressurized airliner in service in the early
fifties...and promptly had explosive decompressions caused by structural failure. Modifications were made and all the windows and passenger doors were made plug type. Submarines made their hatches plug type. As the submarine dove lower and the aircraft flew higher the holes cut into those pressurized hulls and patched with a door become more tightly sealed thus reducing the chances for an explosive failure of the hull from implosion or explosion.

All patches were plug type except cargo doors in thousands of commercial airliners. A non plug door is like the appendix in humans. It used to be OK, it's still there, it's usually benign...but, often it fails. Most of the time the consequences are minor but once in a while the result is catastrophic resulting in a fatality.

Many times in many types of aircraft the non plug cargo door has failed from being improperly latched, or sill deformation, or leaking seals, or unseen penetration from ground equipment, or electrical faults. Most times the aircraft turns around and lands but, sometimes that non plug door ruptures open and cause fatalities: Turkish Airlines Flight 981, 346 fatalities (encl 7) and United Airlines Flight 811 nine fatalities.

My research has revealed several more non plug cargo door caused crashes with many more hundreds of fatalities such as Pan Am Flight 103.

The non plug door is an anachronism. It is based on the tradition of stagecoaches, trains, and cars. Non plug door design is obsolete because of advances in abilities of aircraft to fly ever higher and longer. All doors and hatches must be made plug type. The cost, weight, and complexity is manageable for the ensuing safety benefits.

Even after the many thousands of SDRs and the many hundreds of Advisory Circulars, Service Bulletins, and Airworthiness Directives, non plug cargo doors continue to cause problems resulting in millions of dollars of airline checks or repairs and thousands of hours of flight time lost as well as many lives lost. The physical laws of nature will not be denied; if there is a pressure differential, nature will find a way of equalizing it.

Now is the time to order all doors in pressurized hulls to be plug type. We are in the
midst of a generation change in aircraft design with composite materials, mammoth four engine and efficient twin aircraft coming on line in the next few years. It's always hard to make changes but it is better to do it now when the A 380 and B 787 are in the early stages of flight testing, not later in the midst of production runs. The A 350 and B 747-800 are still in the design stages.

After being rebuffed by TAD in Renton, Ms. LaRoche, can you refer me to an FAA office and a lady/gentleman who is willing to talk with me in a civil tone about an aviation safety issue we all agree is present, hull rupture in highly pressurized vessels? Contrary to the recollections of Mr. Schalekamp, Mr. Wojnar, we have never engaged in any discussions about my 'assertions'. They have told me their opinions but never asked any questions about mine.

I live near San Jose where there is a substantial FAA office to meet up. I can bring my hard copies of Smith AARs as well as all the NTSB and AAIB AARs for reference. There is an urgency missing from TAD which I have because this danger of faulty wiring causing non plug cargo doors on early model Boeing 747s to rupture open in flight is present every day in the five hundred or so aircraft still in service today.

Really, Ms. LaRoche, is there anyone in the FAA I can sit down with and discuss safety issues I have spent years researching? Will you enter into discussions with me about pressurized hulls? Will Mr. Streeter of FAA Safety? Or Mr. Randall of FAA Safety? Anybody?

I ask for that chance to discuss the safety issue and airworthiness qualifications regarding the inherent dangers of non plug doors in commercial airliners, past, present, and future.

Regards,

John Barry Smith
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1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaaairport.com
http://www.ntsb.org
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Enclosures below:
1. Excerpts from Ms. LaRoche/Mr. Randall emails to Smith
2. Three scanned letters sent to Smith on 24 May 07
3. Scanned letter from Mr. Bahrami to Smith 20 April 07
4. Pictures or text of cargo doors from China Airlines Flight 611, Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800
5. Letter to FAA officials from Smith 27 Feb 98
7. Accident summaries for two DC-10 cargo door related events.

At 3:55 PM -0400 4/13/07, Gloria.R.LaRoche@faa.gov wrote:
Mr. Smith,

I have forwarded your e-mail regarding your concerns about non-plug cargo doors on the A-380 & B-787 to Ann Mollica, here in HQ. Ann is Technical Special Assistant, Aircraft Certification Service. I believe she will be forwarding it to the FAA's Aircraft Evaluation Group in Seattle, Washington for their analysis.

Thank you for your interest in aviation safety,
Gloria LaRoche

At 6:58 AM -0400 4/20/07, Gloria.R.LaRoche@faa.gov wrote:
Mr. Smith,

I'm checking into who at a/c cert has your letter and is working your concerns, and will let you know as soon as I do. I will be out of town most of next week but will not forget you.
Gloria R. LaRoche, Aviation Safety Inspector

At 12:53 PM -0700 5/3/07, barry@johnbarrysmith.com wrote:
> Mr. Smith,
> 
> I hope by now you've received the e-note on the group that is looking into your concerns on non-plug type cargo doors. That would be Sandra Brown, of the Transport Airplane Directorate Office (425) 227-2100.
>
She would be the best person to coordinate a response from their technical staff.

Sincerely,

Gloria R. LaRoche, Aviation Safety Inspector

At 11:46 AM -0400 10/25/06, phil.randall@faa.gov wrote:

Mr. Smith,

I apologize for the delay in replying to your emails, but my time has been very limited due to special projects that I have to complete involving implementation of the FAASTeam.

Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert, I discuss your emails with the appropriate people at FAA headquarters and they all feel that you need to address your concerns with Aircraft Certification. The office nearest to you is listed below. Please contact them and thank you for your concerns.

Hole below of split and ruptured United Airlines Flight 811 forward cargo door.

Then below the Pan Am Flight 103 ruptured and split forward cargo door:

Then below the split and ruptured forward cargo door of TWA Flight 800 at the aft midspan latch and the forward midspan latch: (The two latches without the required
Then the ruptured and split aft cargo door of China Airlines Flight 611.

Then the text below, no photo available, of the ruptured and split forward cargo door of Air India Flight 182.

The following FAA offices and staff have been informed of the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation in the past few months and will get this letter as an email since they are involved with certification or have referred me to the certification office.

Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch AIR-130
Phone: (202) 385 4645

Los Angeles ACO
3960 Paramount Boulevard
Lakewood, CA 90712-4137

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
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Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-522

Phil Randall
Pete Wilhelmson
FAA Safety Team
FAAST
Ali Bahrami  
Manager, Transport Airplane Directorate  
Aircraft Certification Service  

Neil Schalekamp  
Manager, Propulsion & Mechanical Systems and Cabin Safety Branch  
Transport Standards Staff  
Transport Airplane Directorate, ANM-100  
1601 Lind Ave. S.W.  
Renton, WA 98055-4056  

Bob Breneman,  
Aerospace Engineer,  
Federal Aviation Administration  
Transport Airplane Directorate, ANM-100  
1601 Lind Ave. S.W.  
Renton, WA 98055-4056  

Also:  
Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV,  
Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov,  
Tom.McSweeney@faa.dot.gov, Lyle.Streeter@faa.dot.gov;  

To: FAAOAI  
From: John Barry Smith <barry@corazon.com>  
Subject: Inward or Outward  
Cc:  
Bcc:  
X-Attachments:  

Lyle Streeter  
FAA AAI  
Aircraft Accident Investigator  
FAA National Headquarters  
800 Independence Avenue, S.W  
Building FOB 10A, Room 838,  
Washington D.C 20591
Dear Mr. Streeter,

27 February 1998,

Thank you for each of your personal letters and emails to me. Your opinions are respected by me and therefore I carefully read your words, try to understand the thought, and analyze the conclusions.

The most recent letter is from Mr. Neil Schalekamp, 19 February, 1998. Since we are all involved with safety and in particular TWA 800, I thought that I would include all of us in a presentation of some very basic evidence leading to conclusions.

I consider myself the open person and willingly share my letters with you and would expect the same from you. This is a professional aviation safety matter and precision, documentation, and frank discussion are required.

The primary question to be answered from this presentation is whether the significant damage in a crucial area of TWA 800 was an outward explosion or was the shattered skin inward and caused by water impact.

Basic evidence is to be derived from:
1. NTSB picture of TWA 800 reconstruction,
2. Testimony at public hearing on TWA 800.
3. Text from NTSB Exhibits on TWA 800.
4. Charts from NTSB Exhibits on TWA 800.
5. NTSB Aircraft Accident Reports.
6. Correspondence from Mr. Wildey, Mr. Streeter, Mr. Schalekamp, and Mr. Breneman.

Evidence discovered:
1. Red paint smears on white paint above forward cargo door.
2. Metal petal shape bulge at aft midspan latch of cargo door.
3. Outward peeled skin in various places forward of the wing on the right side.
4. Unburnt center tank maintenance hatch.
5. Downward bent floor beams in cargo hold area.
6. Hoop stress forward of the wing on the right side.
7. Red paint transfer on right horizontal stabilizer.
9. Red-orange streak reported by many eyewitnesses.
10. First pieces of TWA 800 to leave after initial event came from forward of the wing and from cargo hold.
11. Missing midspan latches from TWA 800 reconstruction.
12. Extensive significant matches with other 747 accidents.

Basic conclusions:
1. Fireball occurred between 5000 and 9000 feet.
2. Center tank exploded.

Basic conclusion to be determined:
Outward explosion forward of the wing on the right side in flight caused paint markings and structural deformation or nose all intact and damage caused by water impact.

Intermediate conclusions if outward explosion:
1. Door opened and slammed upwards and transferred red paint to white paint.
2. Pressurized hull rupture at aft midspan latch of cargo door.
3. Maintenance hatch separated before center tank explosion.
4. Decompression in cargo hold bent floor beams downward.
5. Door opened in flight which resulted in hoop stress.
6. Red painted pieces of door flew directly aft and struck right horizontal stabilizer.
7. Engine number three became damaged from debris ejected from cargo hold and disintegrated the forward stator section allowing a stator blade to fly directly aft and impale on the right horizontal stabilizer.
8. Maintenance hatch spin away fast from center tank and reflected evening red-orange sunlight and perceived as streak to observers far away.
9. Serious event occurred forward of the wing on the right side.
10. Midspan latches status undetermined, missing, destroyed, or not hung.

Advanced conclusions if outward explosion:
1. Door opened in flight causing large explosive decompression rectangle which allowed 300 knot slipstream to tear nose off.
2. Center tank exploded when fiery exhaust from damaged number three engine center tank through three foot empty maintenance hatch hole.
3. Door opened why door motor turned on and tried to unlatch the twelve latches but the bottom eight held while midspan turned just enough to allow the 38115 pounds of internal pressure to rupture the latched area.
4. Door motor turned on when fluid, probably water, shorted bare chafed poly-X wiring to metal fuselage.
5. Wiring became chafed from excessive vibration in high time, high cycle Boeing 747s.

Basic Actions:
1. Fireball confirmed.
2. Center tank explosion confirmed.
3. Confirm outward explosion by confirming door opened in flight by examining door hinge for overtravel impression damage, midspan latch pins for heat damage, red paint in unusual places matched to red paint in door area, which can be matched to data in NTSB AAR 92/02.

Intermediate Action:
Confirm chafed wire by examining all wiring for chafing in forward cargo hold and adjacent main equipment bay of TWA 800.

Advanced Action:
Inspect all early model Boeing 747s for fluid and chafed wiring in electronic bays and cargo holds.

Now, to the 19 Feb 98 letter from Mr. Schalekamp.

Mr. Schalekamp, thank you for your thoughts on TWA 800. Let's go line by line:
NS>"It appears that you are determined to impose your theory about the events that led to this unfortunate accident upon the official investigators."

Well, sir, I'm flattered, would that I could.

It not me that is imposing anything; it is the evidence. The evidence is causing the sleepless nights, not me. The evidence apparently contradicts NTSB and FAA Northwest Region's opinion that center tank was initial event.
1. Red paint smears on white paint above forward cargo door.
2. Metal petal shape bulge at aft midspan latch of cargo door.
3. Outward peeled skin in various places forward of the wing on the right side.
4. Unburnt center tank maintenance hatch.
5. Downward bent floor beams in cargo hold area.
6. Hoop stress forward of the wing on the right side.
7. Red paint transfer on right horizontal stabilizer.
9. Red-orange streak reported by many eyewitnesses.
10. First pieces of TWA 800 to leave after initial event came from forward of the wing and from cargo hold.
11. Missing midspan latches from TWA 800 reconstruction.
12. Extensive significant matches with other 747 accidents.

I'm not making any of the evidence up. NTSB and FAA provided the evidence and it's real. It can be touched, heard, and seen.

You state Transport Airplane Directorate has responded four times to me, and thank you very much. A few more times and you will be tied with Senator McCain for personal responses to me regarding this most important safety matter. My Congressman has written ten personal letters to me, including the one on which was attached to a 26 September 1997 letter from Mr. McSweeny to my Congressman stating that he would get back to the Congressman within thirty days with a final reply, and that was five months ago. So, in a sense, Airplane Transport Directorate of Aircraft Certification Service owes one to the cargo door explanation.

NS> "Please take note that this office will no longer be responding to your further inquires (sic) about these same concerns, including your February 6 and February 9 letters that I just received."

Well, you're the manager, so 'office' means you. To say you received letters enough to read the dates and told me about them means you have already responded to them. To refuse to read or pass on extensive, detailed, supported by NTSB documents letters which come from a pilot and crash survivor which present an immediate safety threat to airplanes under your responsibility is an amazing attitude and contradicts your earlier statement, "Please be reassured that each of us within the FAA feels a deep responsibility to aviation safety and will take actions to correct an identified unsafe conditions." Refusing to read letters containing an identified unsafe condition (water meets chafed wires) is an action but it does not correct the unsafe condition, it runs away and tries to ignore it.

Fear is why you are annoyed and worry is why you want the messenger to go away. And it's not me that brought the fear, it's the evidence. Mentally making me go away does not make the evidence go away. There will always be those many red paint smears above the cargo door that indicate outward explosion, then door opening and slamming upward leaving paint transfers, exactly like UAL 811 as
stated in NTSB AAR 92/02. I have not made a weird explanation for some flimsy evidence. I have made a solid explanation with documentation based upon solid evidence. The paint smears are real. The stator blade will outlive us. The outward peeled skin will always be there, matching photographs of UAL 811 of same area and indicating outward explosion, just like UAL 811.

Hard, solid evidence:
1. Red paint smears
2. Bulge at latch
3. Outward peeled skin
4. Unburnt center tank hatch.
5. Downward floor beams
6. Hoop stress
7. Paint transfer on stabilizer.
8. Stator blade embedded in stabilizer.
10. First pieces to leave came from cargo hold.
11. Missing midspan latches

NS>"The theory of an explosive decompression, due to a sudden opening of the forward cargo door was one theory that was examined. However, it has been determined that this did not occur."

Well, Mr. Schalekamp, questions:
1. Who examined the theory? I have evidence the door was only partially examined, that is, only eight latches checked and none of the other door mechanisms to include the manual locking handle, for heaven's sakes.
2. Who determined the explosive decompression did not occur? Bernard Loeb? It did occur, it's obvious by looking at the damage forward of the wing, and anyway, the center tank explanation requires explosive decompression of fuselage forward of the wing, and structure report Exhibit suggests explosive decompression bending floor beams downward. No one has ever determined explosive decompression did not occur forward of the wing on the right side. Who determined the door did not open in flight? Bernard Loeb? Who determined there was no outward explosion forward of the wing on the right side? Bernard Loeb? I know it wasn't you because you determined there was an outward explosion there. I hope the FAA does not get like the FBI or CIA with no accountability from anonymous public officials who give opinions about noseless 747s that can climb 3000 feet in 20 seconds. The Chief Theoretician for TWA 800 is missing in action; who is it? Bernard Loeb? What is his opinion about twisted metal and red paint and stator blade and hoop stress which offer clues to inward or outward force?

NS>"Based upon the existing evidence, the NTSB...believes that the probable cause of the accident was a CWT explosion, due to an internal fuel tank ignition source."
Well fine, but the issue here is not probable cause but outward explosion or inward damage from water impact on that crucial area of TWA 800. I don't understand the reluctance to say outward explosion even though it agrees with center tank outward explosion nearby. I don't understand the reluctance to agree with me when I agree with you. You said outward explosion and I agree. It makes sense. It looks like it in the picture. The damage matches another outward explosion in a high time Boeing 747. The paint markings and structural deformation that I cite do indicate an outward explosion.

NS>"You apparently believe that the ...door precipitated the accident scenario by initially separating from the airplane."

Well, actually, I did think door started accident for eight years for high time 747 accidents that yielded a sudden loud sound on the CVR and an abrupt power cut to the FDR. Now I believe the door opening is preceded by latch rupture preceded by door motor on preceded by electrical short preceded by water onto bare chafed wire preceded by long term vibration and other stresses on the wires.

NS>"The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean."

Whoa! Not true! What evidence? There is no evidence showing door all latched and locked and all intact at water impact. There is great evidence showing outward explosion causing shattered skin which occurred before water impact. The door is not in one piece but many. Yes, the bottom 10% and the top 10% stayed with the nose. 20% is not the whole door. What evidence says it exploded outward? Your evidence, Mr. Schalekamp. Your statement, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT." What happened? Why the switch from outward explosion to inward damage from water impact? Why now say door all intact until water impact? The evidence is still there, it hasn't changed. The evidence from the reconstructed 747 airplane reveals that the forward cargo door is shattered from the outward explosion which left paint marks and structural deformation.

Mr. Schalekamp, Mr. Wildey, Mr. Streeter, and Mr. Breneman, let us look at the picture of the right side of TWA 800 reconstruction. Let us give an opinion based on the evidence. Is the shattered rectangle of about twenty feet wide and forty feet high forward of the wing an outward explosion or inward from water impact. It's a basic question. It's easy to answer with ample evidence one way and little the other. It is an important question which must be conclusively determined one way or the other. The implications are profound with far ranging consequences for safety.
"You may not agree with the reasoning of the official accident investigators, but I want you to understand the evidence to date indicates that the CWT explosion preceded any fuselage breakup, including damage to the forward cargo door."

Well, sir, I want you to understand that right now I'm trying to sort out whether the shattered, outward peeled skin, red paint transfer marks, outward bulged metal at aft midspan latch, and missing 80 percent of cargo door area was caused by an outward explosion as you stated, or inward damage from water impact as you stated.

You can help me by telling me what evidence made you change your mind. I hope it was not an opinion from a senior who does not know what an outward explosion looks like on a 747 but does know what the accepted explanation is and is not going to be swayed by new evidence or new interpretations of evidence. This is life and death, not annual performance review.

There's no going back. Outward explosion is on the record. And it's true. It is a very sad situation when truth is feared and falsehoods embraced. Outward is true, inward is false. How do I know? Because you told me, Mr. Schalekamp, that's how. Have you changed your mind? Let me see the words, "Paint markings and structural deformation do indicate inward damage from water impact," instead of, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"

That would be a correction to your earlier conclusion of outward explosion and would be considered a correction, the right way to do things in an investigation. Not correcting previous conclusion now said to be wrong is the wrong way.

You may think you are helping your boss by backing him up but you do a serious disservice to him and your outfit by continuing to permit him to think it was water impact inward damage which it wasn't and not outward explosion damage which it was.

Where do bosses get their conclusions from? From you, that's where. Chairman Hall thinks all the doors were all latched and intact until water impact because Bob Breneman told Al Dickinson, who told Jim Wildey, who told Bernard Loeb, who told Jim Hall. Bob Breneman made the best conclusion possible under the cramped rushed circumstances. Upon new evidence, the completed reconstruction, it is time to modify initial conclusion. To not modify conclusion because it is contrary to the boss's opinion is not right. His opinion was formed by Transport Airplane Directorate and it can be changed by Transport Airplane Directorate. If it's true. Is it true? Was it outward explosion or inward water damage? One or other; in or out. Can't have it both ways. Either inward was right early on and still right. Or inward
was right early on and now outward is more right based on hindsight and new evidence.

This cargo door/wiring problem in 747s is taking a toll of innocent bystanders, let's not join the crowd:
1. UAL 811 was said to be improper latching and blame fell on ground handler.
2. New AAR for UAL 811 after new evidence recovered, the door, may have embarrassed the original authors.
3. Captain Stacey of TWA thought he was doing the best thing to exonerate his company by giving a piece of wreckage for outside confirmation of missile. He has disgraced his airline and airline participation in future accident investigations will be distrusted.
4. Mr. Kallstrom wasted a year and a half and millions on a wild goose chase for bad guys. There was none. He retired.
5. Pump manufacturers and fuel probe manufacturers are suspected of starting an explosion that killed many. They didn't.
6. CIA analyst shows to the world a headless 747 climbing 3000 feet in twenty seconds, a climb rate of 6000 feet per minute. CIA opinion about aviation is now jeered.
7. Victim's families are filled with hate at imaginary terrorists or covering up US Navy instead of getting over their grief at satisfactory explanation of mechanical cause.
8. And now an FAA official looks at evidence and reaches reasonable conclusion and states it. But it is contrary to official policy so conflict arises. Loyalites and principles are tested.

Mr. Schalekamp, you had a choice when the conflict appeared. You could have said, it was outward explosion because of evidence of paint markings and structural deformation and the outward explosion means there was an outward explosion. Period.

But instead you said FAA agrees with NTSB about initial event and "The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean."

You wrote a true thing from your heart and a later a false thing from your head. I explain the exasperated tone of voice in your 19 Feb letter as result of worry. You want to retract the previous statement and make things just the way they were because senior officials are displeased at your conclusion of outward because they say inward. You don't want senior officials displeased with you.

There is a fear of contradicting the boss in all of us. Then how does any boss become right once they were wrong? Or does the boss just stay wrong? He's
corrected by supportive subordinates who point out to him on the photograph of
reconstruction, Exhibit texts, and hearing testimony the following facts:

1. Paint smears
2. Bulge at latch
3. Outward skin peel
4. Unburnt hatch
5. Downward beams
6. Hoop stresses
7. Paint on stabilizer
8. Stator in stabilizer
9. Red-orange streak
10. Pieces from cargo hold in red zone.
11. Missing latches

The evidence is the problem with center tank as initial event, not me. The evidence
is the problem with inward water caused damage explanation, not me.

If these new interpretations of evidence are not presented to senior officials, who
will? Me? They give little weight to a citizen's conclusions. It has to be officials in
the chain of command who have the ability to check out the new interpretations.
The door hinge can be examined, the latch pins can be examined, the peeled skin
can be examined. The evidence can be examined again to conclude whether it was
outward or inward. It's a fork in the road of the TWA 800 investigation; which way
to go? Inward goes to center tank as initial event, I know. It just ignores the huge
shattered area forward on the right side. Outward goes to whatever. Outward
acknowledges the area and the details inside it such as paint markings and structural
deformation.

Inward or outward? It's a real conflict for Mr. Schalekamp and one which Mr.
Breneman faced, Mr. Wildey faced, and Mr. Streeter is facing. Outward conclusion
was given reasons and yet inward never has any. Inward never gives evidence or
reasoning, just blind recitation of the official line: "The evidence from the
reconstructed 747 airplane reveals that the forward cargo door was attached to the
forward section of the airplane and was latched in the closed position when this
section of the airplane impacted the ocean." A line based solely on the incomplete
examination when only eight of the ten latches were checked and found latched.

So, life. We are tested in ways we never expected. To say two and two is four and
then find out the boss says it's five and then to quickly change answer to five from
four is a wrong answer. Opinions change. Sticking with the facts that stay the same
is the right answer.

Here's some right answers that were said:
Mr. Streeter, "Wiring problems are still a potential area of concern."

Mr. Wildey, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward." The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

Mr. Breneman, "A further examination of the recovered wreckage showed that the upper door hinge was still attached to both the fuselage and the door. In addition, the door latches at the bottom of the door were still attached to the fuselage lower sill structure."

Mr. Schalekamp, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT."

The evidence is real: paint, bulge, skin, hatch, beams, stress, stator, streak, and latches.

The people are real, Neil Schalekamp, Bob Breneman, Jim Wildey, and Lyle Streeter and John Barry Smith, 408 659 3552, 551 Country Club Drive, Carmel Valley, California, 93924, barry@corazon.com. Call me on the phone, write me a letter, send me an email, or come and visit. Anytime. I'm serious. I have the motivation to confirm the cause of a sudden night fiery fatal jet airplane crash because I narrowly survived one and I don't want it to happen again to anyone.

I'm not connected to any manufacturer, airline, government, or media. I'm a retired military officer. I have no power except to point out facts and suggest conclusions. I'm a free man with a just cause. I have no boss to answer to nor public to serve. I understand the reticence of those who do.

Mr. Schalekamp, you are the manager of a propulsion branch. Does not the discovery of a stator blade in the right horizontal stabilizer intrigue you? That discovery is very significant and justifies the exercise in wreckage reconstruction. The implications of that stator blade are profound. As FAA branch manager can you not read the NTSB Powerplant report to confirm it came from front stator stage of a P&W JTD-9, engine number three of TWA 800? If it did, then it disintegrated in flight and confirms your previous observation of outward explosion of fuselage skin which might have shoved the FOD into number three. Would you not want
P&W as a party to the TWA 800 investigation in order to provide engine information as to what those four vacuum cleaners scooped up at time of initial event? Do you want to know what happened to TWA 800? To be so firm on water impact damage after center tank explosion when the powerplant report and the wreckage plot reports have not been released to the public is not right. There are still many areas to be evaluated.

I know Northwest Region is on the record as favoring initial event as center tank explosion and has it's own pet theory for mystery ignition source. Now that you know about the stator blade, can you alter your explanation based on new evidence?

Mr. Breneman, as a structural engineer, what is your opinion about the outward or inward direction of the force that caused the shattered fuselage skin forward of the wing on the right side?

Mr. Wildey, you are a metal expert, what is your opinion of the direction of the force based on the metal evidence? Does the evidence of the red paint, bulge, outward skin, maintenance hatch, down beams, hoop stress, stator, streak, and missing latches indicate to you inward or outward?

Mr. Streeter, you are the safety expert, what is your opinion of the direction of the force which shattered, twisted, and tore that twenty foot wide and forty foot high section of fuselage skin of TWA 800?

Based upon the new faulty wiring revelations about 767s and 737s is it not reasonable for me to say it's a problem with 747s also? Especially when I point to NTSB AAR 92/02 for UAL 811 which had the exact faulty wiring problem I suggest started TWA 800.

Byron Acohido of Seattle Times told me after an interview he had with Dr. Loeb a year ago: (and nobody is lying)

"I, in fact, did grill several sources very hard about the forward cargo door evidence, including Bernie Loeb. Unless everyone involved is lying, (an assumption you'll no doubt make) there is nothing on the cargo door that indicates it came loose and was the initiating event. All locks and latches were found in proper positions.

According to Bernie Loeb, early information that the door was found in the red zone was incorrect. It was found in the yellow zone, along with all major parts of the forward fuselage section."

Well, you see, that's not true now. All locks and all latches were not found in the
proper position. I know that for sure; only eight of ten were checked according to Mr. Breneman and Mr. Wildey. Pieces of the door and local area were found in the red zone and changed in status administratively after the fact. Mr. Wildey explained why that happened.

I use our words to try to find out what is going on; they may or may not be flattering but it's the only clue I have to the official thinking on the subject. I am open and expect my words to be discussed with others. I am quite prepared to support each statement with documentation and source. Good guys are open; bad guys are secretive; especially on a civilian airliner accident in peacetime in US waters. This bomb/missile FBI craziness has hurt the TWA 800 investigation with meddling and suppression of evidence. It's not right. It's intimidation.

UAL 811 was an (1) aged (2) high flight time (3) early model Boeing 747 (4) which took off in low light (5) running late (6) and during climb (7) experienced a sudden initial event near the leading edge of wing in fuselage which left a (8) short (9) sudden (10) loud (11) sound on the cockpit voice recorder, an (12) abrupt (13) power cut to the flight data recorder, (14) foreign object damage to starboard engine #3, (15) more severe inflight damage on starboard side, (16) at least nine never recovered bodies, (17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area on starboard side, (19) unusual paint smears in forward cargo door area, (20) rupture appearance of skin at aft midspan latch of the forward cargo door, (21) outward peeled skin on upper forward fuselage, (22) vertical fuselage tear lines forward of the wing and aft of forward cargo door, (23) had hinge stay attached to detached top piece of forward cargo door, (24) cargo door opened in flight, and (25) destruction initially thought to be have been caused by a bomb but (26) later conclusively ruled out.

And so was TWA 800.

These significant evidence matches must not be ignored but integrated into the TWA 800 probable cause for it to be conclusive.

The direction of force which shattered the right side of TWA 800 must be conclusively determined. Which way was it, inward or outward?

Sincerely,

John Barry Smith
551 Country Club Drive
Carmel Valley, CA 93924
Mr. Smith - latest word in on the Cairo divert is that there was no fire, but a faulty detection system. Wiring problems are still a potential area of concern.

I have passed your comments along to the investigators in TWA800.

Lyle Streeter

2. "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB)."

3. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and "The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." This observation matches downward buckling as was reported in AAR 92/02, page 4, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward."

4. Evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. This observation coincides with AAR 92/02 which states on page 11, "The cargo door and its associated hardware are designed to carry circumferential (hoop) load arising from pressurization of the airplane."

5. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, "It is therefore possible that new scenarios (sequences) may emerge as new information
is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

6. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted together in that sequence by the NTSB.

7. Testimony at TWA public hearing, Mr. Wildey, "Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence. The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this 25 area."

8. Mr. Neil Schalekamp of FAA, "While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

9. Chairman Jim Hall of NTSB, "However, to repeat, the investigation of the accident involving TWA flight 800 has revealed no evidence to suggest that a failure of a cargo door precipitated the event."

10. >Date: Wed, 05 Feb 1997 12:34:04 -0800
    >From: Donald Lawson <DLawson@mntry.nps.navy.mil>
    >To: barry@corazon.com
    >Subject: 747 cargo door final report
    >
    >>From the head of the NTSB team working TWA 800:
    >  1. He personally, even again this morning, looked at all the doors from
    >the airplane. All latches were either destroyed or in closed positions.
    >The destroyed latches were adjacent to ones in closed positions.
    >  2. Nobody associated with the investigation is considering further
    >a cargo/passenger door malfunction to be part of the probable cause of
    >this accident. Door problems have been categorically ruled out because
>there is simply no evidence pointing to the doors (and latches).

11. Docket No. SA-516, Exhibit 15C, Section 41/42, Forward Cargo Door, dated 22 April 1997, with Mr. Al Dickinson, AS-10, listed as investigator and Mr. Wildey as author, states, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

12. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. Among all the charts of pieces of the plane coming off and when, there is one chart that shows the first to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. That item left even before the last ASR radar beacon to Islip radar. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-42R is shown to leave very early.

13. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

14. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge."

15. Mr. Breneman, FAA, "The nose section of the airplane impacted the water on the right side, causing severe hydraulic damage with the result that the door structure did not remain completely intact. However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the right side. This is additional verification that the forward cargo door had not opened in flight or separated from the airplane."

16. Chairman Hall of NTSB, "We are by no means finished. Our work will continue and we will spare no effort to determine the cause of the crash of TWA 800."

17. Chairman Hall of NTSB, "We're going to look for the needle in the haystack and go back over the 150 miles of wire that are there in the Calverton hangar, and see if that shows any evidence of arcing or other information that will lead us in the direction" of a probable cause."
Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been noted by the crew and recorded on the CVR. We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter.

Thank you for your interest in aviation safety.

19. Mr. Wildey's testimony at public hearing: "This was brought to our attention, and the reason that we examined this was that three of the four nose landing doors had a red tag and were recovered from the earliest part of the debris field and, similarly, around the nose landing gear area there were some fuselage pieces that were recovered that had a red tag on it and were supposedly recovered from the red << the red << earliest debris field.

Of course it became a very distinct question, well, what happened up there, how did these pieces, the fuselage pieces in the doors get into the red zone? Well, our group took this as a task to look at. We made a report on it and we determined that, for example, on the doors themselves that, yes, those doors apparently did come off the airplane. They had a lack of damage on them that was consistent with early departure. We developed some hypotheses and scenarios that could allow the doors to depart from the airplane very early in the sequence, and it is consistent with the factual observations we have made.

so, for the doors we said, yes, it appears as though we have a sequence that could account for the
doors to come off early, and we also examined the fuselage pieces right around there that had red tags on them, and we looked at all the features we could find, and for the fuselage pieces around there we said we find no physical evidence to suggest that those particular pieces actually departed the airplane early on in the sequence. I think, if I remember our report, we said we believed that those particular pieces should be treated as yellow zone parts because we don't find any way that they could possibly have come off the airplane early in the sequence and actually have been found in the red debris field. Just as a side note, I am aware that the tags on those particular fuselage pieces from around the nose area are the so-called 2,000 series tags, and that is not my area of expertise, but these are the "these tags had some questions about their pedigree, if you will. But, that is really not our concern. We are saying, and our group said that we don't believe those are red zone parts and we would treat those as yellow zone parts for the purposes of analyzing the break-up sequence."

20. Testimony of Mr. Wildey at public hearing, "First of all, the conclusions reached by the Sequencing Group eliminated a large scale structural problem away from the wing center section fuel tank. Specific areas that were eliminated as factors include the section 4142 fuselage joint in the forward cargo door. A report on these subjects is contained in Exhibit 15(c). The section 4142 fuselage joint is located in station 520 at the forward end of the reconstructed portion of the airplane, and you can see that right here (demonstrating). Although there have been some manufacturing alignment problems associated with this joint, the accident airplane contained absolutely no evidence of pre-existing weaknesses at this point, or that the joint separated in any manner before the nose section impacted the water relatively intact. Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked
along its bottom edge through the entire break-up sequence.

The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this area.

21. MR. STREETER: Yes, Mr. Chairman. For Mr. Wildey, a couple of items here for clarification. Specifically out of the red area, were there any fuselage skins in that area that showed any type of hoop tension failure (inaudible).

WITNESS WILDEY: Yes, we tried to document that and it is contained within our report. One of the figures that I used did show this hoop tension type of fracture. That occurred at the initial point of the fuselage fracture at stringer forty right. There were also other areas where you could not see any evidence of a running fracture that we classified as -- basically, from pure hoop tension, but on either side of these other areas the fracture was running into it and then out of it in the other direction.

so, the only real area that we saw was associated with stringer forty << excuse me << yes, forty right where the fuselage cracking initiated as it came down through the front spar.

MR. STREETER: The one other area that was mentioned in your testimony regarding span-wise beam 3 failing in the forward direction, in Exhibit 18(a) you discussed where a portion of span-wise beam 2 was found in the red area. Now, are there any inconsistencies of that, or is that related to the fuselage opening up? My concern is, would you have expected span-wise beam 2 to end up elsewhere?

WITNESS WILDEY: Well, I don't know if we had any expectations, or if you could really expect what would happen, because we just don't really know. But, there was a manufacturing access door from span-wise beam 2 just behind span-wise beam 3, and this door was found in the red zone and had no soot or fire damage on
it consistent with very early departure and with its recovery position. It clearly indicates that this door separated as part of the initial event and was blown out as part - as was span-wise beam 3 and the front spar, and came out through the same hole in the lower fuselage that was created in the belly skin just in front of the front spar.  

CHAIRMAN HALL: What is a manufacturing access door? Can you describe that for us?  
WITNESS WILDEY: It is a door that is provided in span-wise beam 2 for access during the manufacturing process. It is then rivetted up and you can't really get in there after that. There are other doors that are maintenance access doors that can be disassembled and reassembled. This is a door that is rivetted back up during the manufacturing process and is not really there.  

CHAIRMAN HALL: The approximate size of this piece?  
WITNESS WILDEY: It is about two feet by three feet. It is an oval-shaped door.  

CHAIRMAN HALL: Thank you.  
WITNESS WILDEY: Did that answer your question, Mr. Streeter?  
MR. STREETER: I think so. The main thing I am trying to get at is, again, with that piece in that position, your group didn't see any reason for that to cause any concern as far as your break-up sequence design, is that correct?  
WITNESS WILDEY: Well, our sequence does take into account how this door << we list several possible ways for this door to have come off. I don't know that we reached an absolute firm conclusion as to exactly how that happened, but surely during the initial explosion or shortly thereafter this door was broken from its perimeter, and we see significant evidence that the door was pushed in the forward direction after part of it failed and, so, it came out while there was still pressure behind it to push it out, so it is part of the initial event.  

We do not see any evidence of a bomb or any kind of explosion features right on the door, itself. so, it appears that part of the door perimeter was
ripped apart and then the pressure behind the door pushed it in the forward direction. It hit the top of the tank and then got blown out into the earliest portion of the recovery field.

22. Summary of Docket evidence:

1. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and "The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."

2. Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11 which discusses direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only.

3. Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

4. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

5. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted together in that sequence.

6. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. One chart that shows the first items to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-40R is shown to leave very early.

7. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

8. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1
Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

23. FAA web page states, "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB).

24. Specific suggestions:
1. Examine aft midspan latch pin for damage as was observed on UAL 811, NTSB AAR 92/02 page 33, "The forward midspan latch pin was relatively undamaged. The aft midspan latch pin had definite areas of damage. Both pins had wear areas where the cams would contact the pins during latching.
2. Examine the TWA 800 door hinge for damage as was observed in AAR 92/02, page 35, "Several areas on the hinge sections, such as the fuselage hinge sections, showed evidence of contact from the door during overtravel (See figure 14.) In addition the fuselage forward hinge sections were slightly bent." Figure 14 is on page 40 and shows photograph of the hinge overtravel damage.
3. Examine two midspan latches from forward cargo door for damage. The criterion for determining if latches latched was to check to see if still locked and attached to adjacent fuselage sill or frame. The bottom eight latches of TWA 800 door were attached to sill so conclusion latched. The two midspan latches are unattached to frame so conclusion unlatched. The door frame is smooth where the aft midspan latch is supposed to be attached but isn't.
4. Examine forward and aft pull-in hooks of TWA 800 for compression and smearing damage as was observed in AAR 92/02, page 45.
5. Examine door and fuselage for paint transfer from one to the other as was observed in AAR 92/02, page 41. Red paint smears on TWA 800 on white paint between passenger windows above cargo door may have come from red paint on top of cargo door. The red paint smears are large and frequent only along the top of the cargo door area and not found on the other 460 feet of fuselage trim. This indicates door below opened outward and slammed upward into fuselage, giving overtravel over 143 degrees on the hinge and transferring red paint from door onto white paint between passenger windows. The opening door with hinge attached took red trim fuselage skin with it and that may have slammed upward also onto white painted skin. Red paint smears are not scraped away white paint revealing red underneath but red paint on top of white paint. White paint scraped away reveals green primer.
6. Examine outer skin contour of the upper door piece for inward crushing as was observed in AAR 92/02, page 41. Door blows outward and top of door smashes into fuselage above giving inward crushing not by water impact. Photo of TWA 800 top door piece shows such damage.
7. Examine master latch lock handle housing and trigger for position. AAR 92/02, page 41, found it relatively flush with door outer skin.
8. Examine floor beams again of TWA 800 to confirm statement in Docket No.
SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and "The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." This observation matches downward buckling as was reported in AAR 92/02, page 4, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward."

9. Confirm evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. This observation coincides with AAR 92/02 which states on page 11, "The cargo door and its associated hardware are designed to carry circumferential (hoop) load arising from pressurization of the airplane." If cargo door was fully latched and intact until water impact then there should be no hoop tension fractures. If the door was missing in flight, hoop tension fractures could be expected to be found and they were on TWA 800 leading to conclusion door was missing in flight.

10. Confirm door frame of TWA 800 which abuts aft edge of door is curved outward in petal shaped bulge indicating outward force rupture. Aft midspan latch is unattached to aft midspan latch pin halfway up the door frame. Edge of door frame is smooth indicating door not missing by force but by unlatching of aft midspan latch.

11. Establish large round rupture hole in TWA 800 photo centered at aft midspan latch is in fact a hole or something otherwise.

12. Confirm outward peeled skin on TWA 800 upper skin as shown in photograph which indicates outward force which matches AAR 92/02, page 6 photograph of peeled upper skin in same location.

[Federal Register: May 24, 2007 (Volume 72, Number 100)]
[Proposed Rules]
[Page 29084-29086]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr24my07-10]
SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Boeing Model 747-100, -200B, -200C, and -200F series airplanes. This proposed AD would require performing repetitive inspections for cracks in the fuselage skin at the cutout of the bulk cargo door light, and corrective actions if necessary. This proposed AD also provides terminating action for airplanes with a certain type of damage. This proposed AD results from a report of a 2-inch crack through the fuselage skin and internal bonded doubler at the cutout of the bulk cargo door light. We are proposing this AD to detect and correct cracks in the fuselage skin at the cutout of the bulk cargo door light, which could result in reduced structural integrity of the fuselage at the bulk cargo door and consequent rapid decompression of the fuselage.

DATES: We must receive comments on this proposed AD by July 9, 2007.

ADDRESSES: Use one of the following addresses to submit comments on this proposed AD.

- DOT Docket Web site: Go to http://dms.dot.gov and follow

the instructions for sending your comments electronically.

- Government-wide rulemaking Web site: Go to http://www.regulations.gov and follow the instructions for sending your

comments electronically.


- Fax: (202) 493-2251.

- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for the service information identified in this proposed AD.

FOR FURTHER INFORMATION CONTACT: Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6437; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to submit any relevant written data, views, or arguments regarding this proposed AD. Send your comments to an address listed in the ADDRESSES section. Include the docket number ``FAA-2007-28257; Directorate Identifier 2007-NM-034-AD'' at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the proposed AD. We will consider all comments received by the closing date and may amend the proposed AD in light of those comments.

We will post all comments we receive, without change, to http://dms.dot.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD. Using the search function of that web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or you may visit http://dms.dot.gov.

Examining the Docket

You may examine the AD docket on the Internet at http://dms.dot.gov, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal
holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after the Docket Management System receives them.

Discussion

We have received a report indicating that a 2-inch crack through the fuselage skin and internal bonded doubler at the cutout of the bulk cargo door light was found during a visual fuselage skin inspection on a Model 747-200F series airplane. The crack was located at the forward lower corner of the cutout of the bulk cargo door light between stations 2060 and 2070, stringers 32R and 33R. The airplane had accumulated approximately 24,613 flight cycles and 99,339 flight hours. This condition, if not corrected, could result in reduced structural integrity of the fuselage at the bulk cargo door and consequent rapid decompression of the fuselage.

The subject area on certain Model 747-100, 200B, and -200C series airplanes is almost identical to that on the affected Model 747-200F series airplanes. Therefore, those airplanes are subject to the unsafe condition revealed on the Model 747-200F series airplane.

Relevant Service Information

We have reviewed Boeing Alert Service Bulletin 747-53A2673, dated February 8, 2007. The service bulletin describes procedures for repetitive high frequency eddy current (HFEC) inspections for cracks in the fuselage skin at the cutout of the bulk cargo door light, and corrective actions if necessary. The corrective actions are as follows:

For airplanes on which a crack is found that is 2.0 inches or less in length from the edge of the light cutout forward lower corner, Part 2 of the Accomplishment Instructions of the service bulletin describes procedures for installing a repair filler, doubler, and tripler, and performing an additional HFEC inspection of the trim edge for cracks and repairing any crack. Accomplishing these corrective actions eliminates the need for the repetitive inspections.

For airplanes on which a crack is found that is more than 2.0 inches in total length from the edge of the light cutout forward lower corner, or is at a location other than the light cutout forward lower corner, the service bulletin recommends contacting Boeing for repair instructions and doing the repair.

Accomplishing the actions specified in the service information is intended to adequately address the unsafe condition.
FAA's Determination and Requirements of the Proposed AD

We have evaluated all pertinent information and identified an unsafe condition that is likely to exist or develop on other airplanes of this same type design. For this reason, we are proposing this AD, which would require accomplishing the actions specified in the service information described previously, except as discussed under “Difference Between the Proposed AD and Service Information.”

Difference Between the Proposed AD and Service Information

The service bulletin specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

Using a method that we approve; or

Using data that meet the certification basis of the airplane, and that have been approved by an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization whom we have authorized to make those findings.

Costs of Compliance

There are about 65 airplanes of the affected design in the worldwide fleet. This proposed AD would affect about 36 airplanes of U.S. registry. The proposed actions would take about 2 work hours per airplane, at an average labor rate of $80 per work hour. Based on these figures, the estimated cost of the proposed AD for U.S. operators is $5,760, or $160 per airplane, per inspection cycle.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority. We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this
Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39--AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

   Authority: 49 U.S.C. 106(g), 40113, 44701.

[[Page 29086]]

Sec. 39.13 [Amended]

2. The Federal Aviation Administration (FAA) amends Sec. 39.13 by adding the following new airworthiness directive (AD):

Comments Due Date

(a) The FAA must receive comments on this AD action by July 9, 2007.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Boeing Model 747-100, -200B, -200C, and -200F series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 747-53A2673, dated February 8, 2007.

Unsafe Condition

(d) This AD results from a report of a 2-inch crack through the fuselage skin and internal bonded doubler at the cutout of the bulk cargo door light. We are issuing this AD to detect and correct cracks in the fuselage skin at the cutout of the bulk cargo door light, which could result in reduced structural integrity of the fuselage at the bulk cargo door and consequent rapid decompression of the fuselage.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Inspections/Corrective Actions

(f) Before the accumulation of 20,000 total flight cycles, or within 1,500 flight cycles after the effective date of this AD, whichever is later: Perform a high frequency eddy current (HFEC) inspection for cracks in the fuselage skin at the cutout of the bulk cargo door light, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2673, dated February 8, 2007. Repeat the inspection thereafter at intervals not to exceed
3,000 flight cycles.

(1) If no crack is found: Repeat the inspection required by paragraph (f) of this AD at the time specified.

(2) If any crack is found that is 2.0 inches or less in length from the edge of the light cutout forward lower corner: Before further flight, do all the corrective actions (including an additional HFEC inspection for cracks) in accordance with Part 2 of the Accomplishment Instructions of the service bulletin. Accomplishing Part 2 ends the repetitive inspections required by paragraph (f) of this AD.

(3) If any crack is found during the inspection required by paragraph (f) of this AD that is more than 2.0 inches in total length from the edge of the light cutout forward lower corner, or is at a location other than the light cutout forward lower corner: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (g)(2) of this AD.

Alternative Methods of Compliance (AMOCs)

(g)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane.

(3) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

Issued in Renton, Washington, on May 15, 2007.

Ali Bahrami,
Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7-10045 Filed 5-23-07; 8:45 am]

BILLING CODE 4910-13-P

On Sunday 3rd March 1974 THY Turkish Airlines DC-10 flight 981, which had
taken off from Orly airport Paris and had been in the air for about 10 minutes dived into the forest of Ermenonville north of Paris killing all 346 people on board. Among the jet's passengers were about 200 English rugby supports flying home from an France-England match. The reason for the disaster was that a cargo door, which had been improperly latched by a cargo baggage handler, flew open and the hull of the aircraft simply disintegrated under the strain of the sudden depressurisation. Normally aircraft doors are "PLUG" doors opening inwards, cargo doors have to open outwards due to space limitations. The elaborate system of latches on this type of door ensure that the door cannot be shut until a manually operated lever is all the way down in its slot. However the locking system was not infallible and the operating lever was not pushed into its proper position causing the door to fly open during the flight. When the door blew open this caused damage to the aircraft's floor which contained the vital control cables and hydraulics which control the aircraft in flight.

TC-JAV (46704/29) Turk Hava Yollari - THY
346 fatalities / 346 occupants +
Phase: Climb from: Paris-Orly to: London-Heathrow APT Flightnr.: TK981

American Airlines Flight 96 was a regular McDonnell Douglas DC-10-10 commuter flight operated by American Airlines, with a scheduled route from Detroit, Michigan to Buffalo, New York.
The flight suffered explosive decompression, due to cargo door failure, on 12 June 1972 while flying over Windsor, Ontario; it is thus sometimes referred to as the Windsor incident.[1] The failure of the cargo door took out many of the aircraft's hydraulic systems, leading to serious problems operating its control surfaces. The plane had no rudder power, and little responsiveness in the elevators or ailerons. However the crew, led by Captain Bryce McCormick, were able to apply differential thrust in the DC-10's wing engines to turn the aircraft, and use what elevator control they had to maintain vertical stabilisation.

NTSB Identification: CHI72AC099
14 CFR Part 121 Scheduled operation of AMERICAN AIRLINES INC
Event occurred Monday, June 12, 1972 in WINDSOR,ONT,CAN, CD
Aircraft: DOUGLAS DC-10, registration: N103AA

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The NTSB is investigating an accident involving an American Airlines McDonnell Douglas DC-10-10, N103AA, which occurred shortly after takeoff from Detroit Metropolitan-Wayne County Airport on June 12, 1972. The aft left-hand cargo door opened while the aircraft was at approximately 12,000 feet. The cabin floor over this cargo compartment then failed as a result of depressurization loading, and the floor dropped partially into the cargo compartment. This displacement of the floor caused serious disruption of the control cables which are routed through the floor beams to the empennage control systems and the engine controls. With the exception of the right rudder pedal cable, all of the cables on the left side of the fuselage broke. The cable guides tore from their attachments to the floor beams, and the cables were...
deflected downward by the floor structure.

Recommendations:
A-72-97. Require a modification to the DC-10 cargo door locking system to make it physically impossible to position the external locking handle and vent door to their normal door locked positions unless the locking pins are fully engaged.

Responses:
FAA LTR DTD: 07/07/72

From: John Barry Smith <barry@johnbarrysmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Gloria.R.LaRoche@faa.gov
Cc: moinofboeing@yahoo.com, Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov, phil.randall@faa.gov, peter.wilhelmsen@faa.gov, Moin.Abulhosn@faa.gov, Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov, Tom.McSweeny@faa.dot.gov, Lyle.Streeter@faa.dot.gov
Subject: Something fishy...

Dear Ms. LaRoche, Wednesday, May 30, 2007

I have just received a land letter (with the wrong address) from FAA Transport Airplane Directorate (TAD) in Renton, Washington dated 24 May, 2007.
I shall subsequently refer to the letter as the 'Mr. Bahrami/Ms. Brown' letter.

Two letters from FAA officials were included for reference, one from Mr. Ron Wojnar and another from Mr. Neil D. Schalekamp. (Letters scanned and enclosed below.)

The above disappointing Mr. Bahrami/Ms. Brown letter (encl 2) with enclosures reads fishy, Mr. LaRoche and here's why:

1. Mr. Bahrami on April 20, 2007 said he was gathering information from his Transport Standards staff regarding my safety concerns related to cargo doors and will provide a complete response to my request within 30 days (encl 3). However, he did not provide a complete response or even an incomplete one regarding cargo doors, in fact, he did not sign the letter at all. There was an illegible signature that I deduce is Ms. Sandra Brown, only because you told me she would be the person to coordinate a response from their technical staff.

2. Ms. LaRoche, you did not ask Transport Airplane Directorate if they had had any correspondence from me in the distant past, you had asked them and Mr. Bahrami had stated he would provide a complete response to my concerns regarding nonplug cargo doors. TAD has declined to follow your guidance. The refusal is strangely based upon nine year old letters from TAD to me. I did not go to TAD, I was directed there by you and Mr. Phil Randall of FAAST independently.
Instead of providing a 'complete response' TAD responded with a rather testy letter that is evasive and misleading by telling me they would no longer correspond with me, the issue is closed and there is no reason to 'revisit' their earlier position. That response is not a professional way to interact with an aviation professional who is polite, factual, and raises legitimate safety concerns.

3. The two letter enclosures (encl 2) from Mr. Wojnar and Mr. Schalekamp are personal in nature and use the pronoun, "I", and yet both are identical. One of those officials is fibbing.

4. The identical letters make a rather bizarre assertion, "It appears that you are determined to impose your theory about the events that led to this unfortunate accident upon the official investigators." Would that I could but the idea of a citizen 'imposing' anything on official investigators is funny. I responded to the letter from Mr. Schalekamp with a letter enclosed below (encl 5) which was also addressed to Mr. Lyle Streeter and Mr. Bob Breneman, two FAA officials familiar with the wiring/cargo door explanation for TWA Flight 800. My written response is very exact and I enclose it only to show the depth of my research and my attention to detail. My response also rebuts allegations in the identical two letters form Mr. Wojnar and Mr. Schalekamp.

5. The Mr. Bahrami/Ms. Brown letter of 24 May, 2007 ends with "Therefore, we see no reason to revisit our earlier position on this issue." Well, Ms. LaRoche, which 'earlier position'? One earlier position agrees with me as quoted below, the forward cargo door of TWA Flight 800 did have an outward explosion at event time and is thus worthy of evaluation to the dangers of non plug cargo doors today, the issue recently put before TAD by you, not the probable cause of a Boeing 747 crash which was an issue nine
years ago. Mr. Schalekamp makes a perfectly reasonable observation and conclusion regarding the forward cargo door of TWA Flight 800 rupturing open. He later modifies his early position to match that of NTSB.

Mr. Neil Schalekamp. Manager, Propulsion/Mechanical Systems and Cabin Safety Branch, FAA, in a 30 Jan 98 letter to me: Mr. Schalekamp writes: "While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

6. At the very same time I was writing to Mr. Bahrami, after being directed to his office with my concerns about non plug cargo doors in early model Boeing 747s, he was actually writing and promulgating a proposed rule for an AD (encl 6) about the concerns of the FAA about non plug cargo doors in early model Boeing 747s.

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
14 CFR Part 39
[Docket No. FAA-2007-28257; Directorate Identifier 2007-NM-034-AD]
RIN 2120-AA64
Airworthiness Directives; Boeing Model 747-100, -200B, -200C, and
-200F Series Airplanes
AGENCY: Federal Aviation Administration (FAA), Department of
Transportation (DOT).
SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD)
for certain Boeing Model 747-100, -200B, -200C, and -200F series
airplanes. This proposed AD would require performing repetitive
inspections for cracks in the fuselage skin at the cutout of the bulk
cargo door light, and corrective actions if necessary. This
proposed AD also provides terminating action for airplanes with a certain type of
damage. This proposed AD results from a report of a 2-inch crack
through the fuselage skin and internal bonded doubler at the cutout of
the bulk cargo door light. We are proposing this AD to detect and
correct cracks in the fuselage skin at the cutout of the bulk cargo
doors, which could result in reduced structural integrity of the
fuselage at the bulk cargo door and consequent rapid
decompression of the fuselage.
DATES: We must receive comments on this proposed AD by
July 9, 2007.
Issued in Renton, Washington, on May 15, 2007.
Ali Bahrami,
Manager, Transport Airplane Directorate, Aircraft Certification Service.

Ms. LaRoche, to abruptly reject this aviator who agrees with the safety goals of TAD regarding non plug cargo doors in Boeing 747-100s and -200s and offers documents, pictures, text, and analysis to support the FAA goals while at the same time the TAD is asking for comments from the public on the exact subject, is contradictory at best, bewildering at worst and fishy always.

7. The FAA enclosed letters to me from long ago do not address any technical issues with non plug doors but get into personality issues of implied harassment, evasions, contradictions of probable cause, misstatement of fact, and an abrupt dismissal of further contact. Those out of date letters are then used as an excuse to avoid providing what you asked for and Mr. Bahrami said he would do, give me a complete response within 30 days of my safety concerns regarding non plug cargo doors in present and newly designed commercial airliners which require certificates of airworthiness.

It appears to me the embedded Boys in Renton choose not to enter into discussion with me for unclear reasons. If I were to submit to the temptation to do tit for tat with the arrogance of Renton brushoffs I would say their attitude stinks. Something is rotten in Renton. But I won't get personal, of course, because emotional outbursts do no good for anyone. Impetuous annoyances are a distraction from the real issue of life and death in aviation safety, something the priceless Airworthiness Certificate addresses.

8. The Mr. Bahrami/Ms. Brown letter ends with, "We have
reviewed your current submissions and found no new information." Well, what submissions? I only provided a bare outline to TAD about cargo doors. They never asked me for anything new or for a complete presentation. There is much new.

The Mr. Bahrami/Ms. Brown letter does not make sense. It is an attempt at a brushoff. It is rude. It ignores the fact that safety advances and discoveries are made every day and certainly since 1998. I offer China Airlines Flight 611 in 2003 as another early model Boeing 747 which suddenly exploded in flight leaving a shattered and split longitudinally cargo door in the wreckage debris field from which much was learned about hull ruptures in early model Boeing 747s.

Ms. LaRoche, the issue nine years ago was the cause of an airplane crash. The current issue is the inherent dangers of non plug cargo doors, actually any non plug door, hatch, or window on a pressurized hull. TAD has not done what they said they would do which was to give a complete response from their Standards staff on my submitted analysis based on many airplane crashes. I was looking forward to such a report.

Allow me please to digress into transportation design philosophy for a moment. When humans first used machines such as boats, bicycles, trains, cars, and planes to move about, they did not go very high or very low. The vehicles were open and unpressurized. However, after time the boats became submarines and the planes flew very high so the interiors became enclosed and kept at comfortable pressure levels while the outside environments became hostile by being either very dense or very loose.
Personally, some of the best flying I ever had was in an unpressurized Navy patrol plane, a P2V-5FS, as we flew at 1500 feet at 180 knots around the Florida Keys looking for Soviet ships bringing in or taking out missiles from Cuba in 1962. We had the after station hatches open, the ocean was blue, the air was warm, and it was all great fun.

I later flew in a high altitude supersonic carrier jet over N. Vietnam which had a pressurized cockpit and full time oxygen masks. The machine had adapted to its environment to accommodate human limitations.

The P-2 was WW II technology while the RA-5C was 1960s technology. Times change and the machines had to adapt and pressurized cockpits were invented. Then the Comet became the first pressurized airliner in service in the early fifties...and promptly had explosive decompressions caused by structural failure. Modifications were made and all the windows and passenger doors were made plug type. Submarines made their hatches plug type. As the submarine dove lower and the aircraft flew higher the holes cut into those pressurized hulls and patched with a door become more tightly sealed thus reducing the chances for an explosive failure of the hull from implosion or explosion.

All patches were plug type except cargo doors in thousands of commercial airliners. A non plug door is like the appendix in humans. It used to be OK, it's still there, it's usually benign....but, often it fails. Most of the time the consequences are minor but once in a while the result is catastrophic resulting in a fatality.

Many times in many types of aircraft the non plug cargo door has
failed from being improperly latched, or sill deformation, or leaking seals, or unseen penetration from ground equipment, or electrical faults. Most times the aircraft turns around and lands but, sometimes that non plug door ruptures open and cause fatalities: Turkish Airlines Flight 981, 346 fatalities (encl 7) and United Airlines Flight 811 nine fatalities.

My research has revealed several more non plug cargo door caused crashes with many more hundreds of fatalities such as Pan Am Flight 103.

The non plug door is an anachronism. It is based on the tradition of stagecoaches, trains, and cars. Non plug door design is obsolete because of advances in abilities of aircraft to fly ever higher and longer. All doors and hatches must be made plug type. The cost, weight, and complexity is manageable for the ensuing safety benefits.

Even after the many thousands of SDRs and the many hundreds of Advisory Circulars, Service Bulletins, and Airworthiness Directives, non plug cargo doors continue to cause problems resulting in millions of dollars of airline checks or repairs and thousands of hours of flight time lost as well as many lives lost. The physical laws of nature will not be denied; if there is a pressure differential, nature will find a way of equalizing it.
Now is the time to order all doors in pressurized hulls to be plug type. We are in the midst of a generation change in aircraft design with composite materials, mammoth four engine and efficient twin aircraft coming on line in the next few years. It's always hard to make changes but it is better to do it now when the A 380 and B 787 are in the early stages of flight testing, not later in the midst of production runs. The A 350 and B 747-800 are still in the design stages.

After being rebuffed by TAD in Renton, Ms. LaRoche, can you refer me to an FAA office and a lady/gentleman who is willing to talk with me in a civil tone about an aviation safety issue we all agree is present, hull rupture in highly pressurized vessels? Contrary to the recollections of Mr. Schalekamp, Mr. Wojnar, we have never engaged in any discussions about my 'assertions'. They have told me their opinions but never asked any questions about mine.

I live near San Jose where there is a substantial FAA office to meet up. I can bring my hard copies of Smith AARs as well as all the NTSB and AAIB AARs for reference. There is an urgency missing from TAD which I have because this danger of faulty wiring causing non plug cargo doors on early model Boeing 747s to rupture open in flight is present every day in the five hundred or so aircraft still in service today.

Really, Ms. LaRoche, is there anyone in the FAA I can sit down with and discuss safety issues I have spent years researching? Will you enter into discussions with me about pressurized hulls? Will Mr. Streeter of FAA Safety? Or Mr. Randall of FAA Safety? Anybody?

I ask for that chance to discuss the safety issue and airworthiness
qualifications regarding the inherent dangers of non plug doors in commercial airliners, past, present, and future.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
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barry@johnbarrysmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Enclosures below:
1. Excerpts from Ms. LaRoche/Mr. Randall emails to Smith
2. Three scanned letters sent to Smith on 24 May 07
3. Scanned letter from Mr. Bahrami to Smith 20 April 07
4. Pictures or text of cargo doors from China Airlines Flight 611, Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800
5. Letter to FAA officials from Smith 27 Feb 98
7. Accident summaries for two DC-10 cargo door related events.

At 3:55 PM -0400 4/13/07, Gloria.R.LaRoche@faa.gov wrote:
Mr. Smith,

I have forwarded your e-mail regarding your concerns about non-plug cargo doors on the A-380 & B-787 to Ann Mollica, here in HQ. Ann is Technical Special Assistant, Aircraft Certification Service. I believe she will be forwarding it to the FAA's Aircraft Evaluation Group in Seattle, Washington for their analysis.

Thank you for your interest in aviation safety,
Gloria LaRoche

At 6:58 AM -0400 4/20/07, Gloria.R.LaRoche@faa.gov wrote:
Mr. Smith,

I'm checking into who at a/c cert has your letter and is working your concerns, and will let you know as soon as I do. I will be out of town most of next week but will not forget you.
Gloria R. LaRoche, Aviation Safety Inspector

At 12:53 PM -0700 5/3/07, barry@johnbarrysmith.com wrote:
> Mr. Smith,
> >
> > I hope by now you've received the e-note on the group that is looking
> > into your concerns on non-plug type cargo doors. That would be Sandra
Brown, of the Transport Airplane Directorate Office (425) 227-2100.

She would be the best person to coordinate a response from their technical staff.

Sincerely,

Gloria R. LaRoche, Aviation Safety Inspector

At 11:46 AM -0400 10/25/06, phil.randall@faa.gov wrote:

Mr. Smith,

I apologize for the delay in replying to your emails, but my time has been very limited due to special projects that I have to complete involving implementation of the FAASTeam.

Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert, I discuss your emails with the appropriate people at FAA headquarters and they all feel that you need to address your concerns with Aircraft Certification. The office nearest to you is listed below. Please contact them and thank you for your concerns.
Hole below of split and ruptured United Airlines Flight 811 forward cargo door.

Then below the Pan Am Flight 103 ruptured and split forward cargo door:

Then below the split and ruptured forward cargo door of TWA Flight 800 at the aft midspan latch and the forward midspan latch: (The two latches without the required by AC locking sectors.)

Then the ruptured and split aft cargo door of China Airlines Flight 611.
Then the text below, no photo available, of the ruptured and split forward cargo door of Air India Flight 182.

The following FAA offices and staff have been informed of the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation in the past few months and will get this letter as an email since they are involved with certification or have referred me to the certification office.

Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch
AIR-130
Phone: (202) 385 4645

Los Angeles
ACO
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Phil Randall
Pete Wilhelmson  
FAA Safety Team  
FAAST

Ali Bahrami  
Manager, Transport Airplane Directorate  
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Neil Schalekamp  
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Bob Breneman,  
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Also:

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Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov,  
Tom.McSweeny@faa.dot.gov, Lyle.Streeter@faa.dot.gov;

To: FAAOAI
From: John Barry Smith <barry@corazon.com>
Subject: Inward or Outward
Cc:
Bcc:
X-Attachments:

Lyle Streeter
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Aircraft Accident Investigator
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Bob Breneman,
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Dear Mr. Streeter,
Dear Mr. Wildey,
Dear Mr. Schalekamp, and
Dear Mr. Breneman,

27 February 1998,

Thank you for each of your personal letters and emails to me. Your opinions are respected by me and therefore I carefully read your words, try to understand the thought, and analyze the conclusions.

The most recent letter is from Mr. Neil Schalekamp, 19 February, 1998. Since we are all involved with safety and in particular TWA 800, I thought that I would include all of us in a presentation of some very basic evidence leading to conclusions.

I consider myself the open person and willingly share my letters with you and would expect the same from you. This is a professional aviation safety matter and precision, documentation, and frank discussion are required.

The primary question to be answered from this presentation is whether the significant damage in a crucial area of TWA 800 was an outward explosion or was the shattered skin inward and caused by water impact.

Basic evidence is to be derived from:
1. NTSB picture of TWA 800 reconstruction,
2. Testimony at public hearing on TWA 800.
3. Text from NTSB Exhibits on TWA 800.
4. Charts from NTSB Exhibits on TWA 800.
5. NTSB Aircraft Accident Reports.
6. Correspondence from Mr. Wildey, Mr. Streeter, Mr. Schalekamp, and Mr. Breneman.

Evidence discovered:
1. Red paint smears on white paint above forward cargo door.
2. Metal petal shape bulge at aft midspan latch of cargo door.
3. Outward peeled skin in various places forward of the wing on the right side.
4. Unburnt center tank maintenance hatch.
5. Downward bent floor beams in cargo hold area.
6. Hoop stress forward of the wing on the right side.
7. Red paint transfer on right horizontal stabilizer.
9. Red-orange streak reported by many eyewitnesses.
10. First pieces of TWA 800 to leave after initial event came from forward of the wing and from cargo hold.
11. Missing midspan latches from TWA 800 reconstruction.
12. Extensive significant matches with other 747 accidents.

Basic conclusions:
1. Fireball occurred between 5000 and 9000 feet.
2. Center tank exploded.

Basic conclusion to be determined:
Outward explosion forward of the wing on the right side in flight caused paint markings and structural deformation or nose all intact and damage caused by water impact.

Intermediate conclusions if outward explosion:
1. Door opened and slammed upwards and transferred red paint to white paint.
2. Pressurized hull rupture at aft midsap latch of cargo door.
3. Maintenance hatch separated before center tank explosion.
4. Decompression in cargo hold bent floor beams downward.
5. Door opened in flight which resulted in hoop stress.
6. Red painted pieces of door flew directly aft and struck right horizontal stabilizer.
7. Engine number three became damaged from debris ejected from cargo hold and disintegrated the forward stator section allowing a stator blade to fly directly aft and impale on the right horizontal stabilizer.
8. Maintenance hatch spin away fast from center tank and reflected evening red-orange sunlight and perceived as streak to observers far away.
9. Serious event occurred forward of the wing on the right side.
10. Midspan latches status undetermined, missing, destroyed, or not hung.

Advanced conclusions if outward explosion:
1. Door opened in flight causing large explosive decompression rectangle which allowed 300 knot slipstream to tear nose off.
2. Center tank exploded when fiery exhaust from damaged number three engine center tank through three foot empty maintenance hatch hole.
3. Door opened why door motor turned on and tried to unlatch the twelve latches but the bottom eight held while midspan turned just enough to allow the 38115 pounds of internal pressure to rupture the latched area.
4. Door motor turned on when fluid, probably water, shorted bare chafed poly-X wiring to metal fuselage.
5. Wiring became chafed from excessive vibration in high time, high cycle Boeing 747s.

Basic Actions:
1. Fireball confirmed.
2. Center tank explosion confirmed.
3. Confirm outward explosion by confirming door opened in flight by examining door hinge for overtravel impression damage, midspan latch pins for heat damage, red paint in unusual places matched to red paint in door area, which can be matched to data in NTSB AAR 92/02.

Intermediate Action:
Confirm chafed wire by examining all wiring for chafing in forward cargo hold and adjacent main equipment bay of TWA 800.

Advanced Action:
Inspect all early model Boeing 747s for fluid and chafed wiring in electronic bays and cargo holds.

Now, to the 19 Feb 98 letter from Mr. Schalekamp.

Mr. Schalekamp, thank you for your thoughts on TWA 800. Let's go line by line:
NS>"It appears that you are determined to impose your theory about the events that led to this unfortunate accident upon the official investigators."

Well, sir, I'm flattered, would that I could.

It not me that is imposing anything; it is the evidence. The evidence is causing the sleepless nights, not me. The evidence apparently contradicts NTSB and FAA Northwest Region's opinion that center tank was initial event.
1. Red paint smears on white paint above forward cargo door.
2. Metal petal shape bulge at aft midspan latch of cargo door.
3. Outward peeled skin in various places forward of the wing on the right side.
4. Unburnt center tank maintenance hatch.
5. Downward bent floor beams in cargo hold area.
6. Hoop stress forward of the wing on the right side.
7. Red paint transfer on right horizontal stabilizer.
9. Red-orange streak reported by many eyewitnesses.
10. First pieces of TWA 800 to leave after initial event came from forward of the wing and from cargo hold.
11. Missing midspan latches from TWA 800 reconstruction.
12. Extensive significant matches with other 747 accidents.

I'm not making any of the evidence up. NTSB and FAA provided the evidence and it's real. It can be touched, heard, and seen.

You state Transport Airplane Directorate has responded four times to me, and thank you very much. A few more times and you will be tied with Senator McCain for personal responses to me regarding this most important safety matter. My Congressman has written ten personal letters to me, including the one on which was attached to a 26 September 1997 letter from Mr. McSweeney to my Congressman stating that he would get back to the Congressman within thirty days with a final reply, and that was five months ago. So, in a sense, Airplane Transport Directorate of Aircraft Certification Service owes one to the cargo door explanation.

NS> "Please take note that this office will no longer be responding to your further inquires (sic) about these same concerns, including your February 6 and February 9 letters that I just received."
Well, you're the manager, so 'office' means you. To say you received letters enough to read the dates and told me about them means you have already responded to them. To refuse to read or pass on extensive, detailed, supported by NTSB documents letters which come from a pilot and crash survivor which present an immediate safety threat to airplanes under your responsibility is an amazing attitude and contradicts your earlier statement, "Please be reassured that each of us within the FAA feels a deep responsibility to aviation safety and will take actions to correct an identified unsafe conditions." Refusing to read letters containing an identified unsafe condition (water meets chafed wires) is an action but it does not correct the unsafe condition, it runs away and tries to ignore it.

Fear is why you are annoyed and worry is why you want the messenger to go away. And it's not me that brought the fear, it's the evidence. Mentally making me go away does not make the evidence go away. There will always be those many red paint smears above the cargo door that indicate outward explosion, then door opening and slamming upward leaving paint transfers, exactly like UAL 811 as stated in NTSB AAR 92/02. I have not made a weird explanation for some flimsy evidence. I have made a solid explanation with documentation based upon solid evidence. The paint smears are real. The stator blade will outlive us. The outward peeled skin will always be there, matching photographs of UAL 811 of same area and indicating outward explosion, just like UAL 811.

Hard, solid evidence:
1. Red paint smears
2. Bulge at latch
3. Outward peeled skin
4. Unburnt center tank hatch.
5. Downward floor beams
6. Hoop stress
7. Paint transfer on stabilizer.
8. Stator blade embedded in stabilizer.
10. First pieces to leave came from cargo hold.
11. Missing midspan latches

NS>"The theory of an explosive decompression, due to a sudden opening of the forward cargo door was one theory that was examined. However, it has been determined that this did not occur."

Well, Mr. Schalekamp, questions:
1. Who examined the theory? I have evidence the door was only partially examined, that is, only eight latches checked and none of the other door mechanisms to include the manual locking handle, for heaven's sakes.
2. Who determined the explosive decompression did not occur? Bernard Loeb? It did occur, it's obvious by looking at the damage forward of the wing, and anyway, the center tank explanation requires explosive decompression of fuselage forward of the wing, and structure report Exhibit suggests explosive decompression bending floor beams downward. No one has ever determined explosive decompression did not occur forward of the wing on the right side. Who determined the door did not open in flight? Bernard Loeb? Who determined there was no outward explosion forward of the wing on the right side? Bernard Loeb? I know it wasn't you because you determined there was an outward explosion there. I hope the FAA does not get like the FBI or CIA with no accountability from anonymous public officials who give opinions about noseless 747s that can climb 3000 feet in 20 seconds. The Chief Theoretician for TWA 800 is missing in
action; who is it? Bernard Loeb? What is his opinion about twisted metal and red paint and stator blade and hoop stress which offer clues to inward or outward force?

NS>"Based upon the existing evidence, the NTSB...believes that the probable cause of the accident was a CWT explosion, due to an internal fuel tank ignition source."

Well fine, but the issue here is not probable cause but outward explosion or inward damage from water impact on that crucial area of TWA 800. I don't understand the reluctance to say outward explosion even though it agrees with center tank outward explosion nearby. I don't understand the reluctance to agree with me when I agree with you. You said outward explosion and I agree. It makes sense. It looks like it in the picture. The damage matches another outward explosion in a high time Boeing 747. The paint markings and structural deformation that I cite do indicate an outward explosion.

NS>"You apparently believe that the ...door precipitated the accident scenario by initially separating from the airplane."

Well, actually, I did think door started accident for eight years for high time 747 accidents that yielded a sudden loud sound on the CVR and an abrupt power cut to the FDR. Now I believe the door opening is preceded by latch rupture preceded by door motor on preceded by electrical short preceded by water onto bare chafed wire preceded by long term vibration and other stresses on the wires.

NS>"The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this
section of the airplane impacted the ocean."

Whoa! Not true! What evidence? There is no evidence showing door all latched and locked and all intact at water impact. There is great evidence showing outward explosion causing shattered skin which occurred before water impact. The door is not in one piece but many. Yes, the bottom 10% and the top 10% stayed with the nose. 20% is not the whole door. What evidence says it exploded outward? Your evidence, Mr. Schalekamp. Your statement, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT." What happened? Why the switch from outward explosion to inward damage from water impact? Why now say door all intact until water impact? The evidence is still there, it hasn't changed. The evidence from the reconstructed 747 airplane reveals that the forward cargo door is shattered from the outward explosion which left paint marks and structural deformation.

Mr. Schalekamp, Mr. Wildey, Mr. Streeter, and Mr. Breneman, let us look at the picture of the right side of TWA 800 reconstruction. Let us give an opinion based on the evidence. Is the shattered rectangle of about twenty feet wide and forty feet high forward of the wing an outward explosion or inward from water impact. It's a basic question. It's easy to answer with ample evidence one way and little the other. It is an important question which must be conclusively determined one way or the other. The implications are profound with far ranging consequences for safety.

NS>"You may not agree with the reasoning of the official accident investigators, but I want you to understand the evidence to date indicates that the CWT explosion preceded any fuselage
breakup, including damage to the forward cargo door."

Well, sir, I want you to understand that right now I'm trying to sort out whether the shattered, outward peeled skin, red paint transfer marks, outward bulged metal at aft midspan latch, and missing 80 percent of cargo door area was caused by an outward explosion as you stated, or inward damage from water impact as you stated.

You can help me by telling me what evidence made you change your mind. I hope it was not an opinion from a senior who does not know what an outward explosion looks like on a 747 but does know what the accepted explanation is and is not going to be swayed by new evidence or new interpretations of evidence. This is life and death, not annual performance review.

There's no going back. Outward explosion is on the record. And it's true. It is a very sad situation when truth is feared and falsehoods embraced. Outward is true, inward is false. How do I know? Because you told me, Mr. Schalekamp, that's how. Have you changed your mind? Let me see the words, "Paint markings and structural deformation do indicate inward damage from water impact," instead of, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"

That would be a correction to your earlier conclusion of outward explosion and would be considered a correction, the right way to do things in an investigation. Not correcting previous conclusion now said to be wrong is the wrong way.

You may think you are helping your boss by backing him up but you do a serious disservice to him and your outfit by continuing
to permit him to think it was water impact inward damage which it wasn't and not outward explosion damage which it was.

Where do bosses get their conclusions from? From you, that's where. Chairman Hall thinks all the doors were all latched and intact until water impact because Bob Breneman told Al Dickinson, who told Jim Wildey, who told Bernard Loeb, who told Jim Hall. Bob Breneman made the best conclusion possible under the cramped rushed circumstances. Upon new evidence, the completed reconstruction, it is time to modify initial conclusion. To not modify conclusion because it is contrary to the boss's opinion is not right. His opinion was formed by Transport Airplane Directorate and it can be changed by Transport Airplane Directorate. If it's true. Is it true? Was it outward explosion or inward water damage? One or other; in or out. Can't have it both ways. Either inward was right early on and still right. Or inward was right early on and now outward is more right based on hindsight and new evidence.

This cargo door/wiring problem in 747s is taking a toll of innocent bystanders, let's not join the crowd:
1. UAL 811 was said to be improper latching and blame fell on ground handler.
2. New AAR for UAL 811 after new evidence recovered, the door, may have embarrassed the original authors.
3. Captain Stacey of TWA thought he was doing the best thing to exonerate his company by giving a piece of wreckage for outside confirmation of missile. He has disgraced his airline and airline participation in future accident investigations will be distrusted.
4. Mr. Kallstrom wasted a year and a half and millions on a wild goose chase for bad guys. There was none. He retired.
5. Pump manufacturers and fuel probe manufacturers are suspected of starting an explosion that killed many. They didn't.
6. CIA analyst shows to the world a headless 747 climbing 3000 feet in twenty seconds, a climb rate of 6000 feet per minute. CIA opinion about aviation is now jeered.

7. Victim's families are filled with hate at imaginary terrorists or covering up US Navy instead of getting over their grief at satisfactory explanation of mechanical cause.

8. And now an FAA official looks at evidence and reaches reasonable conclusion and states it. But it is contrary to official policy so conflict arises. Loyalties and principles are tested.

Mr. Schalekamp, you had a choice when the conflict appeared. You could have said, it was outward explosion because of evidence of paint markings and structural deformation and the outward explosion means there was an outward explosion. Period.

But instead you said FAA agrees with NTSB about initial event and "The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean."

You wrote a true thing from your heart and a later a false thing from your head. I explain the exasperated tone of voice in your 19 Feb letter as result of worry. You want to retract the previous statement and make things just the way they were because senior officials are displeased at your conclusion of outward because they say inward. You don't want senior officials displeased with you.

There is a fear of contradicting the boss in all of us. Then how does any boss become right once they were wrong? Or does the boss just stay wrong? He's corrected by supportive subordinates
who point out to him on the photograph of reconstruction, Exhibit texts, and hearing testimony the following facts:

1. Paint smears
2. Bulge at latch
3. Outward skin peel
4. Unburnt hatch
5. Downward beams
6. Hoop stresses
7. Paint on stabilizer
8. Stator in stabilizer
9. Red-orange streak
10. Pieces from cargo hold in red zone.
11. Missing latches

The evidence is the problem with center tank as initial event, not me. The evidence is the problem with inward water caused damage explanation, not me.

If these new interpretations of evidence are not presented to senior officials, who will? Me? They give little weight to a citizen's conclusions. It has to be officials in the chain of command who have the ability to check out the new interpretations. The door hinge can be examined, the latch pins can be examined, the peeled skin can be examined. The evidence can be examined again to conclude whether it was outward or inward. It's a fork in the road of the TWA 800 investigation; which way to go? Inward goes to center tank as initial event, I know. It just ignores the huge shattered area forward on the right side. Outward goes to whatever. Outward acknowledges the area and the details inside it such as paint markings and structural deformation.
Inward or outward? It's a real conflict for Mr. Schalekamp and one which Mr. Breneman faced, Mr. Wildey faced, and Mr. Streeter is facing. Outward conclusion was given reasons and yet inward never has any. Inward never gives evidence or reasoning, just blind recitation of the official line: "The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean." A line based solely on the incomplete examination when only eight of the ten latches were checked and found latched.

So, life. We are tested in ways we never expected. To say two and two is four and then find out the boss says it's five and then to quickly change answer to five from four is a wrong answer. Opinions change. Sticking with the facts that stay the same is the right answer.

Here's some right answers that were said:

Mr. Streeter, "Wiring problems are still a potential area of concern."

Mr. Wildey, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward." The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts,
or simply a new interpretation of current information."
Mr. Breneman, "A further examination of the recovered wreckage showed that the upper door hinge was still attached to both the fuselage and the door. In addition, the door latches at the bottom of the door were still attached to the fuselage lower sill structure."

Mr. Schalekamp, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"

The evidence is real: paint, bulge, skin, hatch, beams, stress, stator, streak, and latches.

The people are real, Neil Schalekamp, Bob Breneman, Jim Wildey, and Lyle Streeter and John Barry Smith, 408 659 3552, 551 Country Club Drive, Carmel Valley, California, 93924, barry@corazon.com. Call me on the phone, write me a letter, send me an email, or come and visit. Anytime. I'm serious. I have the motivation to confirm the cause of a sudden night fiery fatal jet airplane crash because I narrowly survived one and I don't want it to happen again to anyone.

I'm not connected to any manufacturer, airline, government, or media. I'm a retired military officer. I have no power except to point out facts and suggest conclusions. I'm a free man with a just cause. I have no boss to answer to nor public to serve. I understand the reticence of those who do.

Mr. Schalekamp, you are the manager of a propulsion branch. Does not the discovery of a stator blade in the right horizontal stabilizer intrigue you? That discovery is very significant and justifies the exercise in wreckage reconstruction. The
implications of that stator blade are profound. As FAA branch manager can you not read the NTSB Powerplant report to confirm it came from front stator stage of a P&W JTD-9, engine number three of TWA 800? If it did, then it disintegrated in flight and confirms your previous observation of outward explosion of fuselage skin which might have shoved the FOD into number three. Would you not want P&W as a party to the TWA 800 investigation in order to provide engine information as to what those four vacuum cleaners scooped up at time of initial event? Do you want to know what happened to TWA 800? To be so firm on water impact damage after center tank explosion when the powerplant report and the wreckage plot reports have not been released to the public is not right. There are still many areas to be evaluated.

I know Northwest Region is on the record as favoring initial event as center tank explosion and has it's own pet theory for mystery ignition source. Now that you know about the stator blade, can you alter your explanation based on new evidence?

Mr. Breneman, as a structural engineer, what is your opinion about the outward or inward direction of the force that caused the shattered fuselage skin forward of the wing on the right side?

Mr. Wildey, you are a metal expert, what is your opinion of the direction of the force based on the metal evidence? Does the evidence of the red paint, bulge, outward skin, maintenance hatch, down beams, hoop stress, stator, streak, and missing latches indicate to you inward or outward?

Mr. Streeter, you are the safety expert, what is your opinion of the direction of the force which shattered, twisted, and tore that twenty foot wide and forty foot high section of fuselage skin of
Based upon the new faulty wiring revelations about 767s and 737s is it not reasonable for me to say it's a problem with 747s also? Especially when I point to NTSB AAR 92/02 for UAL 811 which had the exact faulty wiring problem I suggest started TWA 800.

Byron Acohido of Seattle Times told me after an interview he had with Dr. Loeb a year ago: (and nobody is lying)

"I, in fact, did grill several sources very hard about the forward cargo door evidence, including Bernie Loeb. Unless everyone involved is lying, (an assumption you'll no doubt make) there is nothing on the cargo door that indicates it came loose and was the initiating event. All locks and latches were found in proper positions.

According to Bernie Loeb, early information that the door was found in the red zone was incorrect. It was found in the yellow zone, along with all major parts of the forward fuselage section."

Well, you see, that's not true now. All locks and all latches were not found in the proper position. I know that for sure; only eight of ten were checked according to Mr. Breneman and Mr. Wildey. Pieces of the door and local area were found in the red zone and changed in status administratively after the fact. Mr. Wildey explained why that happened.
I use our words to try to find out what is going on; they may or may not be flattering but it's the only clue I have to the official thinking on the subject. I am open and expect my words to be discussed with others. I am quite prepared to support each statement with documentation and source. Good guys are open; bad guys are secretive; especially on a civilian airliner accident in peacetime in US waters. This bomb/missile FBI craziness has hurt the TWA 800 investigation with meddling and suppression of evidence. It's not right. It's intimidation.

UAL 811 was an (1) aged (2) high flight time (3) early model Boeing 747 (4) which took off in low light (5) running late (6) and during climb (7) experienced a sudden initial event near the leading edge of wing in fuselage which left a (8) short (9) sudden (10) loud (11) sound on the cockpit voice recorder, an (12) abrupt (13) power cut to the flight data recorder, (14) foreign object damage to starboard engine #3, (15) more severe inflight damage on starboard side, (16) at least nine never recovered bodies, (17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area on starboard side, (19) unusual paint smears in forward cargo door area, (20) rupture appearance of skin at aft midspan latch of the forward cargo door, (21) outward peeled skin on upper forward fuselage, (22) vertical fuselage tear lines forward of the wing and aft of forward cargo door, (23) had hinge stay attached to detached top piece of forward cargo door, (24) cargo door opened in flight, and (25) destruction initially thought to be have been caused by a bomb but (26) later conclusively ruled out.

And so was TWA 800.

These significant evidence matches must not be ignored but
integrated into the TWA 800 probable cause for it to be conclusive.

The direction of force which shattered the right side of TWA 800 must be conclusively determined. Which way was it, inward or outward?

Sincerely,

John Barry Smith
551 Country Club Drive
Carmel Valley, CA 93924
408 659 3552
barry@corazon.com
www.corazon.com

Supporting documentation and statements below:

1. Date: 08 Jan 1998 16:04:05 -0500
From: Lyle Streeter <Lyle.Streeter@faa.dot.gov>
To: barry@corazon.com (IPM Return requested) (Receipt notification requested)
Subject: Re: Wiring before door, door before center tank

   Mr. Smith - latest word in on the Cairo divert is that there was no fire,
   but a faulty detection system. Wiring problems are still a potential area
   of concern.
I have passed your comments along to the investigators in TWA800.

Lyle Streeter

2. "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB)."

3. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." This observation matches downward buckling as was reported in AAR 92/02, page 4, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward."

4. Evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. This observation coincides with AAR 92/02 which states on page 11, "The cargo door and its associated hardware are designed to carry circumferential (hoop) load arising from pressurization of the airplane."
5. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

6. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted together in that sequence by the NTSB.

7. Testimony at TWA public hearing, Mr. Wildey, "Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence. The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this 25 area."

8. Mr. Neil Schalekamp of FAA, "While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic
characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

9. Chairman Jim Hall of NTSB, "However, to repeat, the investigation of the accident involving TWA flight 800 has revealed no evidence to suggest that a failure of a cargo door precipitated the event."

10. >Date: Wed, 05 Feb 1997 12:34:04 -0800
    >From: Donald Lawson <DLawson@mntry.nps.navy.mil>
    >To: barry@corazon.com
    >Subject: 747 cargo door final report
    >
    >>From the head of the NTSB team working TWA 800:
    >>  1. He personally, even again this morning, looked at all the doors from
    >>the airplane. All latches were either destroyed or in closed positions.
    >>The destroyed latches were adjacent to ones in closed positions.
    >>  2. Nobody associated with the investigation is considering further
    >>a cargo/passenger door malfunction to be part of the probable cause of
    >>this accident. Door problems have been categorically ruled out because
    >>there is simply no evidence pointing to the doors (and latches). that.

11. Docket No. SA-516, Exhibit 15C, Section 41/42, Forward Cargo Door, dated 22 April 1997, with Mr. Al Dickinson, AS-10, listed as investigator and Mr. Wildey as author, states, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with
pieces of the door itself) to the pins along the lower door sill."

12. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. Among all the charts of pieces of the plane coming off and when, there is one chart that shows the first to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. That item left even before the last ASR radar beacon to Islip radar. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-42R is shown to leave very early.

13. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

14. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

15. Mr. Breneman, FAA, "The nose section of the airplane impacted the water on the right side, causing severe hydraulic damage with the result that the door structure did not remain completely intact. However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the
right side. This is additional verification that the forward cargo door had not opened in flight or separated from the airplane.

16. Chairman Hall of NTSB, "We are by no means finished. Our work will continue and we will spare no effort to determine the cause of the crash of TWA 800."

17. Chairman Hall of NTSB, "We're going to look for the needle in the haystack and go back over the 150 miles of wire that are there in the Calverton hangar, and see if that shows any evidence of arcing or other information that will lead us in the direction" of a probable cause."

18. From: Dickinson Al <DICKINA@ntsb.gov>
   To: barry <barry@corazon.com>
   Subject: RE: mechanical crash cause
   Date: Thu, 19 Sep 1996 19:04:00 -0400
   Encoding: 129 TEXT
   Status:

   Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been noted by
the crew and recorded on the CVR. We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter. Thank you for your interest in aviation safety.

19. Mr. Wildey's testimony at public hearing: "This was brought to our attention, and the reason that we examined this was that three of the four nose landing doors had a red tag and were recovered from the earliest part of the debris field and, similarly, around the nose landing gear area there were some fuselage pieces that were recovered that had a red tag on it and were supposedly recovered from the red earliest debris field. Of course it became a very distinct question, well, what happened up there, how did these pieces, the fuselage pieces in the doors get into the red zone? Well, our group took this as a task to look at. We made a report on it and we determined that, for example, on the doors themselves that, yes, those doors apparently did come off the airplane. They had a lack of damage on them that was consistent with early departure. We developed some hypotheses and scenarios that could allow the doors to depart from the airplane very early in the sequence, and it is consistent with the factual observations we have made.

so, for the doors we said, yes, it appears as though we have a sequence that could account for the doors to come off early, and we also examined the fuselage pieces right around there that had red tags on them, and we looked at all the features we could find,
and for the fuselage pieces around there we said we find no physical evidence to suggest that those particular pieces actually departed the airplane early on in the sequence.
I think, if I remember our report, we said we believed that those particular pieces should be treated as yellow zone parts because we don't find any way that they could possibly have come off the airplane early in the sequence and actually have been found in the red debris field.
Just as a side note, I am aware that the tags on those particular fuselage pieces from around the nose area are the so-called 2,000 series tags, and that is not my area of expertise, but these are the « these tags had some questions about their pedigree, if you will.
But, that is really not our concern. We are saying, and our group said that we don't believe those are red zone parts and we would treat those as yellow zone parts for the purposes of analyzing the break-up sequence."

20. Testimony of Mr. Wildey at public hearing, "First of all, the conclusions reached by the Sequencing Group eliminated a large scale structural problem away from the wing center section fuel tank. Specific areas that were eliminated as factors include the section 4142 fuselage joint in the forward cargo door. A report on these subjects is contained in Exhibit 15(c). The section 4142 fuselage joint is located in station 520 at the forward end of the reconstructed portion of the airplane, and you can see that right here (demonstrating). Although there have been some manufacturing alignment problems associated with this joint, the
accident airplane contained absolutely no evidence of pre-existing weaknesses at this point, or that the joint separated in any manner before the nose section impacted the water relatively intact. Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence. The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this area."

21. MR. STREETER: Yes, Mr. Chairman. For Mr. Wildey, a couple of items here for clarification. Specifically out of the red area, were there any fuselage skins in that area that showed any type of hoop tension failure (inaudible) .

WITNESS WILDEY: Yes, we tried to document that and it is contained within our report. One of the figures that I used did show this hoop tension type of fracture. That occurred at the initial point of the fuselage fracture at stringer forty right. There were also other areas where you could not see any evidence of a running fracture that we classified as -- basically, from pure hoop tension, but on either side of these other areas the fracture was running into it and then out of it in the other
direction.
so, the only real area that we saw was
associated with stringer forty « excuse me « yes,
fifty right where the fuselage cracking initiated as it
came down through the front spar.
MR. STREETER: The one other area that was
mentioned in your testimony regarding span-wise beam 3
failing in the forward direction, in Exhibit 18(a) you
discussed where a portion of span-wise beam 2 was found
in the red area.
Now, are there any inconsistencies of that,
or is that related to the fuselage opening up? My
concern is, would you have expected span-wise beam 2 to
end up elsewhere?
WITNESS WILDEY: Well, I don't know if we had
any expectations, or if you could really expect what
would happen, because we just don't really know. But,
there was a manufacturing access door from span-wise
beam 2 just behind span-wise beam 3, and this door was
found in the red zone and had no soot or fire damage on
it consistent with very early departure and with its
recovery position.
It clearly indicates that this door separated
as part of the initial event and was blown out as
part -- as was span-wise beam 3 and the front spar, and
came out through the same hole in the lower fuselage
that was created in the belly skin just in front of the
front spar.
CHAIRMAN HALL: What is a manufacturing
access door? Can you describe that for us?
WITNESS WILDEY: It is a door that is
provided in span-wise beam 2 for access during the
manufacturing process. It is then rivetted up and you
can’t really get in there after that. 
There are other doors that are maintenance 
access doors that can be disassembled and reassembled. 
This is a door that is rivetted back up during the 
manufacturing process and is not really there. 
CHAIRMAN HALL: The approximate size of this 
piece? 
WITNESS WILDEY: It is about two feet by 
three feet. It is an oval-shaped door. 
CHAIRMAN HALL: Thank you. 
WITNESS WILDEY: Did that answer your 
question, Mr. Streeter? 
MR. STREETER: I think so. The main thing I 
am trying to get at is, again, with that piece in that 
position, your group didn’t see any reason for that to 
cause any concern as far as your break-up sequence 
design, is that correct? 
WITNESS WILDEY? Well, our sequence does take 
into account how this door « we list several possible 
ways for this door to have come off. I don’t know that 
we reached an absolute firm conclusion as to exactly 
how that happened, but surely during the initial 
explosion or shortly thereafter this door was broken 
from its perimeter, and we see significant evidence 
that the door was pushed in the forward direction after 
part of it failed and, so, it came out while there was 
still pressure behind it to push it out, so it is part 
of the initial event. 
We do not see any evidence of a bomb or any 
kind of explosion features right on the door, itself. 
so, it appears that part of the door perimeter was 
ripped apart and then the pressure behind the door 
pushed it in the forward direction. It hit the top of
the tank and then got blown out into the earliest portion of the recovery field.

22. Summary of Docket evidence:

1. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and "'The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."

2. Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11 which discusses direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only.

3. Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

4. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

5. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted
together in that sequence.
6. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. One chart that shows the first items to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-40R is shown to leave very early.
7. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."
8. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

23. FAA web page states, "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB).

24. Specific suggestions:
1. Examine aft midspan latch pin for damage as was observed on UAL 811, NTSB AAR 92/02 page 33, "The forward midspan latch pin was relatively undamaged. The aft midspan latch pin had definite areas of damage. Both pins had wear areas where the cams would contact the pins during latching."
2. Examine the TWA 800 door hinge for damage as was observed in AAR 92/02, page 35, "Several areas on the hinge sections, such as the fuselage hinge sections, showed evidence of contact from the door during overtravel (See figure 14.) In addition the fuselage forward hinge sections were slightly bent." Figure 14 is on page 40 and shows photograph of the hinge overtravel damage.

3. Examine two midspan latches from forward cargo door for damage. The criterion for determining if latches latched was to check to see if still locked and attached to adjacent fuselage sill or frame. The bottom eight latches of TWA 800 door were attached to sill so conclusion latched. The two midspan latches are unattached to frame so conclusion unlatched. The door frame is smooth where the aft midspan latch is supposed to be attached but isn't.

4. Examine forward and aft pull-in hooks of TWA 800 for compression and smearing damage as was observed in AAR 92/02, page 45.

5. Examine door and fuselage for paint transfer from one to the other as was observed in AAR 92/02, page 41. Red paint smears on TWA 800 on white paint between passenger windows above cargo door may have come from red paint on top of cargo door. The red paint smears are large and frequent only along the top of the cargo door area and not found on the other 460 feet of fuselage trim. This indicates door below opened outward and slammed upward into fuselage, giving overtravel over 143 degrees on the hinge and transferring red paint from door onto white paint between passenger windows. The opening door with hinge attached took red trim fuselage skin with it and that may have slammed upward also onto white painted skin. Red paint smears are not scraped away white paint revealing red underneath but red paint on top of white paint. White paint scraped away reveals green primer.
6. Examine outer skin contour of the upper door piece for inward crushing as was observed in AAR 92/02, page 41. Door blows outward and top of door smashes into fuselage above giving inward crushing not by water impact. Photo of TWA 800 top door piece shows such damage.

7. Examine master latch lock handle housing and trigger for position. AAR 92/02, page 41, found it relatively flush with door outer skin.

8. Examine floor beams again of TWA 800 to confirm statement in Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." This observation matches downward buckling as was reported in AAR 92/02, page 4, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward."

9. Confirm evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. This observation coincides with AAR 92/02 which states on page 11, "The cargo door and its associated hardware are designed to carry circumferential (hoop) load arising from pressurization of the airplane." If cargo door was fully latched and intact until water impact then there should be no hoop tension fractures. If the door was missing in flight, hoop tension fractures could be expected to be found and they were on TWA 800 leading to conclusion door was missing in
flight.
10. Confirm door frame of TWA 800 which abuts aft edge of door is curved outward in petal shaped bulge indicating outward force rupture. Aft midspan latch is unattached to aft midspan latch pin halfway up the door frame. Edge of door frame is smooth indicating door not missing by force but by unlatching of aft midspan latch.
11. Establish large round rupture hole in TWA 800 photo centered at aft midspan latch is in fact a hole or something otherwise.
12. Confirm outward peeled skin on TWA 800 upper skin as shown in photograph which indicates outward force which matches AAR 92/02, page 6 photograph of peeled upper skin in same location.

[Federal Register: May 24, 2007 (Volume 72, Number 100)]
[Proposed Rules]
[Page 29084-29086]
From the Federal Register Online via GPO Access
[wais.access.gpo.gov]
[DOCID:fr24my07-10]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-28257; Directorate Identifier 2007-NM-034-AD]
RIN 2120-AA64
Airworthiness Directives; Boeing Model 747-100, -200B, -200C, and -200F Series Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).
ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Boeing Model 747-100, -200B, -200C, and -200F series airplanes. This proposed AD would require performing repetitive inspections for cracks in the fuselage skin at the cutout of the bulk cargo door light, and corrective actions if necessary. This proposed AD also provides terminating action for airplanes with a certain type of damage. This proposed AD results from a report of a 2-inch crack through the fuselage skin and internal bonded doubler at the cutout of the bulk cargo door light. We are proposing this AD to detect and correct cracks in the fuselage skin at the cutout of the bulk cargo door light, which could result in reduced structural integrity of the fuselage at the bulk cargo door and consequent rapid
decompression of
the fuselage.
DATES: We must receive comments on this proposed AD by
July 9, 2007.

ADDRESSES: Use one of the following addresses to submit
comments on
this proposed AD.
DOT Docket Web site: Go to http://dms.dot.gov and follow
the instructions for sending your comments electronically.
Government-wide rulemaking Web site: Go to http://
www.regulations.gov
and follow the instructions for sending your
comments electronically.
Mail: Docket Management Facility, U.S. Department of
Transportation, 400 Seventh Street, SW., Nassif Building, room
PL-401,
Washington, DC 20590.
Fax: (202) 493-2251.
Hand Delivery: Room PL-401 on the plaza level of the
Nassif Building, 400 Seventh Street SW., Washington, DC,
between 9 a.m.
and 5 p.m., Monday through Friday, except Federal holidays.
Contact Boeing Commercial Airplanes, P.O. Box 3707,
Seattle,
Washington 98124-2207, for the service information identified in
this
proposed AD.

FOR FURTHER INFORMATION CONTACT: Ivan Li,
Aerospace Engineer, Airframe
SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to submit any relevant written data, views, or arguments regarding this proposed AD. Send your comments to an address listed in the ADDRESSES section. Include the docket number `FAA-2007-28257; Directorate Identifier 2007-NM-034-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the proposed AD. We will consider all comments received by the closing date and may amend the proposed AD in light of those comments.

We will post all comments we receive, without change, to http://dms.dot.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD. Using the search function of that web site, anyone can find and read the
comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or you may visit http://dms.dot.gov.

Examining the Docket

You may examine the AD docket on the Internet at http://dms.dot.gov, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after the Docket Management System receives them.

Discussion
We have received a report indicating that a 2-inch crack through the fuselage skin and internal bonded doubler at the cutout of the bulk cargo door light was found during a visual fuselage skin inspection on a Model 747-200F series airplane. The crack was located at the forward lower corner of the cutout of the bulk cargo door light between stations 2060 and 2070, stringers 32R and 33R. The airplane had accumulated approximately 24,613 flight cycles and 99,339 flight hours.

This condition, if not corrected, could result in reduced structural integrity of the fuselage at the bulk cargo door and consequent rapid decompression of the fuselage.

The subject area on certain Model 747-100, 200B, and -200C series airplanes is almost identical to that on the affected Model 747-200F series airplanes. Therefore, those airplanes are subject to the unsafe condition revealed on the Model 747-200F series airplane.

Relevant Service Information

We have reviewed Boeing Alert Service Bulletin 747-53A2673, dated February 8, 2007. The service bulletin describes procedures for repetitive high frequency eddy current (HFEC) inspections for cracks in the fuselage skin at the cutout of the bulk cargo door light, and corrective actions if necessary. The corrective actions are as
follows:

For airplanes on which a crack is found that is 2.0 inches or less in length from the edge of the light cutout forward lower corner, Part 2 of the Accomplishment Instructions of the service bulletin describes procedures for installing a repair filler, doubler, and tripler, and performing an additional HFEC inspection of the trim edge for cracks and repairing any crack. Accomplishing these corrective actions eliminates the need for the repetitive inspections.

For airplanes on which a crack is found that is more than 2.0 inches in total length from the edge of the light cutout forward lower corner, or is at a location other than the light cutout forward lower corner, the service bulletin recommends contacting Boeing for repair instructions and doing the repair.

Accomplishing the actions specified in the service information is intended to adequately address the unsafe condition.

FAA's Determination and Requirements of the Proposed AD

We have evaluated all pertinent information and identified an unsafe condition that is likely to exist or develop on other airplanes of this same type design. For this reason, we are proposing this AD, which would require accomplishing the actions specified in the service information described previously, except as discussed under "Difference Between the Proposed AD and Service
Difference Between the Proposed AD and Service Information

The service bulletin specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

Using a method that we approve; or

Using data that meet the certification basis of the airplane, and that have been approved by an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization whom we have authorized to make those findings.

Costs of Compliance

There are about 65 airplanes of the affected design in the worldwide fleet. This proposed AD would affect about 36 airplanes of U.S. registry. The proposed actions would take about 2 work hours per airplane, at an average labor rate of $80 per work hour. Based on these figures, the estimated cost of the proposed AD for U.S. operators is $5,760, or $160 per airplane, per inspection cycle.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's
authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority. We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.
For the reasons discussed above, I certify that the proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39--AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:
Authority: 49 U.S.C. 106(g), 40113, 44701.

[[Page 29086]]

Sec. 39.13 [Amended]

2. The Federal Aviation Administration (FAA) amends Sec. 39.13 by adding the following new airworthiness directive (AD):


Comments Due Date

(a) The FAA must receive comments on this AD action by July 9, 2007.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Boeing Model 747-100, -200B, -200C, and -200F series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 747-53A2673, dated February 8, 2007.

Unsafe Condition
(d) This AD results from a report of a 2-inch crack through the fuselage skin and internal bonded doubler at the cutout of the bulk cargo door light. We are issuing this AD to detect and correct cracks in the fuselage skin at the cutout of the bulk cargo door light, which could result in reduced structural integrity of the fuselage at the bulk cargo door and consequent rapid decompression of the fuselage.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Inspections/Corrective Actions

(f) Before the accumulation of 20,000 total flight cycles, or within 1,500 flight cycles after the effective date of this AD, whichever is later: Perform a high frequency eddy current (HFEC) inspection for cracks in the fuselage skin at the cutout of the bulk cargo door light, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2673, dated February 8, 2007. Repeat the inspection thereafter at intervals not to exceed 3,000 flight cycles.

   (1) If no crack is found: Repeat the inspection required by paragraph (f) of this AD at the time specified.

   (2) If any crack is found that is 2.0 inches or less in length
from the edge of the light cutout forward lower corner: Before further flight, do all the corrective actions (including an additional HFEC inspection for cracks) in accordance with Part 2 of the Accomplishment Instructions of the service bulletin. Accomplishing Part 2 ends the repetitive inspections required by paragraph (f) of this AD.

(3) If any crack is found during the inspection required by paragraph (f) of this AD that is more than 2.0 inches in total length from the edge of the light cutout forward lower corner, or is at a location other than the light cutout forward lower corner: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (g)(2) of this AD.

Alternative Methods of Compliance (AMOCs)

(g)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis
of the airplane.

(3) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19.

Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

Issued in Renton, Washington, on May 15, 2007.

Ali Bahrami,
Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7-10045 Filed 5-23-07; 8:45 am]

BILLING CODE 4910-13-P

On Sunday 3rd March 1974 THY Turkish Airlines DC-10 flight 981, which had taken off from Orly airport Paris and had been in the air for about 10 minutes dived into the forest of Ermenonville north of Paris killing all 346 people on board. Among the jet's passengers were about 200 English rugby supports flying home from an France-England match. The reason for the disaster was that a cargo door, which had been improperly latched by a cargo baggage handler, flew open and the hull of the aircraft simply disintegrated under the strain of the sudden depressurisation. Normally aircraft doors are "PLUG" doors opening inwards, cargo doors have to open outwards due to space limitations. The elaborate system of latches on this type of door ensure that the door cannot be shut until a manually operated lever is all the way down in its slot. However the locking system was not infallible
and the operating lever was not pushed into its proper position causing the door to fly open during the flight. When the door blew open this caused damage to the aircrafts floor which contained the vital control cables and hydraulics which control the aircraft in flight.

TC-JAV (46704/29) Turk Hava Yollari - THY
346 fatalities / 346 occupants +
Phase: Climb from: Paris-Orly to: London-Heathrow APT
Flightnr.: TK981

American Airlines Flight 96 was a regular McDonnell Douglas DC-10-10 commuter flight operated by American Airlines, with a scheduled route from Detroit, Michigan to Buffalo, New York. The flight suffered explosive decompression, due to cargo door failure, on 12 June 1972 while flying over Windsor, Ontario; it is thus sometimes referred to as the Windsor incident.[1] The failure of the cargo door took out many of the aircraft's hydraulic systems, leading to serious problems operating its control surfaces. The plane had no rudder power, and little responsiveness in the elevators or ailerons. However the crew, led by Captain Bryce McCormick, were able to apply differential thrust in the DC-10's wing engines to turn the aircraft, and use what elevator control they had to maintain vertical stabilisation.

NTSB Identification: CHI72AC099
14 CFR Part 121 Scheduled operation of AMERICAN AIRLINES INC
Event occurred Monday, June 12, 1972 in WINDSOR,ONT,CAN, CD
Aircraft: DOUGLAS DC-10, registration: N103AA

----------------------------------------------------------------------------------------------
FILE DATE LOCATION AIRCRAFT DATA
INJURIES FLIGHT PILOT DATA
F S M/N PURPOSE

----------------------------------------------
1-0004 72/6/12 NR.WINDSOR,ONT,CAN DOUGLAS
DC-10 CR- 0 0 11 SCHED DOM PASSG SRV
AIRLINE TRANSPORT, AGE
TIME - 1925 N103AA PX- 0 0
56 52, 24048 TOTAL HOURS, 56
DAMAGE-SUBSTANTIAL OT- 0 0
0 IN TYPE, INSTRUMENT

RATED.
OPERATOR - AMERICAN AIRLINES,INC.
DEPARTURE POINT INTENDED
DESTINATION LAST ENROUTE STOP
LOS ANGELES,CALIF NEW YORK,NY BUFFALO, NY

TYPE OF ACCIDENT PHASE OF OPERATION
AIRFRAME FAILURE: IN FLIGHT IN FLIGHT: CLIMB TO CRUISE
PROBABILE CAUSE(S)
AIRFRAME - FUSELAGE: DOORS, DOOR FRAMES
MISCELLANEOUS ACTS,CONDITIONS -
IMPROPERLY SECURED
PERSONNEL - PRODUCTION-DESIGN-PERSONNEL:
POOR/INADEQUATE DESIGN
MISCELLANEOUS ACTS,CONDITIONS -
OVERLOAD FAILURE
FACTOR(S)
The NTSB is investigating an accident involving an American Airlines McDonnell Douglas DC-10-10, N103AA, which occurred shortly after takeoff from Detroit Metropolitan-Wayne County Airport on June 12, 1972. The aft left-hand cargo door opened while the aircraft was at approximately 12,000 feet. The cabin floor over this cargo compartment then failed as a result of depressurization loading, and the floor dropped partially into the cargo compartment. This displacement of the floor caused serious disruption of the control cables which are routed through the floor beams to the empennage control systems and the engine controls. With the exception of the right rudder pedal cable, all of the cables on the left side of the fuselage broke. The cable guides tore from their attachments to the floor beams, and the cables were...
deflected downward by the floor structure.

Recommendations:
A-72-97. Require a modification to the DC-10 cargo door locking system to make it physically impossible to position the external locking handle and vent door to their normal door locked positions unless the locking pins are fully engaged.

Responses:
FAA LTR DTD: 07/07/72

From: John Barry Smith <barry@johnbarrysmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Gloria.R.LaRoche@faa.gov, moinofboeing@yahoo.com, Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov, phil.randall@faa.gov, peter.wilhelmsen@faa.gov, Moin.Abulhosn@faa.gov, Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov, Tom.McSweeny@faa.dot.gov, Lyle.Streeter@faa.dot.gov
Subject: Pesky Non Plug Cargo Doors followup on 30 day deadline.

Ali Bahrami
Manager, Transport Airplane Directorate
Aircraft Certification Service
Dear Mr. Bahrami, Sunday, May 20, 2007

>Thank you for your 20 April, 2007 paper letter to me stating that you are gathering information from your Transport Standards staff regarding my safety concerns related to cargo doors and will provide a complete response to my request within 30 days.
Well, it's 20 May, 2007 today, exactly 30 days after you said you would provide a 'complete' response by 20 May. Since you declined to email me I have to add a few days for your snail mail to arrive. I will take you at your official professional word you will provide me with a response by your self imposed deadline and the response will be 'complete.'

John Barry Smith wrote:
I'll know that serious consideration is given to the assertion that nonplug cargo doors have caused other accidents when I receive questions from your Transport Standards staff because the wiring/cargo door explanation is quite complicated and controversial.

I have received no inquiries from you or your staff in the last month regarding my well documented shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s.

You did not provide an email address nor send me an email. You did not reply to my extensive 6 May snail mail letter to you.

Your lack of curiosity and slowness in communication is alarming. As an aviation professional pilot and investigator I can say with confidence that speed and accuracy in communication is vital as well as the duty to check out every possible safety issue when presented by qualified persons with experience.

I hope I'm wrong about my misgivings and will shortly receive a letter in the mail from you giving a 'complete' response to the wiring/cargo door explanation as well as a response to my alarms about nonplug cargo doors on aircraft you are about to certify as
There has been some increased interest in my SmithAARs which are downloadable on my websites, http://www.montereypeninsulaairport.com and http://www.ntsb.org. I'm hoping the downloaders are from your Transport Standards staff gathering information as you said they would.

I've attached as pdf file the first page of nine ADs on Boeing 747s regarding cargo door problems from the Australians and FAA:

COMMONWEALTH OF AUSTRALIA (Civil Aviation Regulations 1998), PART 39 - 105
CIVIL AVIATION SAFETY AUTHORITY
SCHEDULE OF AIRWORTHINESS DIRECTIVES

A recurring phrase is understated as 'rapid depressurization' which sounds so much milder than 'explosive decompression' which is what happens when the cargo door ruptures open about 17000' MSL such as United Airlines Flight 811.

'...which could result in damage to the structure of the cargo door and doorway cutout and consequent opening of the cargo door during flight.'

"...lower lobe cargo door cutout, which undetected, could lead to reduced structural integrity of the cutout and result in rapid depressurisation of the aircraft."

'Broken bolts in the latch fittings could reduce the capability of
the door latch to keep
the door closed, and result in loss of a cargo door and consequent rapid
depressurisation of the aircraft.'

I'm asking that one of your colleagues above in the email address line forward this email to you as our snail mail letters would probably cross in the mail.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org

>Thank you for your 20 April, 2007 paper letter to me stating that you are gathering information from your Transport Standards staff regarding my safety concerns related to cargo doors and will provide a complete response to my request within 30 days.

I bring in United Airlines Flight 811 as the answer because it is the accident that matches the others and the cause of that is confirmed; electrical. Hole below of split and ruptured United Airlines Flight 811 forward cargo door.
Then below the Pan Am Flight 103 ruptured and split forward cargo door:

Then below the split and ruptured forward cargo door of TWA Flight 800 at the aft midspan latch and the forward midspan latch: (The two latches without the required by AC locking sectors.)

Then the ruptured and split aft cargo door of China Airlines Flight 611.

Then the text below, no photo available, of the ruptured and split forward cargo door of Air India Flight 182.

The following FAA offices and staff have been informed of the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation in the past few months and will get this letter as an email since they are involved with certification or have referred me to the certification office.

Moin Abulhosn
I'll know that serious consideration is given to the assertion that nonplug cargo doors have caused other accidents when I receive
questions from your Transport Standards staff because the wiring/cargo door explanation is quite complicated and controversial.

I am at your service, sir.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysthsmith.com
http://www.montereypeninsulaairport.com
http://www.ntsbo.org

From: John Barry Smith <barry@johnbarrysthsmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Gloria.R.LaRoche@faa.gov, moinofboeing@yahoo.com,
Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov,
phil.randall@faa.gov, peter.wilhelmson@faa.gov,
Moin.Abulhosn@faa.gov
Subject: Pesky Non Plug Cargo Doors

Ali Bahrami
Manager, Transport Airplane Directorate
Aircraft Certification Service
Dear Mr. Bahrami, Sunday, May 6, 2007

Thank you for your 20 April, 2007 paper letter to me stating that
you are gathering information from your Transport Standards staff regarding my safety concerns related to cargo doors and will provide a complete response to my request within 30 days.

I am familiar somewhat with your work, sir. I reviewed AC No: 25.783-1A a few years ago on the request from the editor of an aviation safety newsletter. I've attached my review below and the entire AC to this email.

In my opinion, from your point of view, as the manager of the aircraft certification service, the goal is ensuring that future designs in transport airplanes are deemed airworthy. My assertion is that the danger of non plug cargo doors, while understood, is vastly underestimated because of several early model Boeing 747 accidents which were incorrectly attributed to other causes. It is a startling assertion, I know, Mr. Bahrami, but.....the evidence bears out those conclusions. I refer to Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800, only one of which is officially non plug cargo door related. (China Airlines Flight 611 is inconclusive because of lack of data.)

Several defects exploit the design flaw of non plug doors such as wiring, or fires, or previous damage from ground machine impacts. In addition, let me point out another glaring flaw for the Boeing 747 in that although there are ten latches in each of the two large non plug cargo doors there are only eight locking sectors. The two midspan latches of each door do not have locking sectors. Those omissions have resulted in the cargo door ruptures taking place at those midspan latches after the locking sectors were strengthened after the non fatal Pan Am 125 event.

Below closeup shows the rupture pattern at the forward cargo
door midspan latch of TWA Flight 800, hinge at top and bottom of door at bottom of picture.

I am a little distressed at the difference between wishful thinking and the reality. You write in the AC:

c. Each door subject to pressurization, and for which the initial opening movement is not inward, must [25.783(d)(3)]--
Y have an individual lock for each latch [25.783(d)(3)(i)];'

and again:

'(1) To safeguard doors subject to pressurization and for which the initial opening movement is not inward, each latch must have an individual lock.'
You say the requirement twice and are loathe to say 'outward'. To say the requirement twice and then violate it twice with every Boeing 747 made; two cargo doors, four midspan latches without locks for each 747 equal 1500 times four or 6000 violations of an instruction for one model aircraft.

I assume a latching cam which surrounds a latch pin is not considered a 'lock' while a 'locking sector' is. That's what a locking sector does, locks. From the AC:

A latch is a movable mechanical element that, when engaged, prevents the door from opening.
A lock is a mechanical element that monitors the latch position and, when engaged, prevents the latch from
becoming disengaged.

Latched means the latches are fully engaged with their structural counterparts and held in position by the latch operating mechanism.

Locked means the locks are fully engaged.

Latching mechanism includes the latch operating mechanism and the latches.

Future airliners such as the B 787 and the A 380 (with three!) continue to have large nonplug cargo doors because they are deemed safe with the current safety features of viewing ports, decals, microswitches, warning lights, and manual locking handles. Not so. Those safety attempts are small band aids on a huge wound.

I fully understand the political sensitivity of my discovery of a common cause for four controversial and fatal accidents. Boeing, NTSB, and the airlines really do not want an industry wide problem to become acknowledged and will readily accept any other cause that absolves that fundamental design flaw: Door/hatches/windows should not get looser but tighter when pressure differential increases. That principle is true for submarines as well as airplanes.

FAA has previously acknowledged the inherent danger of nonplug doors in the United Airlines Flight 811 accident:

"NTSB AAR 92/02: The FAA responded to Safety Recommendations A-89-92 through -94 on November 3, 1989. During its evaluation of Safety Recommendation A-89-92, the FAA determined that Boeing 747 cargo doors with lock sectors, modified in compliance with AD 88-12-04, cannot be overridden
during mechanical or least one torque-limiting device. The Safety Board has reviewed AD 88-12-04 and has confirmed the FAA's findings. Based on this, Safety Recommendation A-89-92 has been classified as "Closed--Reconsidered."
The FAA responded to Safety Recommendations A-89-93 and -94 describing action to review all outward opening (nonplug) doors and all jetpowered transport-category airplanes to determine what, if any, modifications are needed to ensure that these doors will not open in flight. The FAA pointed out that the door latch indicating system is to be only part of the review and that door designs will be evaluated against criteria specified in 14 CFR 25.783 as amended by Amendment 25-54, and the policy material published in Advisory Circular 25.783.1, adopted in 1980 and will take into account human factors involved in the routine operation of closing and locking doors to ensure that the latch and lock systems are fail-safe. Further, to emphasize the importance of human factors, the FAA has developed a training program for FAA certification personnel to enhance their knowledge of human factors in aircraft design. This training program will be offered to approximately 100 certification personnel during the next year. Based on this response, Safety Recommendations A-89-93 and -94 have been classified as "Open--Acceptable Action." The Safety Board believes it necessary to point out that this hazard exists for any pressurized aircraft using nonplug doors and that the FAA should not be limiting this review to only those transports which are jet powered."

Let us agree in principle that safety is important and that plug type doors are safer than non plug doors. Then let us consider the practical aspects. As a person whose life has literally been saved by an ejection seat and parachute I would argue that just as every
passenger on a ship should have a seat in a lifeboat, every flying passenger should have an ejection seat and parachute...but...I am a practical man and always defer to reality. The cost, danger, weight, upkeep, and fear mitigate against the practicality of putting ejection seats and chutes for all crew and passengers in commercial airliners.

But is it too expensive, too dangerous, too heavy, too silly to make the cargo doors on pressurized hulls the same safer design as the passenger plug doors? I don't think so. If Boeing engineers were tasked with making large cargo doors cheap, light, and nonplug, they would respond and do it.

When is the time to order that change? Well, the B 787 prototype is being built as I type and the A 380 prototype is flying now. Many airframe changes are yet to be made on those prototypes before production is ordered. It's not too late to order a fundamental and common sense change to plug type doors from non plug type. Make all the doors on the aircraft plug type. It's common sense. There are many other airliner designs now being created that should have that change also.

It's not too late for FAA certification service to order the reasonable, plausible, and common sense change to a consistent safety standard, doors get tighter as they get higher.

But...are non plug doors really a safety hazard? Is the risk adequately considered and reduced? Boeing and Airbus will say 'yes' because of the lack of multiple deaths, 'only' nine official fatalities, and all of the many cargo door anomalies have been addressed. I say 'no' and point to the FAA SDRs from 1995 to the present which report 8500 difficulties with cargo doors among the 13000 pages of SDRs. Partial list at: http://av-info.faa.gov/
I say the agreed upon hazard of inadvertent opening of a cargo door in flight has not been adequately removed. I point to the statistic that of the approximately thirty five hull losses of Boeing 747s while in the flight regime, only five have suffered a sudden catastrophic inflight breakup. All five caused a sudden loud sound on the CVR followed by an abrupt power failure to recorders. All five are linked to a confirmed cargo door explosive decompression event in a DC-10 when a cargo door blew open. Four have physical evidence of a split longitudinally and ruptured open cargo door while the other twin cargo door remained intact. Specifically: China Airlines Flight 611 had shattered aft cargo door and intact forward cargo door. Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800 all had shattered forward cargo doors and intact aft cargo doors.

Now there are many fuel tanks in a Boeing 747 to explode spontaneously with mystery ignition source, there are many places including the passenger cabin for a bomb to be placed, many places for a missile to hit, many place for a meteor impact and yet....all those explanations, official or not, just happen to blow out a non plug cargo door. A coincidence? I think not, I know not, and I know why. There is one common factor: At event time, as determined by the sudden loud sound on the CVR and wreckage debris pattern, the cargo door blew out causing a massive explosive decompression causing the nose or tail to detach.

Mr. Bahrami, I can prove those cargo doors ruptured open at event time to your staff. In fact, there is no real dispute by NTSB, AAIB, CASB or other investigative agencies of door
ruptures, only the cause of those non plug cargo door ruptures. Some say bomb, some say improper latching, some say fuel tank explosion, some say missile, and I say electrical.

I say electrical for many reasons but the foremost is United Airlines Flight 811. It always comes back to United Airlines Flight 811, always. It is irrefutable and the evidence from that cargo door accident matches the others is many irrefutable significant points starting with the flight recorders, FOD to number three engine, and inflight damage to the starboard leading edges of the wing and horizontal stabilizer. And yes, it was originally thought to have been a bomb but later ruled out.

But my point, sir, I wish to emphasize, is that even if the wiring is made safe from chafing and shorting, even if bomb proof cargo containers are used, even if passenger screening prevents shoe bombers, even if fuel tanks are inerted, and even if the ground crew properly latches those doors and the flight crews conduct proper preflights, there will be always, always be a way for those non plug doors to rupture open. For instance, cargo shift from improper tie downs, fuselage twist from turbulence, bent door frames from ground loader impacts, slop in torque tubes and bellcranks from age and wear, and defective repair parts. I will omit lightning strike, meteor hit, electromagnetic radiation blast, accidental missile strike from friendly forces, and a mid air collision with a flying saucer for there are enough realistic causes with precedent for non plug doors to rupture open in flight. Multiple layers of protection against inadvertent opening in flight for non plug doors are not enough, as history has shown.

From an examination of the AC you authored, I believe you defend Boeing and its engineering staff. Nowhere in there is great weight given for the inherent danger of non plug doors and
the failed history of airlines and crews to keep those doors from inadvertently opening in flight regardless of all those safety features built in to preclude such an occurrence. I understand your loyalty to the company that provides the largest profit for the USA; I respect Boeing also, I love the Boeing 747, it's a great, great airplane. You probably have daily contact with Boeing employees who are hard working and dedicated. It's easy to identify with the company you are authorized to oversee and regulate. Moin Abulhosn of FAA even has a personal email address implying he is an employee: moinofboeing@yahoo.com

I believe that Boeing employees and you really do believe the known dangers of non plug doors have been properly mitigated. I disagree and offer proof in my Smith AARs for Air India Flight 182, Pan Am Flight 103, and TWA Flight 800 available on my websites.

I contend that safe airplanes sell better than ones which mysteriously come apart in the air now and then as early model Boeing 747s have done over the years. This trend will continue as nature/physical laws will again find a way to equalize the pressure differential outside and inside those highly pressurized hulls. The A 380 is huge and I understand the inside altitude is going to be equivalent to 5000 feet MSL instead of the usual 8,500 feet MSL. That means higher PSI than the usual 8.9 PSI now at cruising altitude. The B 787 may also follow that lead of higher internal pressures to make the passengers more comfortable on long flights.

The number of airliners is increasing and the pressure differential inside them is increasing also. The pressure on those huge doors to rupture open after thousands of cycles is immense (about 100,000 pounds on the B 747 cargo door) and sooner later some
will fail. My research shows it's happened before several times killing about a thousand but authority has not yet acknowledged those events.

If we can look to the reality of nonplug cargo doors and to their history, if several more previous catastrophic accidents are identified as being caused or facilitated by non plug doors, then future certification of airliners as airworthy using those current non plug doors is too dangerous and wrong.

I'm assuming the wiring in future airliners meets higher standards than the flawed Poly X. I'm assuming that each latch will have a locking sector (as directed by your AC). I'm assuming the warning placards will always be visible and in many languages. I'm assuming the multiple layers of protection are in place, enforced, and maintained. It's still not enough as shown by the many cargo door related Airworthiness Directives which have been issued over the forty years of operation of the Boeing 747.

The simple, common sense, sweet answer is to make all doors, all hatches, and all windows plug type. The cost in material, labor, weight, and fuel is worth it. Boeing engineers will rise to the challenge to make them light, cheap, and space saving, if given the order or chance to do so. FAA can give the order, Boeing will not do the change on their own.

Do you and Boeing need persuasion that non plug doors are more dangerous than previously thought? Mr. Bahrami, it all depends on whether nonplug cargo doors have been a factor in previous accidents or not. That's where I come in. Please have your staff contact me as questions pop into their minds as they evaluate my Aircraft Accident Reports for Air India Flight 182, Pan Am
Flight 103, and TWA Flight 800.

I can prove to you and your staff that the forward cargo door ruptured open at event time for those accidents plus the irrefutable United Airlines Flight 811 event. The cause of those inadvertent openings is open for debate with the bombers, the fuel tankers, the faulty repair, the missiles, and the electrical cause all on the table for consideration.

I bring in United Airlines Flight 811 as the answer because it is the accident that matches the others and the cause of that is confirmed; electrical. Hole below of split and ruptured United Airlines Flight 811 forward cargo door.

Then below the Pan Am Flight 103 ruptured and split forward cargo door:

Then below the split and ruptured forward cargo door of TWA Flight 800 at the aft midspan latch and the forward midspan latch: (The two latches without the required by AC locking sectors.)

Then the ruptured and split aft cargo door of China Airlines Flight 611.
Then the text below, no photo available, of the ruptured and split forward cargo door of Air India Flight 182.

Would you provide me with an email address so that we may communicate faster with pictures?

The following FAA offices and staff have been informed of the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation in the past few months and will get this letter as an email since they are involved with certification or have referred me to the certification office.

Moin Abulhosn  
Federal Aviation Administration  
Aerospace Engineer  
Aircraft Certification Service  
Aircraft Engineering Division/Avionics Systems Branch  
AIR-130  
Phone: (202) 385 4645

Los Angeles  
ACO  
3960 Paramount Boulevard  
Lakewood, CA 90712-4137

Gloria R. LaRoche, Aviation Safety Inspector  
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
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Phil Randall
Pete Wilhelmson
FAA Safety Team
FAAST

Also:

Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV,
Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov,
Tom.McSweeny@faa.dot.gov, Lyle.Streeter@faa.dot.gov;

I'll know that serious consideration is given to the assertion that nonplug cargo doors have caused other accidents when I receive questions from your Transport Standards staff because the wiring/cargo door explanation is quite complicated and controversial.

I am at your service, sir.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaairport.com
Evaluation of the Advisory Circular: (JBS is me)

Subject: FUSELAGE DOORS AND HATCHES
Date: 4/25/05
Initiated By: ANM-115
AC No: 25.783-1A

Comments on AC 25.783.1A as per request:
Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, CA, 93924
831 659 3552

6. BACKGROUND.

a. There is a history of incidents and accidents in which doors, fitted in pressurized airplanes, have opened inadvertently during pressurized and unpressurized flight.

JBS>Starting with Comet and that was design error.

b. Despite the improved standards established by Amendment 25-54, there have continued to be safety problems, especially for cargo doors. Cargo doors are often operated by people having little formal instruction in their operation. Sometimes the operator is required to carry out
several actions in sequence to complete the door opening and closing operations. Failure to complete all actions in sequence during closure can have serious results. Service history shows that several incidents of doors opening during flight have been caused by the failure of the operator to complete the door closing, latching, and locking sequence. Other incidents have been attributable to incorrect adjustment of the door mechanism, or to failure of a vital part.

JBS>But never design problem, it's always the ground crew of maintenance fellow or parts supplier. Even when design conflicts with mandatory (must) instructions of this circular, the manufacturer and the design are not to blame, it's always the other fellow and if not, then it's bomber terrorists.

e. After two accidents occurred in 1989 due to the failure of cargo doors on transport category airplanes, the Air Transport Association (ATA) of America initiated another study of the door design and operational issues.
JBS>There was UAL 811 and the DC 9 case attached below.

a. Service history has shown that, to prevent doors from becoming a hazard by opening during flight, it is necessary to provide multiple layers of protection against failures, malfunctions, and human error.

JBS>Again, ignore design error which if corrected with plug type, the 'multiple layers of protection' then listed would not be necessary.
8. GENERAL DESIGN CONSIDERATIONS (§ 25.783(a)).

a. Each door must have means to safeguard against opening in flight as a result of mechanical failure, or failure of any single structural element. [§ 25.783(a)(1)]

JBS>The first item brought up is.....Design Consideration. And then design error is omitted as potential cause in the list of potential causes.

(2) It is particularly important for doors with powered latches or locks to have all power removed that could power these systems or that could energize control circuits to these systems in the event of electrical short circuits.

JBS>With known faulty Poly X wiring, the only way is to replace the wiring.

(a) Doors in pressurized compartments. It should not normally be possible to open the door when the compartment differential pressure is above 2 psi.

JBS>FAA is well aware of the benefits of plug type doors. The movable elements that hold the door in position relative to the fixed stops are considered latches.

JBS>The NTSB reported that the midspan latches of the cargo doors of Boeing 747 were 'alignment' devices ignoring the purpose of the pull-in hooks. The midspan latches are latches
although the NTSB would prefer not to think of them as latches since they have no locks.

b. The latches and their operating mechanism must be designed so that, under all airplane flight and ground loading conditions, with the door latched, there is no force or torque tending to unlatch the latches.

JBS>Non plug door completely violate this common sense instruction. In flight at altitude, there is about 100000 pounds of 'force' tending to unlatch each cargo door on a 747.

c. Each door subject to pressurization, and for which the initial opening movement is not inward, must [25.783(d)(3)]--

(1) To safeguard doors subject to pressurization and for which the initial opening movement is not inward, each latch must have an individual lock.

JBS>They say it twice and are loathe to say 'outward'. To say it twice and then violate it twice with every Boeing 747 made; two cargo doors, four latches without locks for each plane equal 1500 times four or 6000 violations of a mandatory (must) instruction for one model aircraft.

(2) In some designs, more latches are provided than necessary to meet the minimum design requirements.

JBS>Give a little praise for design but never criticize.
f. It must not be possible to unlatch the latches with the locks in the locked position.

JBS>Yes, learned the hard way about soft locking sectors overridden by back driving with UAL 811. Pesky 'design' requirements for strength of sectors were wrong. And of course with no locks on the latches, all the locking requirements are moot.
Several pages are then devoted to making sure the doors are latched and locked before takeoff; not much is said about unlatching and unlocking in flight.

Date : 18 MAR 1989

Time : 02.15 CST

Type : McDonnell Douglas DC-9-33RC

Operator : Evergreen International Airlines

Registration : N931F

Msn / C/n : 47192/287

Year built : 1968
Total airframe hrs :
41931 hours

Cycles :
40808 cycles

Engines :
2 Pratt & Whitney JT8D-9

Crew :
2 fatalities / 2 on board

Passengers :
0 fatalities / 0 on board

Total :
2 fatalities / 2 on board

Location :
near Saginaw, TX ( USA )

Phase :
Initial Climb/Final Appr.

Nature :
Cargo

Departure airport :
Fort Worth-Carswell AFB, TX (FWH)

Destination airport :
Oklahoma City-Tinker AFB, OK (TIK)
Flightnumber:
17
Remarks:
The DC-9 arrived at Carswell AFB at 01.12 CST after a flight from Kelly AFB. The aircraft was off-loaded and re-loaded with cargo by USAF personnel. The engines were then started at 02.04h. The crew received taxi instructions for runway 17 and took off from this runway at 02.09h. At (or immediately after) rotation, the main cargo door opened. An emergency was declared and the crew climbed to 2500ft msl before entering a right turn. When about 5nm north of the airport the captain began a shallow turn to the right (for base leg). The aircraft crossed the extended centreline and the captain tightened the turn to establish their position relative to the runway threshold. In doing so, the air load on the door probably caused it to rapidly move to its full open over the top position. A sudden opening of the door would also have produced an unexpected change in the yawing and rolling moments. The captain, possibly partially disoriented, may not have sensed the increasing roll and nose tuck and thus failed to correct a changing attitude until a critical bank angle and loss of altitude had occurred. The DC-9 struck the ground in an inverted, nose down, left wing low attitude and disintegrated. It appeared that the first officer, when closing the main cargo door, didn't hold the door control valve 'T' handle in the closed position long enough for the latching hooks to move into place over the door sill spools. External latched and locked indicators were applied incorrectly, so the first officer thought the door was latched properly when the handle was pointed more toward the 'locked' than the 'unlocked' chevron. It also appeared that one of the two open door warning light switches was malfunctioning. Because of their wiring, this malfunction made the entire door warning system ineffective.
PROBABLE CAUSE: "The loss of control of the airplane for undetermined reasons following the in-flight opening of the improperly latched cargo door. Contributing to the accident were inadequate procedures used by Evergreen Airlines and approved by the FAA for pre-flight verification of external cargo door lock pin manual control handle, and the failure of McDonnell Douglas to provide flight crew guidance and emergency procedures for an in-flight opening of the cargo door. Also contributing to the accident was the failure of the FAA to mandate modification to the door-open warning system for DC-9 cargo-configured airplanes, given the previously known occurrences of in-flight door openings."

[Federal Register: May 3, 2004 (Volume 69, Number 85)]
[Rules and Regulations]
[Page 24495-24503]
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[DOCID:fr03my04-19]

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Part III
Federal Aviation Administration

14 CFR Part 25
[Docket No. FAA-2003-14193; Amdt. No. 25-114]
RIN 2120-AH34

Design Standards for Fuselage Doors on Transport Category Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

-----------------------------------------------------------------------

SUMMARY: The Federal Aviation Administration (FAA) amends the design standards for fuselage doors, hatches, and exits on transport category airplanes. This action improves door integrity by providing design criteria that ensure doors remain secure under all circumstances that service experience has shown can happen. Adopting this amendment also relieves a certification burden on industry by removing regulatory differences between the airworthiness standards and related guidance material of the United States and Europe.
DATES: This amendment becomes effective June 2, 2004.

FOR FURTHER INFORMATION CONTACT: Jeff Gardlin, Federal Aviation Administration, Airframe and Cabin Safety Branch, ANM-115, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (425) 227-2136; fax 425-227-1320; e-mail jeff.gardlin@faa.gov.

SUPPLEMENTARY INFORMATION:

Availability of Rulemaking Documents

You can get an electronic copy using the Internet by:
(1) Searching the Department of Transportation's electronic Docket Management System (DMS) Web page (http://dms.dot.gov/search);
(2) Visiting the Office of Rulemaking's Web page at http://http://www.faa.gov/avr/arm/index.cfm; or


You can also get a copy from the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW., Washington,
DC 20591, or by calling (202) 267-9680. Be sure to identify the amendment number or docket number of this rulemaking.

You can search the electronic form of all comments in any of our dockets by the individual filing the comment (or signing the comment, if filed for an association, business, labor union, for example). You may review DOT's complete Privacy Act statement in the Federal Register published on April 11, 2000 (Volume 65, Number 70; Pages 19477-78) or you may visit http://dms.dot.gov.

Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. If you are a small entity and you have a question about this document, you may contact your local FAA official, or the person listed under FOR FURTHER INFORMATION CONTACT. You can find out more about SBREFA on the Internet at http://www.faa.gov/avr/arm/sbrefa.htm,

or by e-mailing us at 9-AWA-SBREFA@faa.gov.
Background

This final rule responds to notice of proposed rulemaking (NPRM) No. 03-01, published in the Federal Register on January 14, 2003 (68 FR 1932).

In NPRM No. 03-01, the FAA proposed to revise and reorganize the existing rules in Title 14, Code of Federal Regulations (CFR), part 25, to provide:

Clarification of the existing design requirements for doors.

Definitive criteria for door design requirements covered in the existing rules by general text.

Additional fail-safe requirements and detailed door design requirements, based on the recommendations of the National Transportation Safety Board (NTSB) and the Air Transport Association (ATA), and on current industry practice.

In the NPRM you will find a history of the problems and discussions of the safety considerations supporting our course of action. You will also find a discussion of the current requirements and why they do not adequately address the problem. We also refer to the recommendations of
the Aviation Rulemaking Advisory Committee (ARAC) that we relied on in developing the proposed rule. The NPRM also discusses alternatives we considered and the reasons for rejecting the ones we did not adopt.

The background material in the NPRM also contains the basis and rationale for these requirements and, except where we have specifically expanded on the background elsewhere in this preamble, supports this final rule as if contained here. That is, any future discussions on the intent of the requirements may refer to the background in the NPRM as though it was in the final rule itself. It is therefore not necessary to repeat the background in this document.

Definitions

The following definitions will aid the reader in understanding the final rule:

A latch is a movable mechanical element that, when engaged, prevents the door from opening.

A lock is a mechanical element that monitors the latch position and, when engaged, prevents the latch from becoming disengaged.

Latched means the latches are fully engaged with their structural counterparts and held in position by the latch operating mechanism.
Locked means the locks are fully engaged.
Latching mechanism includes the latch operating mechanism and the latches.
Locking mechanism includes the lock operating mechanism and the locks.
Closed means the door has been placed within the doorframe in such a position that the latches can be operated to the "latched" condition.
Fully closed means the door is placed within the doorframe in the position that it will occupy when the latches are in the latched condition.

NTSB Safety Recommendations

After its investigation of airplane accidents associated with fuselage doors opening during flight, the NTSB issued several safety recommendations concerning doors on transport category airplanes. In the NPRM, we discuss those recommendations and the FAA's response.

After the conclusion of the harmonization activity that led to this final rule, the FAA received another safety recommendation, A-02-020, from the NTSB. The NTSB recommended the FAA, "Require all newly certificated transport category airplanes [to] have a system for each emergency exit door to relieve pressure so that they can only be opened
on the ground after a safe differential pressure level is attained."
In the NPRM, we specifically sought comments on this recommendation.
Although no one commented on this issue, we believe there should be
some means to address the potential for unsafe opening of a door on the
ground. The specific action proposed in the safety recommendation is
not

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necessarily the only approach to this concern. We have not yet
determined whether a regulatory action is appropriate, or what form
that regulatory action might take. Because the issue is important, we
will add discussion to Advisory Circular (AC) 25.783-1, "Fuselage
Doors, Hatches, and Exits," addressing the need to consider safety of
occupants opening exits when there is differential pressure remaining
on the airplane. This will identify the issue and permit manufacturers
to address it in the most effective manner for their specific design.

History

In the United States, 14 CFR part 25 contains the airworthiness
standards for type certification of transport category airplanes. Manufacturers of transport category airplanes must show that each airplane they produce of a different type design complies with the appropriate part 25 standards.

In Europe, Joint Aviation Requirements (JAR)-25 contains the airworthiness standards for type certification of transport category airplanes. The Joint Aviation Authorities (JAA) of Europe developed these standards, which are based on part 25, to provide a common set of airworthiness standards within the European aviation community. Thirty-seven European countries accept airplanes type certificated to the JAR-25 standards, including airplanes manufactured in the U.S. type certificated to JAR-25 standards for export to Europe.

Although part 25 and JAR-25 are similar, they are not identical in every respect. When airplanes are type certificated to both sets of standards, the differences between part 25 and JAR-25 can result in substantial added costs to manufacturers and operators. These additional costs, however, often do not bring about an increase in safety.

Recognizing that a common set of standards would not only benefit the aviation industry economically, but also preserve the necessary high level of safety, the FAA and the JAA began an effort in 1988 to
``harmonize'' their respective aviation standards.

After beginning the first steps towards harmonization, the FAA and
JAA soon realized that traditional methods of rulemaking and
accommodating different administrative procedures was neither
sufficient nor adequate to make noticeable progress towards
fulfilling
the harmonization goal. The FAA identified the ARAC as an
ideal vehicle
for helping to resolve harmonization issues, and in 1992 the FAA
tasked
ARAC to undertake the entire harmonization effort.

Despite the work that ARAC has undertaken to address
harmonization,
there remain many regulatory differences between part 25 and
JAR-25.
The current harmonization process is costly and time-consuming
for
industry, the FAA, and the JAA. Industry has expressed a strong
need to
finish the harmonization program as quickly as possible to
relieve the
drain on their resources and finally to establish one acceptable set
of
standards.

Representatives of the FAA and JAA proposed an accelerated
process
to reach harmonization, the ``Fast Track Harmonization
Program.'' The
FAA introduced the Fast Track Harmonization Program on
November 26,
1999 (64 FR 66522). This rulemaking is a ``fast-track'' project.

You can find further details on ARAC, its role in
harmonization
rulemaking activity, and the Fast Track Harmonization Program in the
tasking statement (64 FR 66522, November 26, 1999) and the
first NPRM
published under this program, Fire Protection Requirements for
Powerplant Installations on Transport Category Airplanes (65 FR
36978,
June 12, 2000).

Related Activity

The new European Aviation Safety Authority (EASA) was
established
and formally came into being on September 28, 2003. The JAA
worked with
the European Commission (EC) to develop a plan to ensure a
smooth
transition from the JAA to the EASA. As part of the transition, the
EASA will absorb all functions and activities of the JAA, including its
efforts to harmonize the JAA regulations with those of the U.S.
These
JAR standards have already been incorporated into the EASA
``Certification Specifications for Large Aeroplanes'' (CS-25) in
similar, if not identical, language. The EASA CS-25 became
effective
October 17, 2003.

Related Advisory Circular

The FAA plans to revise AC 25.783-1 to provide guidance for
showing compliance with structural and functional safety standards for doors and their operating systems. When we issue the AC, we will publish a notice in the Federal Register.

Discussion of Comments

Eight commenters responded to the NPRM. The commenters include three private citizens, two foreign airworthiness authorities, an industry association representing the interests of several groups in the aviation industry, an association representing the interests of pilots in the U.S and Canada, and an airplane manufacturer. All commenters generally support the proposed rule. Comments, including suggested changes, are discussed below.

Comment: An individual with cabin door design experience suggests that limiting the requirement to address intentional opening to airplanes with more than 19 passenger seats would improve safety. The commenter bases his position on the premise that airplanes with 19 or fewer passenger seats are a small percentage of the commercial fleet, the operator typically knows the passengers, and it is unlikely a person would intentionally open the exit. The commenter states that such a requirement could become a hazard to emergency evacuation of
these airplanes because the rules only require a single pair of exits.
If the means to prevent intentional opening were to fail and the exit
could not be opened, a higher percentage of exits would become unavailable than for larger airplanes.

FAA reply: While the commenter's points have some merit, the requirement is not related to how the airplane is operated. The intent of the requirement is to safeguard against an event of intentional opening, regardless of whether the operator knows the passengers. The commenter's statement therefore is not relevant that the number of passengers carried in commercial service on airplanes with 19 or fewer passenger seats is a small percentage of the total. Consideration of exit availability is more significant.

In a review of airplanes of this size as part of the FAA's response to NTSB safety recommendation A-02-020, it does appear that many current designs could be affected by this requirement. On some airplanes, the main entry door is openable at relatively high differential pressures. Whether this would constitute a hazard to the airplane would have to be investigated. The entry door is typically the largest exit on the airplane. Although the loss of this exit would represent more than 50 percent of the evacuation capability of the airplane, the remaining exit would still be adequate for the
number of
people on board. The intentional opening of the exit is an
immediate
hazard to the airplane. This concern outweighs the potential
decrease
in evacuation capability that could occur if the exit were
unavailable
because of a system failure, and if there were an emergency evacuation
at the same time. While the evacuation capability would be
significantly reduced, it would still satisfy the regulatory requirements and be acceptable for the number of people on board.

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No changes were made to the final rule.
Comment: One commenter recommends adding the following requirements:

Ability to close the doors after being opened in an emergency.
Reliability tests.
Function with minor fuselage deformation.
Display of slide arming status on the fuselage

FAA reply: The commenter's recommendations relate to emergency evacuation, which was not the focus of the NPRM. Although the NPRM had some ancillary impact on evacuation requirements, it focused on the airworthiness of fuselage doors. The commenter's proposed
requirements
for reliability tests and door opening with minor deformation are
effectively already part of the regulations. Section 25.809(g)
requires
provisions to minimize the probability of jamming of the
emergency
exits resulting from fuselage deformation that might occur in a
minor
crash landing. In addition, regulations governing escape slide
performance result in extensive tests of exit system reliability.
These
recommendations are beyond the scope of the NPRM as they
relate
primarily to emergency evacuation.
   No changes were made to the final rule.
   Comment: The Civil Aviation Authority of the United
Kingdom (CAA-
UK) recommends adoption of the proposed requirements and a
clarifying
change to the intent of Sec. 25.783(a)(2). The CAA-UK states
that
since the hazardous condition identified in Sec. 25.783(a)(2) is
unlatching, then the event to be prevented should also be
unlatching.
   FAA reply: The rule, as proposed, would require that
inadvertent
opening of the door be extremely improbable, but does not
specifically
address the unlatching event. Section 25.783 has historically
categorized the opening of a door as the safety threat and has not
addressed intermediate steps in the sequence of that opening.
This rule
is more specific regarding the reason that a door can become a
hazard.
The purpose of paragraph (a)(2) is to prevent the hazardous condition.
It therefore makes sense that the requirement address unlatching as
extremely improbable, rather than simply door opening. In this case,
the FAA assumes that if the door unlatches, it will open.

The Joint Aviation Authorities (JAA) submitted the final version of
their Notice of Proposed Amendment, NPA, 25D-301, to the docket for
NPRM No. 03-01 and recommends the FAA adopt the language of the NPA,
which they revised to address comments, including those of the CAA-UK.
As our NPRM was the result of harmonization efforts with the JAA and
Transport Canada, we consider the content of the JAA NPA important in
maintaining harmonization.

As the result of the CAA-UK comment and in order to maintain
harmonization, Sec. 25.783(a)(2) is changed.

Comment: The JAA proposes adding the following new requirement to
the final rule to address an issue not specifically covered in NPRM No.
03-01: ``Each door that could result in a hazard if not closed, must
have means to prevent the latches from being moved to the latched
position unless the door is closed."
FAA reply: The proposed requirements contain provisions to prevent
the out-of-sequence actuation of certain elements of the door mechanism. This approach is a basic philosophy to ensure that false or misleading indications are not created by out-of-sequence operation.
For example, proposed Sec. 25.783(d)(5) states: "It must not be possible to position the lock in the locked position if the latch and the latching mechanism are not in the latched position." In this case, the JAA has adopted a new requirement to address latch movement prior to closing. Many current designs already incorporate such means.
While not directly covered in the NPRM, this requirement is clearly in keeping with the overall approach to fuselage door safety expressed in the NPRM and could be seen as a logical outgrowth of the proposed requirements. We have determined, however, that there may be instances where such a provision would not be necessary, and so adopting the requirement for all designs would impose an unnecessary burden. For example, a manually-operated passenger entry door could have latches that, when in the latched position, would inhibit movement of the door to the closed position. That is, the door is obviously standing open
and would be obvious to the person operating the door. In that case, the design of the door fulfills the objective of preventing door closure with the latches in the latched position.

Conversely, for some designs, such a provision would clearly be necessary to meet the requirements of this rule as written. An example would be a cargo door that is operated remotely and could be positioned such that the operator would not be able to visually determine whether it was properly closed. If the latches were in the latched position, this would add to the potential confusion. Paragraph (e)(2), as adopted, requires positive means, clearly visible from the operator's station, to indicate that each door that could be a hazard is not properly closed, latched, and locked. For the remotely operated cargo door, satisfying the requirement would likely require a means to prevent the door from being closed with the latches in the latched position. While this rule will not maintain strict harmonization with the JAA, we believe the intent of the requirement as adopted by the JAA is still satisfied. Designs found acceptable by the FAA can also be found acceptable by the JAA.

No changes were made as the result of this comment.

The CAA-UK and one individual also had several editorial suggestions for clarity on the use of terms, which we accepted where appropriate. These suggestions are purely editorial and do not
change
the substance of the requirements.

Paperwork Reduction Act

There are no current or new requirements for information collection associated with this final rule.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to this final rule.

Executive Order 12866 and DOT Regulatory Policies and Procedures

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the
economic effect of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. 2531-2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act also requires the consideration of international standards and, where appropriate, that they be the basis of U.S. standards. And fourth, the Unfunded Mandates Reform Act of 1995 requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector of $100 million or more annually (adjusted for inflation).

The FAA has determined that this final rule has minimal costs, and that it is neither "a significant regulatory action" as defined in Executive Order 12866, nor "significant" as defined in DOT's Regulatory Policies and Procedures. Further, this rule will not have a significant economic impact on a substantial number of small entities, will reduce barriers to international trade, and will not impose an Unfunded Mandate on State, local, or tribal governments, or on the private sector.

The DOT Order 2100.5 prescribes policies and procedures for
simplification, analysis, and review of regulations. If it is determined that the expected impact is so minimal that the rule does not warrant a full evaluation, a statement to that effect and the basis for it is included in the regulation. Accordingly, the FAA has determined the expected impact of this rule is so minimal the rule does not warrant a full evaluation. We provide the basis for this determination as follows.

Currently, airplane manufacturers must satisfy both part 25 and the European standards to certificate transport category aircraft in both the United States and Europe. Meeting two sets of certification requirements raises the cost of developing a new transport category airplane often with no increase in safety. In the interest of fostering international trade, lowering the cost of aircraft development, and making the certification process more efficient, the FAA, European Authorities, Transport Canada, and aircraft manufacturers have been working to create, to the maximum possible extent, a single set of certification requirements accepted in the United States, Europe, and Canada. As explained in detail previously, these efforts are referred to as "harmonization."

This final rule amends the current fuselage door standard
contained in 14 CFR part 25 with a new improved door standard. This new standard will set forth, as a regulatory requirement, some of the existing technical guidance criteria that have been determined to be necessary for safety but which, up to this point, have not been included in the regulations. In addition, this rule addresses recommendations from the NTSB and the ATA task force on doors.

With the one exception noted, this rule harmonizes the FAA and European requirements for fuselage doors. The rule will relieve a certification burden on industry by eliminating regulatory differences between the airworthiness standards and related guidance material of the United States and Europe.

Costs and Benefits of the Final Rule

In the NPRM, the FAA identified only one section, 25.783(b), where manufacturers would incur a measurable cost. For the other changes, the FAA has not made quantitative cost estimates but has provided qualitative cost estimates. There were no comments to the docket contesting these estimates.

1. Paragraph 25.783(a) is descriptive and has no expected cost.
2. Paragraph 25.783(b) relates to opening by persons. The requirement is new to have design precautions taken to minimize the
possibility for a person to open a door intentionally during flight, but is expected to be accommodated in existing design practices for all but one United States manufacturer. (Requirements regarding inadvertent opening are not new.) One manufacturer expects to incur an estimated cost of $0.75 million, which will include the requirements for the prevention of intentional opening of the doors.

3. Paragraph 25.783(c) covers means to prevent pressurization. The requirement to consider single failures in the pressurization-inhibit system is new, but is believed to be industry practice. Thus, the cost, if any, is expected to be very little for a new design. The provision to permit certain doors to forego this system is actually cost relieving and could result in a minor cost reduction in some cases.

4. Paragraph 25.783(d) covers latching and locking. Most of these changes incorporate recommendations currently contained in an advisory circular. The vast majority of airplanes already comply, and basic design practice is to comply with these requirements. Therefore, these requirements, while new, have minimal cost impact. The requirement for each latch to have a lock that monitors the latch position formalizes existing practice. The requirement to eliminate forces in the latching
mechanism that could load the locks is new and may not be complied with in all cases currently. The FAA believes that these costs are minimal.

5. Paragraph 25.783(e) covers warning, caution, and advisory indications. The reliability of the door indication system will be required to be higher for all doors. This is expected to have only a small cost impact, as will the requirement for an aural warning for certain doors, and the requirement to provide an indication to the door operator.

6. Paragraph 25.783(f) contains the visual inspection provision requirement. The requirement for direct visual inspection is extended to more door types, and may add costs in some cases.

7. Paragraph 25.783(g) deals with certain maintenance doors, removable emergency exits, and access panels. This provision may reduce costs in some cases as indicated in the AC.

8. Paragraph 25.783(h) covers doors that are not a hazard and is intended to provide relief for certain doors, so it could reduce costs.

9. Paragraphs 25.783(i), 25.783(j), 25.809(b), 25.809(c), and 25.809(f) move text to other sections, improve clarity, and have no impact on cost. These changes, as summarized in the NPRM, are repeated here for the reader's understanding of the changes.

The changes to Sec. 25.783(i) are removed from
existing Sec. 25.783 and added in Sec. 25.810 (``Emergency egress assist means and escape routes'') as a new paragraph (e).

The changes to Sec. 25.783(j) move the special requirement for lavatory doors from the current paragraph (j) to the new Sec. 25.820 (``Lavatory doors'').

Section 25.809(b) (``Emergency exit arrangement'') is revised by adding a new paragraph (b)(3) to require that each emergency exit must be capable of being opened, when there is no fuselage deformation, even though persons may be crowded against the door on the inside of the airplane. This specific requirement is currently a part of Sec. 25.783(b), but is more appropriate as part of the emergency exit arrangement requirements of Sec. 25.809.

The changes to Sec. 25.809(c) include the requirement that the means of opening emergency exits also must be marked so it can be readily located and operated, even in darkness. This requirement is currently located in Sec. 25.783(b), but is more appropriate as part of the emergency exit arrangement requirements of Sec. 25.809.

Section 25.809(f) is revised to require that the external door be located where persons using it will not be endangered by the propellers when appropriate operating procedures are
used. This requirement currently is found in Sec. 25.783(d), but is more applicable to the emergency exit arrangement requirements of Sec. 25.809.


Summary of Costs and Benefits

This final rule is expected to--

Maintain or provide an increase in the level of safety;
Have only a relatively small effect on costs when compared to current industry practice; and
Provide some cost savings to manufacturers by avoiding duplicative testing and reporting that could result from the existence of differing requirements under the current standards.

This rule will codify existing guidance, standard industry practice, and industry recommendations for the design standards for fuselage doors. The FAA believes the cost savings from a single certification requirement exceed the minimal additional compliance cost. The FAA therefore considers the final rule will be cost-beneficial. This conclusion is reinforced by industry's support for the proposal
and the absence of comments to the docket regarding the economic analyses.

Final Regulatory Flexibility Determination

The Regulatory Flexibility Act (RFA) of 1980, 50 U.S.C. 601-612, as amended, establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The Act covers a wide range of small entities, including businesses and governments.

Agencies must perform a review to determine whether a final rule will have a significant impact on a substantial number of small entities. If the determination is that the final rule will, the Agency must prepare a regulatory flexibility analysis as described in the RFA.

If, however, an agency determines that the rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the
factual basis for this determination, and the reasoning should be clear.

As stated in the initial regulatory flexibility determination, the FAA certifies that this final rule will not have a significant economic impact on a substantial number of small entities for two reasons:

First, the rule is expected to provide relief from some regulatory costs. The final rule will require that manufacturers of transport category aircraft meet a single certification requirement, rather than different standards for the United States and Europe. Manufacturers of the affected airplanes are believed to already meet, or expect to meet most standards that will be required by this final rule.

Second, all affected U.S. transport-aircraft category manufacturers exceed the Small Business Administration small-entity criterion of 1,500 employees for aircraft manufacturers, as published by the Small Business Administration in 13 CFR part 121, Small Business Size Regulations; Size Standards (65 FR 53533, September 5, 2000). The current U.S. part 25 airplane manufacturers include: Boeing, Cessna Aircraft, Gulfstream Aerospace, Learjet (owned by Bombardier), Lockheed Martin, McDonnell Douglas (a wholly-owned subsidiary of The Boeing Company), Raytheon Aircraft, and Sabreliner Corporation. All of
these manufacturers have more than 1,500 employees and therefore do not qualify as small entities.

The FAA certified in the NPRM that the proposal would not have a significant impact on a substantial number of small entities. There were no comments to the docket contesting this FAA certification. Consequently, as the rule is expected to provide cost relief, there are no small entities affected, and the comments received did not dispute the initial economic analysis, the FAA certifies that this final rule will not have a significant economic impact on a substantial number of small entities.

Trade Impact Assessment

The Trade Agreement Act of 1979 prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

The FAA has assessed the potential effect of this final rule and has determined that it will reduce trade barriers by narrowing the
differences between U.S. standards and European international standards.

Unfunded Mandates Assessment

The Unfunded Mandates Reform Act of 1995 (the Act) is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal governments. Title II of the Act requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure of $100 million or more (adjusted annually for inflation) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector. Such a mandate is deemed to be a `significant regulatory action.'

This final rule does not contain such a mandate. The requirements of Title II of the Act therefore do not apply.

Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action will not have a substantial direct effect on the States, or the relationship between the national Government and the States, or
on the
distribution of power and responsibilities among the various
levels of
government, and therefore does not have federalism implications.

Plain English

Executive Order 12866 (58 FR 51735, October 4, 1993)
requires each
agency to write regulations that are simple and easy to
understand. We
invite your comments on how to make these regulations easier to
understand, including answers to questions such as the following:

Are the requirements clearly stated?
Do the regulations contain unnecessary technical
language or jargon that interferes with their clarity?
Would the regulations be easier to understand if
they were divided into more (but shorter) sections?
Is the description in the preamble helpful in
understanding the final rule?
Please send your comments to the address specified in the
FOR
FURTHER INFORMATION CONTACT section.

Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110
Stat.
3213) requires the FAA, when modifying its regulations in a
manner
affecting intrastate aviation in Alaska, to consider the extent to
which Alaska is not served by transportation modes other than
aviation,
and to establish such regulatory distinctions. In the NPRM, we requested comments on

[[Page 24501]]

whether the proposed rule should apply differently to intrastate operations in Alaska. We did not receive any comments, and we have determined, based on the administrative record of this rulemaking, that there is no need to make any regulatory distinctions applicable to intrastate aviation in Alaska.

Environmental Analysis

FAA Order 1050.1D defines FAA actions that may be categorically excluded from preparation of a National Environmental Policy Act (NEPA) environmental impact statement. In accordance with FAA Order 1050.1D, appendix 4, paragraph 4(j), this final rule qualifies for a categorical exclusion.

Regulations that Significantly Affect Energy Supply, Distribution, or Use.

The FAA has analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy
Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a "significant energy action" under the executive order because it is not a "significant regulatory action" under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Recording and recordkeeping requirements.

The Amendment

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In consideration of the foregoing, the Federal Aviation Administration amends part 25 of Title 14, Code of Federal Regulations, as follows:

PART 25--AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES

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1. The authority citation for part 25 continues to read as follows:

   Authority: 49 U.S.C. 106(g), 40113, 44701-44702, and 44704.

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2. Section 25.783 is revised to read as follows:
Sec. 25.783 Fuselage doors.

(a) General. This section applies to fuselage doors, which includes all doors, hatches, openable windows, access panels, covers, etc., on the exterior of the fuselage that do not require the use of tools to open or close. This also applies to each door or hatch through a pressure bulkhead, including any bulkhead that is specifically designed to function as a secondary bulkhead under the prescribed failure conditions of part 25. These doors must meet the requirements of this section, taking into account both pressurized and unpressurized flight, and must be designed as follows:

(1) Each door must have means to safeguard against opening in flight as a result of mechanical failure, or failure of any single structural element.

(2) Each door that could be a hazard if it unlatches must be designed so that unlatching during pressurized and unpressurized flight from the fully closed, latched, and locked condition is extremely improbable. This must be shown by safety analysis.

(3) Each element of each door operating system must be designed or, where impracticable, distinctively and permanently marked, to minimize the probability of incorrect assembly and adjustment that could result
in a malfunction.

(4) All sources of power that could initiate unlocking or unlatching of any door must be automatically isolated from the latching and locking systems prior to flight and it must not be possible to restore power to the door during flight.

(5) Each removable bolt, screw, nut, pin, or other removable fastener must meet the locking requirements of Sec. 25.607.

(6) Certain doors, as specified by Sec. 25.807(h), must also meet the applicable requirements of Sec. Sec. 25.809 through 25.812 for emergency exits.

(b) Opening by persons. There must be a means to safeguard each door against opening during flight due to inadvertent action by persons. In addition, design precautions must be taken to minimize the possibility for a person to open a door intentionally during flight. If these precautions include the use of auxiliary devices, those devices and their controlling systems must be designed so that--

(1) No single failure will prevent more than one exit from being opened; and

(2) Failures that would prevent opening of the exit after landing are improbable.

(c) Pressurization prevention means. There must be a provision to prevent pressurization of the airplane to an unsafe level if any door
subject to pressurization is not fully closed, latched, and locked.

(1) The provision must be designed to function after any single failure, or after any combination of failures not shown to be extremely improbable.

(2) Doors that meet the conditions described in paragraph (h) of this section are not required to have a dedicated pressurization prevention means if, from every possible position of the door, it will remain open to the extent that it prevents pressurization or safely close and latch as pressurization takes place. This must also be shown with any single failure and malfunction, except that--

(i) With failures or malfunctions in the latching mechanism, it need not latch after closing; and

(ii) With jamming as a result of mechanical failure or blocking debris, the door need not close and latch if it can be shown that the pressurization loads on the jammed door or mechanism would not result in an unsafe condition.

(d) Latching and locking. The latching and locking mechanisms must be designed as follows:

(1) There must be a provision to latch each door.

(2) The latches and their operating mechanism must be designed so that, under all airplane flight and ground loading conditions, with the door latched, there is no force or torque tending to unlatch the latches. In addition, the latching system must include a means to secure the latches in the latched position. This means must be
independent of the locking system.

(3) Each door subject to pressurization, and for which the initial opening movement is not inward, must--
   (i) Have an individual lock for each latch;
   (ii) Have the lock located as close as practicable to the latch; and
   (iii) Be designed so that, during pressurized flight, no single failure in the locking system would prevent the locks from restraining the latches necessary to secure the door.

(4) Each door for which the initial opening movement is inward, and unlatching of the door could result in a hazard, must have a locking means to prevent the latches from becoming disengaged. The locking means must ensure sufficient latching to prevent opening of the door even with a single failure of the latching mechanism.

(5) It must not be possible to position the lock in the locked position if the latch and the latching mechanism are not in the latched position.

(6) It must not be possible to unlatch the latches with the locks in the locked position. Locks must be designed to withstand the limit loads resulting from--

   (i) The maximum operator effort when the latches are operated manually;
   (ii) The powered latch actuators, if installed; and
   (iii) The relative motion between the latch and the structural
(7) Each door for which unlatching would not result in a hazard is not required to have a locking mechanism meeting the requirements of paragraphs (d)(3) through (d)(6) of this section.

(e) Warning, caution, and advisory indications. Doors must be provided with the following indications:

1. There must be a positive means to indicate at each door operator's station that all required operations to close, latch, and lock the door(s) have been completed.

2. There must be a positive means clearly visible from each operator station for any door that could be a hazard if unlatched to indicate if the door is not fully closed, latched, and locked.

3. There must be a visual means on the flight deck to signal the pilots if any door is not fully closed, latched, and locked. The means must be designed such that any failure or combination of failures that would result in an erroneous closed, latched, and locked indication is improbable for--

   i. Each door that is subject to pressurization and for which the initial opening movement is not inward; or

   ii. Each door that could be a hazard if unlatched.

4. There must be an aural warning to the pilots prior to or
during the initial portion of takeoff roll if any door is not fully closed, latched, and locked, and its opening would prevent a safe takeoff and return to landing.

(f) Visual inspection provision. Each door for which unlatching of the door could be a hazard must have a provision for direct visual inspection to determine, without ambiguity, if the door is fully closed, latched, and locked. The provision must be permanent and discernible under operational lighting conditions, or by means of a flashlight or equivalent light source.

(g) Certain maintenance doors, removable emergency exits, and access panels. Some doors not normally opened except for maintenance purposes or emergency evacuation and some access panels need not comply with certain paragraphs of this section as follows:

(1) Access panels that are not subject to cabin pressurization and would not be a hazard if open during flight need not comply with paragraphs (a) through (f) of this section, but must have a means to prevent inadvertent opening during flight.

(2) Inward-opening removable emergency exits that are not normally removed, except for maintenance purposes or emergency evacuation, and flight deck-openable windows need not comply with paragraphs (c) and
(f) of this section.

(3) Maintenance doors that meet the conditions of paragraph (h) of this section, and for which a placard is provided limiting use to maintenance access, need not comply with paragraphs (c) and (f) of this section.

(h) Doors that are not a hazard. For the purposes of this section, a door is considered not to be a hazard in the unlatched condition during flight, provided it can be shown to meet all of the following conditions:

(1) Doors in pressurized compartments would remain in the fully closed position if not restrained by the latches when subject to a pressure greater than \(1/2\) psi. Opening by persons, either inadvertently or intentionally, need not be considered in making this determination.

(2) The door would remain inside the airplane or remain attached to the airplane if it opens either in pressurized or unpressurized portions of the flight. This determination must include the consideration of inadvertent and intentional opening by persons during either pressurized or unpressurized portions of the flight.

(3) The disengagement of the latches during flight would not allow depressurization of the cabin to an unsafe level. This safety assessment must include the physiological effects on the occupants.

(4) The open door during flight would not create aerodynamic
interference that could preclude safe flight and landing.

(5) The airplane would meet the structural design requirements with
the door open. This assessment must include the aeroelastic
stability
requirements of Sec. 25.629, as well as the strength
requirements of
subpart C of this part.

(6) The unlatching or opening of the door must not preclude
safe
flight and landing as a result of interaction with other systems or
structures.

3. Amend Sec. 25.807 by revising paragraph (h) to read as
follows:

Sec. 25.807 Emergency exits.

* * * * *

(h) Other exits. The following exits also must meet the
applicable
emergency exit requirements of Sec. Sec. 25.809 through
25.812, and
must be readily accessible:

(1) Each emergency exit in the passenger compartment in
excess of
the minimum number of required emergency exits.

(2) Any other floor-level door or exit that is accessible from
the
passenger compartment and is as large or larger than a Type II
exit,
but less than 46 inches wide.

(3) Any other ventral or tail cone passenger exit.

* * * * *

4. Amend Sec. 25.809 by adding a new paragraph (b)(3), and by revising paragraphs (c) and (f) to read as follows:

Sec. 25.809 Emergency exit arrangement.

* * * * *

(b) * * *

(3) Even though persons may be crowded against the door on the inside of the airplane.

(c) The means of opening emergency exits must be simple and obvious; may not require exceptional effort; and must be arranged and marked so that it can be readily located and operated, even in darkness. Internal exit-opening means involving sequence operations (such as operation of two handles or latches, or the release of safety catches) may be used for flightcrew emergency exits if it can be reasonably established that these means are simple and obvious to crewmembers trained in their use.

* * * * *

(f) Each door must be located where persons using them will not be endangered by the propellers when appropriate operating
procedures are used.

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5. Amend Sec. 25.810 by adding a new paragraph (e) to read as follows:

Sec. 25.810 Emergency egress assist means and escape routes.

* * * * *

(e) If an integral stair is installed in a passenger entry door that is qualified as a passenger emergency exit, the stair must be designed so that, under the following conditions, the effectiveness of passenger emergency egress will not be impaired:

(1) The door, integral stair, and operating mechanism have been subjected to the inertia forces specified in Sec. 25.561(b)(3), acting separately relative to the surrounding structure.

(2) The airplane is in the normal ground attitude and in each of the attitudes corresponding to collapse of one or more legs of the landing gear.

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6. Add a new Sec. 25.820 to read as follows:

Sec. 25.820 Lavatory doors.
All lavatory doors must be designed to preclude anyone from becoming trapped inside the lavatory. If a locking mechanism is installed, it must be capable of being unlocked from the outside without the aid of special tools.

Ali Bahrami,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. 04-9948 Filed 4-30-04; 8:45 am]

[Federal Register: May 3, 2004 (Volume 69, Number 85)]
[Rules and Regulations]
[Page 24495-24503]
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Part III

Department of Transportation
Federal Aviation Administration
14 CFR Part 25
Design Standards for Fuselage Doors on Transport Category Airplanes;
Final Rule

[[Page 24496]]
Subject: Fracture the Movie

It seems that movies about early model Boeing 747s that disintegrate in flight leaving similar evidence:

Pan Am 103 and TWA 800 were both:
aged
high time
early model
poly x wired
Boeing 747
shortly after take off
suffers hull rupture forward of the wing
fodded number three engine
sudden sound on CVR
loud sound on the CVR
short duration sound on the CVR
abrupt power cut to FDR
outward peeled skin in cargo door area
midspan latch status not determined
took off in no sun
running late
more severe inflight damage on starboard side
downward bent floor beams in cargo door area
at least nine never recovered bodies
vertical fuselage tear lines forward of the wing and aft of cargo door
bomb in forward cargo hold initially suspected
bomb in forward cargo hold placed two flights previous to final fatal flight exploding in flight and nose coming off explanation is still believed to be the correct probable cause at least for the last nine years.
Non bomb structural failure offered as explanation for sudden loud short sound on the CVR.
Non bomb structural failure rejected.
Bomb planters are terrorists of foreign countries.
In the first two minutes of Fracture: "I'll get the voltage readings to NTSB."

First scene is Anthony Hopkins going to hangar in which sits...a replica of the TWA Flight 800 wreckage reconstruction...with ruptured cargo door!

And new movie about Pan Am Flight 103.

Lockerbie Residents Object To Pan Am flight 103 Movie

Plans for a film based on the bombing of a Pan Am flight 103 over Lockerbie, Scotland in 1988 have angered residents of the small village. Two hundred and fifty nine passengers and 11 townspeople were killed when a bomb planted by Libyan terrorists exploded over the village.

New Zealand director Niki Caro, will base the Warner Bros movie on the memoirs of Ken Dornstein, whose brother David was killed at Lockerbie.

But retired policeman Stuart Henderson, who led the international hunt for the bombers, says relatives of the dead object to the film being made.

He says, "If it's going to be done, it has to be done in such a way that it's not offensive. It has to be treated with kid gloves."

Jean Berkley, whose son Alistair died in the explosion, adds, "I don't think the relatives of the dead would be very interested in this film."
Regards,

John Barry Smith  
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From: John Barry Smith <barry@johnbarrysmith.com>  
Date: September 6, 2009 12:03:10 AM PDT  
To: Gloria.R.LaRoche@faa.gov  
Subject: Re: Please follow up on my safety alert on wiring/cargo door problem on nonplug cargo doors.

At 6:58 AM -0400 4/20/07, Gloria.R.LaRoche@faa.gov wrote:  
Mr. Smith,

I'm checking into who at a/c cert has your letter and is working your concerns, and will let you know as soon as I do. I will be out of town most of next week but will not forget you.

Gloria R. LaRoche, Aviation Safety Inspector  
FAA Flight Standards  
Air Carrier Training, AFS-210

Dear Ms. LaRoche,  
Friday, April 20, 2007
Thank you for your reply and follow up, I am standing by for instructions and queries regarding my wiring/cargo door explanation for several Boeing 747 accidents.

A bit of background and philosophy: After thousands of hours of inflight exposure to the noise from reciprocating and jet engines, I developed a bilateral hearing loss and thus became interested in audiology and hearing conservation. I became an Army audiologist and helped soldiers and their families with hearing related problems. Half of my job was trying to prevent hearing loss from steady state or traumatic noise. The other half was treatment which put me in the medical side of the hospital; for prevention I was lumped in with Safety. I inspected units for compliance with hearing conservation guidelines.

When treating hearing loss such as a referral to a physician, counseling, or fitting hearing aids I was always thanked. For trying to prevent the noise damage by fitting earplugs, asking for time to give lectures, and requesting money to isolate noise sources, I was never thanked and often ignored or insulted.

We have a thankless task in safety and yet we know we have the more important job; preventing injury is always better than fixing it after the damage is done. Ounce of prevention/pound of cure is so true.

When these huge pressurized hulls have holes cut in them for necessary tasks, it only makes sense to put the patches we call doors, hatches, windows on the inside so that increased differential pressure only makes the patch tighter, not looser. With a preventive plug type door all the necessary treatments such as danger placards in many languages, viewing ports, locking sectors, micro switch cutouts, and cockpit warning lights
are not needed.

Thank you again for following up on my concerns that the hazards of nonplug cargo doors on early model Boeing 747s have been greatly underestimated because several crashes have not recognized the probable cause as faulty wiring causing those nonplug cargo doors to rupture open in flight; therefore airworthy decisions on future aircraft should make all doors plug type to prevent the inadvertent opening in flight rather than trying to treat the problem after it happens.

In my humble opinion.

Regards,

John Barry Smith
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From: John Barry Smith <b@arr@johnbarrysthsmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Gloria.R.LaRoche@faa.gov, Steve.Ramdeen@faa.gov, 
Tim.Shaver@faa.gov, Moin.Abulhosn@faa.gov
Subject: Please follow up on my safety alert on wiring/cargo door problem on nonplug cargo doors.

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Dear Ms. LaRoche, Wednesday, April 18, 2007

I have heard nothing back regarding my hazard alert to FAA Safety regarding the unrecognized dangers of nonplug cargo doors and the potential problems in the certification of the Boeing 787.

FAA has previously acknowledged the inherent danger of nonplug doors in the United Airlines Flight 811 accident:

"NTSB AAR 92/02: The FAA responded to Safety Recommendations A-89-92 through -94 on November 3, 1989. During its evaluation of Safety Recommendation A-89-92, the FAA determined that Boeing 747 cargo doors with lock sectors, modified in compliance with AD 88-12-04, cannot be overridden during mechanical or least one torque-limiting device. The Safety Board has reviewed AD 88-12-04 and has confirmed the FAA's findings. Based on this, Safety Recommendation A-89-92 has been classified as "Closed--Reconsidered."

The FAA responded to Safety Recommendations A-89-93 and -94 describing action to review all outward opening (nonplug) doors and all jetpowered transport-category airplanes to determine what, if any, modifications are needed to ensure that these doors will not open in flight. The FAA pointed out that the door latch indicating system is to be only part of the review and that door designs will be evaluated against criteria specified in 14 CFR 25.783 as amended by Amendment 25-54, and the policy
material published in Advisory Circular 25.783.1, adopted in 1980 and will take into account human factors involved in the routine operation of closing and locking doors to ensure that the latch and lock systems are fail-safe. Further, to emphasize the importance of human factors, the FAA has developed a training program for FAA certification personnel to enhance their knowledge of human factors in aircraft design. This training program will be offered to approximately 100 certification personnel during the next year. Based on this response, Safety Recommendations A-89-93 and -94 have been classified as "Open--Acceptable Action." The Safety Board believes it necessary to point out that this hazard exists for any pressurized aircraft using nonplug doors and that the FAA should not be limiting this review to only those transports which are jet powered."

I have recently researched all the FAA SDRs from 1995 to the present and have found 8500 difficulties with cargo doors among the 13000 pages of SDRs. Partial list at: http://av-info.faa.gov/data/SDRS/tab/sdr2003a.txt

I have offered evidence that TWA Flight 800 was in fact a wiring/cargo door problem, not a wiring/center fuel tank problem as the NTSB states.

Please put me in contact with Ms. Mollica or the official in the group in Seattle; this issue is timely and potentially catastrophic. They should be able to query me with a few cogent questions to determine if my explanation is valid or not. I know it is.

Indifference or handing off to another is not the proper response to a safety alert to safety official when documents are provided and a sound analysis is offered to support the assertion:
Specifically, the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation has caused several other early model Boeing 747 accidents than previously understood.

Please evaluate my safety alert by following up and questioning me and my explanation.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysthsmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org

Smith,

I have forwarded your e-mail regarding your concerns about non-plug cargo doors on the A-380 & B-787 to Ann Mollica, here in HQ. Ann is Technical Special Assistant, Aircraft Certification Service. I believe she will be forwarding it to the FAA's Aircraft Evaluation Group in Seattle, Washington for their analysis.

Thank you for your interest in aviation safety,

Gloria LaRoche
Gloria R. LaRoche, Aviation Safety Inspector
From: John Barry Smith <barry@johnbarrystmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Gloria.R.LaRoche@faa.gov
Subject: Re: Dear Safety Inspector, please inspect the below email for safety issues.

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229

Dear Ms. LaRoche, Friday, April 13, 2007

Thank you, ma'am.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrystmith.com
At 3:55 PM -0400 4/13/07, Gloria.R.LaRoche@faa.gov wrote:

Mr. Smith,

I have forwarded your e-mail regarding your concerns about non-plug cargo doors on the A-380 & B-787 to Ann Mollica, here in HQ. Ann is Technical Special Assistant, Aircraft Certification Service. I believe she will be forwarding it to the FAA's Aircraft Evaluation Group in Seattle, Washington for their analysis.

Thank you for your interest in aviation safety,

Gloria LaRoche
Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229
Dear Ms. LaRoche, Friday, April 13, 2007

The Airbus A380 will have three outward opening non plug cargo doors. The Boeing 787 has two. They will fly in US skies. Nonplug doors are inherently unsafe. I submit those hazardous cargo doors have caused many more fatalities than officially understood. Would you please evaluate the below and take action that safety inspectors do when they are informed and discover an unsafe issue?

I've attached a pdf about cargo doors and Air India Flight 182 specifically. More details at http://www.montereypeninsulaairport.com
http://www.ntsb.org

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org
At 7:59 AM -0700 4/9/07, moin abulhosn wrote:
Dear John,

It seems that I stumbled into your 747 Rupture articles while I was doing a search on NTSB subjects, and you responded kindly by forwarding the articles to me and my colleagues. I am not going to formally respond to your queries without you first contacting the FAA Public Affairs office and petition within the proper channels. Also, whatever I communicate to you is not an official FAA finding and that's why I am using my personal email today.

Good day, Moin Abulhosn.

Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch
AIR-130
Phone: (202) 385 4645

Dear Mr. Abulhosn, Tuesday, April 10, 2007

Thank you for your email of 9 April, 2007 in which you explain you came upon my web site about Boeing 747s while doing a search and requested information and documents from me. You
thanked me for the documents I sent.

You then state you will not respond to my queries without me first contacting FAA Public Affairs and 'petition' within proper channels.

And lastly you state that whatever you communicate to me is not an official FAA 'finding' and that's why sent the email via personal Yahoo address.

Well, Mr. Abulhosn, I appreciate your intent to correspond by informal personal addresses instead of official formal means but I prefer, sir, that we keep the relationship professional, open, and correct. You initially sent me an email using a FAA email address and included your name, agency, division, title, and phone number which I appreciate as polite and official.

You even copied your request to me to two other FAA officials, Steve Ramdeen and Tim Shaver at their official FAA.gov addresses.

Mr. Abdulhosn, that's about as formal and official as can be and I appreciate that and will continue to follow your example of formal, polite, and official. Initial contact below:

At 10:30 AM -0400 3/27/07, Moin.Abulhosn@faa.gov wrote:
X-IronPort-AV: i="4.14,334,1170651600"
   d="scan'208"; a="62437118:sNHT25042696"
Subject: Please send me the info you have on the rupture, 747-100,200 etc. report
To: barry@johnbarrysmith.com
Cc: Steve.Ramdeen@faa.gov,
    Tim.Shaver@faa.gov
Now, Mr. Abdulhosn, I understand your desire to have an FAA authority approve of your official correspondence with me; that is wise and prudent. And you have it already!

Mr. Peter Wilhelmson of FAA Safety contacted me by phone about the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for Boeing 747s. We corresponded and his senior official, Mr. Phil Randall, Deputy National FAASTeam Manager, (AFS-8A), then referred me, after discussion at FAA Headquarters, to your office of Aircraft Certification Service. So, Mr. Abdulhosn, I have already petitioned through proper channels all the way to the top at FAA Headquarters and that highest channel has referred me to you so there is no problem with continued official correspondence between us. It's even encouraged.

Below referral and approval letter to me:

Subject: Re: Wiring/cargo door meeting with FAA safety officials
To: John Barry Smith <barry@johnbarrysmith.com>
Cc: peter.wilhelmson@faa.gov
Mr. Smith,

I apologize for the delay in replying to your emails, but my time has been very limited due to special projects that I have to complete involving implementation of the FAASTeam.

Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert, I discuss your emails with the appropriate people at FAA headquarters and they all feel that you need to address your concerns with Aircraft Certification. The office nearest to you is listed below. Please contact them and thank you for your concerns.

ACO Address & Contact

<table>
<thead>
<tr>
<th>Geographic Area of Service</th>
<th>ACO Address &amp; Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>ACO</td>
</tr>
<tr>
<td></td>
<td>3960 Paramount Boulevard</td>
</tr>
<tr>
<td></td>
<td>Lakewood, CA</td>
</tr>
<tr>
<td>90712-4137</td>
<td>(562) 627-5200 FAX: (562)</td>
</tr>
</tbody>
</table>
Mr. Abdulhosn, we are allies. We are the good guys. We are trying to make airliners safer. You are a government official and I am a private citizen not affiliated with any agency, manufacturer, legal entity, airline, union, or other aviation group. I have had cordial relations with the FAA ever since I soloed at 18 years old and got my student license. As I progressed to private and commercial license (instrument rated) I interacted with many FAA examiners. I am quite proud of my FAA Part 135 Certificate I earned. Through forty years of active flying as a civilian pilot and military navigator I have talked with thousands of FAA ATC ground control, tower, approach and center personnel. I have the highest respect for FAA officials and believe you queried me about the wiring/cargo door situation because you saw something that caught your eye. I trust it was my straightforward, fact
heavy, reasonable narrative of probable cause for several Boeing 747s coupled with an irrefutable precedent of United Airlines Flight 811.

Below my resume and aviation credentials:

Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator NFO, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

The credential which trumps all others is I have survived a fiery, sudden, fatal jet airplane crash and I'm corresponding to you about sudden, fiery, fatal jet airplane crashes, specifically, Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

I imagine TWA Flight 800 is the one you are most interested in and the one in which the most contention between FAA and NTSB exists. Well, NTSB says that faulty wiring caused the explosion of TWA Flight 800 and I agree. The minor difference is NTSB says the ignition source (which they can not find) was in the center fuel tank and wants the fuel tanks inerted, and I say it was in the forward cargo door unlatch motor circuit. The implications of that minor difference of opinion in location of the shorted wire are profound.

Let us agree that we agree on a few things:
1. When a door/window/hatch opens in flight the result is
potentially catastrophic.
FAA Advisory Circular excerpt below:
1. PURPOSE. This advisory circular (AC) describes an acceptable means for showing compliance with the requirements of § 25.783, ÒFuselage doors,Ó and other applicable sections of Title 14, Code of Federal Regulations (CFR), part 25.
Subject: FUSELAGE DOORS AND HATCHES
Date: 4/25/05
Initiated By: ANM-115
AC No: 25.783-1A
d. On some airplanes, large cargo doors form part of the basic fuselage structure, so that, unless the door is properly closed, latched, and locked, the basic airframe structure is unable to carry the design aerodynamic and inertial loads. Large cargo doors also have the potential for creating control problems when an open door acts as an aerodynamic surface. In such cases, failure to secure the door properly could have catastrophic results, even when the airplane is unpressurized.

Below is United Airlines Flight 811 (nine fatalities) and the nose stayed on, unlike several other Boeing 747s.

2. Poly X wiring is prone to arcing, cracking, and chafing, especially in the presence of moisture.
Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:
-Abrasion of the insulation in bundles installed in high vibration areas.
(This problem was corrected by Boeing Service Bulletin No.
Random flaking of the topcoat.
- Insulation radial cracks in tight bend radii.
Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor.

3. United Airlines Flight 811 was a sudden fatal accident and the probable cause was electrical and a contributing cause was a deficiency in the design.
NTSB/AAR-92/02
(SUPERSEDES NTSB/AAR-90/01)
3.2 Probable Cause
The National Transportation Safety Board determines that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door inflight and the subsequent explosive decompression. The door opening was attributed to a faulty switch or wiring in the door control system which permitted electrical actuation of the door latches toward the unlatched position after initial door closure and before takeoff. Contributing to the cause of the accident was a deficiency in the design of the cargo door locking mechanisms, which made them susceptible to deformation, allowing the door to become unlatched after being properly latched and locked. Also contributing to the accident was a lack of timely corrective actions by Boeing and the FAA following a 1987 cargo door opening incident on a Pan Am B-747.

4. Your office of Aircraft Certification deals with aircraft accidents in the past and design approvals in the future. From
FAA website:
Aircraft Certification Offices (ACOs)
Contact the appropriate FAA Field Office that serves your geographic area for guidance on aircraft certification related activities.
ACOs assist with:
¥ Design approval and certificate management
¥ Engineering and analysis questions
¥ Investigating and reporting aircraft accidents, incidents, and service difficulties

Since your office is tasked with approving future designs it is imperative that the safety or danger of nonplug cargo doors be determined since a failure of that door will and has resulted in confirmed fatalities such as United Airlines Flight 811. The new Boeing 787 is slated to have two more of those nonplug cargo doors and the Airbus A380 has three.

Mr. Abdulhosn, I assert that the hazard of faulty wiring is more severe than currently understood because several other early model Boeing 747s have suffered catastrophic losses because of the failure of that wire insulation. I also assert that the hazard of outward opening nonplug cargo doors is more severe than currently understood because several accidents have been caused when a cargo door has ruptured open in flight.

Specifically, I assert that faulty Poly X wiring has shorted on the cargo door unlatch motor which caused the non plug forward cargo door to rupture open in flight causing an explosive decompression in Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800. In addition, the Boeing 747 nonplug cargo doors have ten door latches but only eight locking sectors for each door; the two locking sectors for
the two midspan latches on each door have been omitted which is a design deficiency.

The irrefutable model for my above assertions is United Airlines Flight 811 which matches TWA Flight 800 in many significant areas such as CVR data, flight recorder data, inflight damage, and engine FOD.

If rupturing open cargo doors are killing hundreds of passengers and crew in the past, as I claim, then a review is needed and corrective action taken to prevent a reoccurrence; I suggest making the cargo doors in future airliners the plug type, such as the passenger doors are now.

As an engineer, Mr. Abdulhosn, you should be able to quickly ascertain by questions to me if my shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s has validity or is nonsense. Please ask your questions to me.

Guidance on "Investigating and reporting aircraft accidents, incidents, and service difficulties" will not come from above; the Administrator is not going to call you up and suggest you check out faulty wiring, nonplug cargo doors, or absent locking sectors. The Administrator is relying on you to check out those potential safety issues and design errors before certifying future aircraft as airworthy.

There are many wacky ideas out there about aviation safety and I've seen most of them. Most do not rely on hard evidence, or NTSB AARs, FAA ADs, ACs, and SDRs, or precedents. The wiring/cargo door explanation does rely on hard evidence and official reports. Most wacky ideas do not come from aviation
educated professionals with years of experience and first hand knowledge of aircraft accidents. The wiring/cargo door explanation does come from such a person, me. The messenger is reliable and credible, check out his message.

As a retired military officer with thousands of flight hours as crew, navigator, and owner, as a survivor of a sudden fatal jet crash, and as an independent aircraft accident investigator for years, I report to you, Mr. Abdulhosn, (and all FAA and NTSB officials), there is a clear and present danger to the entire flying public for faulty Poly X wiring in early model Boeing 747s and a danger in all airliners with nonplug cargo doors. The hazard is clear that explosive decompression is a potentially catastrophic event and that danger is present since the wiring has not been replaced nor have the two midspan latches had locking sectors installed in the approximately five hundred early model Boeing 747s still in service nor the nonplug doors turned into plug doors.

My wiring/cargo door claims are based on your own documents in FAA reports, on NTSB AARs as well as UK AAIB, Canadian CASB and Indian AARs. There is the irrefutable precedent of United Airlines Flight 811 which matches the other Boeing 747 events I assert are caused by faulty wiring.

Mr. Abdulhosn, your most recent email implies that you may have a moral issue before you. You may perceive a conflict of career promotion versus aviation safety. There would certainly be some discussion among FAA officials to check out a safety hazard when reported by a civilian who is not in the usual chain of reporting points such as airline, pilot's union, manufacturer, NTSB, or legal units. (I would reply that it is my independence that has allowed me the luxury of being unbiased and able to see the pattern of destruction in four Boeing 747 accidents spread
eight years and thousands of miles apart.)

To investigate the wiring/cargo door explanation and thus put into question future certification for Boeing airliners such as the 787 is indeed a political problem for some. It should not be for you as your mandate is clear:

Aircraft Certification Offices (ACOs)
Contact the appropriate FAA Field Office that serves your geographic area for guidance on aircraft certification related activities.
ACOs assist with:
- Design approval and certificate management
- Engineering and analysis questions
- Investigating and reporting aircraft accidents, incidents, and service difficulties

The wiring/cargo door explanation fits all three of the above related activities in the job description. You can certainly inquire and correspond with an experienced aviation professional who is looking for guidance, questions, and investigations about a design flaw of nonplug cargo doors with two absent midspan latches which have resulted in previous accidents, incidents, and service difficulties.

I sense a reluctance on your part to get involved in the wiring/cargo door explanation although you did demonstrate initial interest, Mr. Abdulhosn. I don't know why you are not actively asking me questions to resolve the issues I raise: Is Poly X wiring faulty, is that wiring still in early model Boeing 747s, are there two omitted locking sectors on the midspan latches on the nonplug cargo doors on Boeing 747s, are forward cargo doors rupturing open on four Boeing 747s that leave a sudden loud
sound on the CVRs with many additional matching physical events which match each other and United Airlines Flight 811? If so, (and those questions are answered in the affirmative by me and government AARs,) then a present hazard exists in aircraft certified as airworthy and are not airworthy, and those hazards will exist in the future airliners you are asked to certify as airworthy. Please overcome your reluctance and pursue your initial interest in the wiring/cargo door explanation.

There is an ethical question which can best be described using a metaphor: What is the responsibility of one person to prevent injury to another?

For instance, if you are a plumber standing in line at a movie theater in civilian clothes and you overhear someone saying something about a fight around the corner and a woman is being beat up, what should you do? You might very well say it's none of your business and not wish to get involved and no one would blame you for ignoring the information, the reporter, and going inside to the see the movie.

But then let's say you are an off duty policeman in line with your badge still on and you hear a loud noise around the corner and inquire to the person standing next to you about what's going on. That person is one who has previously been beaten up and reports in detail to you about the fight and describes in detail the assailant and victim. The person then tells you that the assailant has beaten up cousins of the current victim and the assailant has previously been convicted of killing another cousin. The person in line asks you officially to investigate and intervene based on his confirmaible information and the fact that the assailant can beat up other cousins after this one around the corner.
What do you do, Mr. Abdulhosn, if you were that off duty, but in uniform, officer of the law when a clear and present danger to a citizen is reported to you in a clear, polite, factual way by a person who is experienced in beatings who then asks you to check it out?

Would you stay in line, ignore the reports, tell the reporting person to go see someone else, and go into the theater with not a care in the world?

Or would you exercise your authority, check the reporting person's identification, determine his information is accurate, call for backup, and then go around the corner and fulfill your responsibility to protect trusting citizens?

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrystsmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org

From: John Barry Smith <barry@johnbarrystsmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: rob.pappas@faa.gov
Subject: Sir, you have a keen eye for detail, check out the below to your colleague.

At 7:59 AM -0700 4/9/07, moin abulhosn wrote:
Dear John,

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Good day, Moin Abulhosn.

Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch
AIR-130
Phone: (202) 385 4645

Dear Mr. Abulhosn, Tuesday, April 10, 2007

Thank you for your email of 9 April, 2007 in which you explain you came upon my web site about Boeing 747s while doing a search and requested information and documents from me. You thanked me for the documents I sent.

You then state you will not respond to my queries without me first contacting FAA Public Affairs and 'petition' within proper channels.

And lastly you state that whatever you communicate to me is not
an official FAA 'finding' and that's why sent the email via personal Yahoo address.

Well, Mr. Abulhosn, I appreciate your intent to correspond by informal personal addresses instead of official formal means but I prefer, sir, that we keep the relationship professional, open, and correct. You initially sent me an email using a FAA email address and included your name, agency, division, title, and phone number which I appreciate as polite and official.

You even copied your request to me to two other FAA officials, Steve Ramdeen and Tim Shaver at their official FAA.gov addresses.

Mr. Abdulhosn, that's about as formal and official as can be and I appreciate that and will continue to follow your example of formal, polite, and official. Initial contact below:

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d="scan'208"; a="62437118:sNHT25042696"
Subject: Please send me the info you have on the rupture, 747-100,200 etc. report
To: barry@johnbarrysmith.com
Cc: Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov
From: Moin.Abulhosn@faa.gov
Date: Tue, 27 Mar 2007 08:59:45 -0400
X-Nonspam: None

Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Now, Mr. Abdulhosn, I understand your desire to have an FAA authority approve of your official correspondence with me; that is wise and prudent. And you have it already!

Mr. Peter Wilhelmson of FAA Safety contacted me by phone about the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for Boeing 747s. We corresponded and his senior official, Mr. Phil Randall, Deputy National FAASTeam Manager, (AFS-8A), then referred me, after discussion at FAA Headquarters, to your office of Aircraft Certification Service. So, Mr. Abdulhosn, I have already petitioned through proper channels all the way to the top at FAA Headquarters and that highest channel has referred me to you so there is no problem with continued official correspondence between us. It's even encouraged.

Below referral and approval letter to me:

Subject: Re: Wiring/cargo door meeting with FAA safety officials
To: John Barry Smith <barry@johnbarrysmith.com>
Cc: peter.wilhelmson@faa.gov
From: phil.randall@faa.gov
X-Nonsparse: None

Mr. Smith,

I apologize for the delay in replying to your emails, but my time
has been very limited due to special projects that I have to complete involving implementation of the FAASTeam.

Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert, I discuss your emails with the appropriate people at FAA headquarters and they all feel that you need to address your concerns with Aircraft Certification. The office nearest to you is listed below. Please contact them and thank you for your concerns.

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<tr>
<td>3960 Paramount Boulevard</td>
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<td>90712-4137</td>
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<tr>
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Phil
Mr. Abdulhosn, we are allies. We are the good guys. We are trying to make airliners safer. You are a government official and I am a private citizen not affiliated with any agency, manufacturer, legal entity, airline, union, or other aviation group. I have had cordial relations with the FAA ever since I soloed at 18 years old and got my student license. As I progressed to private and commercial license (instrument rated) I interacted with many FAA examiners. I am quite proud of my FAA Part 135 Certificate I earned. Through forty years of active flying as a civilian pilot and military navigator I have talked with thousands of FAA ATC ground control, tower, approach and center personnel. I have the highest respect for FAA officials and believe you queried me about the wiring/cargo door situation because you saw something that caught your eye. I trust it was my straight forward, fact heavy, reasonable narrative of probable cause for several Boeing 747s coupled with an irrefutable precedent of United Airlines Flight 811.

Below my resume and aviation credentials:

Commercial pilot, instrument rated, former FAA Part 135
certificate holder.
US Navy reconnaissance navigator NFO, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

The credential which trumps all others is I have survived a fiery, sudden, fatal jet airplane crash and I'm corresponding to you about sudden, fiery, fatal jet airplane crashes, specifically, Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

I imagine TWA Flight 800 is the one you are most interested in and the one in which the most contention between FAA and NTSB exists. Well, NTSB says that faulty wiring caused the explosion of TWA Flight 800 and I agree. The minor difference is NTSB says the ignition source (which they can not find) was in the center fuel tank and wants the fuel tanks inerted, and I say it was in the forward cargo door unlatch motor circuit. The implications of that minor difference of opinion in location of the shorted wire are profound.

Let us agree that we agree on a few things:
1. When a door/window/hatch opens in flight the result is potentially catastrophic.

FAA Advisory Circular excerpt below:
1. PURPOSE. This advisory circular (AC) describes an acceptable means for showing compliance with the requirements of 25.783, ÔFuselage doors,Ô and other applicable sections of Title 14, Code of Federal Regulations (CFR), part 25.
Subject: FUSELAGE DOORS AND HATCHES
d. On some airplanes, large cargo doors form part of the basic fuselage structure, so that, unless the door is properly closed, latched, and locked, the basic airframe structure is unable to carry the design aerodynamic and inertial loads. Large cargo doors also have the potential for creating control problems when an open door acts as an aerodynamic surface. In such cases, failure to secure the door properly could have catastrophic results, even when the airplane is unpressurized.

Below is United Airlines Flight 811 (nine fatalities) and the nose stayed on, unlike several other Boeing 747s.

2. Poly X wiring is prone to arcing, cracking, and chafing, especially in the presence of moisture.
Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:  
-Abrasion of the insulation in bundles installed in high vibration areas.  
(This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)  
-Random flaking of the topcoat.  
-Insulation radial cracks in tight bend radii.  
Radial cracking phenomenon of the Poly-X wire was mainly
associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor."

3. United Airlines Flight 811 was a sudden fatal accident and the probable cause was electrical and a contributing cause was a deficiency in the design.
NTSB/AAR-92/02
(SUPERSEDES NTSB/AAR-90/01)
3.2 Probable Cause
The National Transportation Safety Board determines that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door in flight and the subsequent explosive decompression. The door opening was attributed to a faulty switch or wiring in the door control system which permitted electrical actuation of the door latches toward the unlatched position after initial door closure and before takeoff. Contributing to the cause of the accident was a deficiency in the design of the cargo door locking mechanisms, which made them susceptible to deformation, allowing the door to become unlatched after being properly latched and locked. Also contributing to the accident was a lack of timely corrective actions by Boeing and the FAA following a 1987 cargo door opening incident on a Pan Am B-747.

4. Your office of Aircraft Certification deals with aircraft accidents in the past and design approvals in the future. From FAA website:
Aircraft Certification Offices (ACOs)
Contact the appropriate FAA Field Office that serves your geographic area for guidance on aircraft certification related
activities.
ACOs assist with:

- Design approval and certificate management
- Engineering and analysis questions
- Investigating and reporting aircraft accidents, incidents, and service difficulties

Since your office is tasked with approving future designs it is imperative that the safety or danger of nonplug cargo doors be determined since a failure of that door will and has resulted in confirmed fatalities such as United Airlines Flight 811. The new Boeing 787 is slated to have two more of those nonplug cargo doors and the Airbus A 380 has three.

Mr. Abdulhosn, I assert that the hazard of faulty wiring is more severe than currently understood because several other early model Boeing 747s have suffered catastrophic losses because of the failure of that wire insulation. I also assert that the hazard of outward opening nonplug cargo doors is more severe than currently understood because several accidents have been caused when a cargo door has ruptured open in flight.

Specifically, I assert that faulty Poly X wiring has shorted on the cargo door unlatch motor which caused the non plug forward cargo door to rupture open in flight causing an explosive decompression in Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800. In addition, the Boeing 747 nonplug cargo doors have ten door latches but only eight locking sectors for each door; the two locking sectors for the two midspan latches on each door have been omitted which is a design deficiency.

The irrefutable model for my above assertions is United Airlines
Flight 811 which matches TWA Flight 800 in many significant areas such as CVR data, flight recorder data, inflight damage, and engine FOD.

If rupturing open cargo doors are killing hundreds of passengers and crew in the past, as I claim, then a review is needed and corrective action taken to prevent a reoccurrence; I suggest making the cargo doors in future airliners the plug type, such as the passenger doors are now.

As an engineer, Mr. Abdulhosn, you should be able to quickly ascertain by questions to me if my shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s has validity or is nonsense. Please ask your questions to me.

Guidance on "Investigating and reporting aircraft accidents, incidents, and service difficulties" will not come from above; the Administrator is not going to call you up and suggest you check out faulty wiring, nonplug cargo doors, or absent locking sectors. The Administrator is relying on you to check out those potential safety issues and design errors before certifying future aircraft as airworthy.

There are many wacky ideas out there about aviation safety and I've seen most of them. Most do not rely on hard evidence, or NTSB AARs, FAA ADs, ACs, and SDRs, or precedents. The wiring/cargo door explanation does rely on hard evidence and official reports. Most wacky ideas do not come from aviation educated professionals with years of experience and first hand knowledge of aircraft accidents. The wiring/cargo door explanation does come from such a person, me. The messenger is reliable and credible, check out his message.
As a retired military officer with thousands of flight hours as crew, navigator, and owner, as a survivor of a sudden fatal jet crash, and as an independent aircraft accident investigator for years, I report to you, Mr. Abdulhosn, (and all FAA and NTSB officials), there is a clear and present danger to the entire flying public for faulty Poly X wiring in early model Boeing 747s and a danger in all airliners with nonplug cargo doors. The hazard is clear that explosive decompression is a potentially catastrophic event and that danger is present since the wiring has not been replaced nor have the two midspan latches had locking sectors installed in the approximately five hundred early model Boeing 747s still in service nor the nonplug doors turned into plug doors.

My wiring/cargo door claims are based on your own documents in FAA reports, on NTSB AARs as well as UK AAIB, Canadian CASB and Indian AARs. There is the irrefutable precedent of United Airlines Flight 811 which matches the other Boeing 747 events I assert are caused by faulty wiring.

Mr. Abdulhosn, your most recent email implies that you may have a moral issue before you. You may perceive a conflict of career promotion versus aviation safety. There would certainly be some discussion among FAA officials to check out a safety hazard when reported by a civilian who is not in the usual chain of reporting points such as airline, pilot's union, manufacturer, NTSB, or legal units. (I would reply that it is my independence that has allowed me the luxury of being unbiased and able to see the pattern of destruction in four Boeing 747 accidents spread eight years and thousands of miles apart.)

To investigate the wiring/cargo door explanation and thus put into question future certification for Boeing airliners such as the
787 is indeed a political problem for some. It should not be for you as your mandate is clear:

**Aircraft Certification Offices (ACOs)**

Contact the appropriate FAA Field Office that serves your geographic area for guidance on aircraft certification related activities.

ACOs assist with:
- Design approval and certificate management
- Engineering and analysis questions
- Investigating and reporting aircraft accidents, incidents, and service difficulties

The wiring/cargo door explanation fits all three of the above related activities in the job description. You can certainly inquire and correspond with an experienced aviation professional who is looking for guidance, questions, and investigations about a design flaw of nonplug cargo doors with two absent midspan latches which have resulted in previous accidents, incidents, and service difficulties.

I sense a reluctance on your part to get involved in the wiring/cargo door explanation although you did demonstrate initial interest, Mr. Abdulhosn. I don't know why you are not actively asking me questions to resolve the issues I raise: Is Poly X wiring faulty, is that wiring still in early model Boeing 747s, are there two omitted locking sectors on the midspan latches on the nonplug cargo doors on Boeing 747s, are forward cargo doors rupturing open on four Boeing 747s that leave a sudden loud sound on the CVRs with many additional matching physical events which match each other and United Airlines Flight 811? If so, (and those questions are answered in the affirmative by me and government AARs,) then a present hazard exists in aircraft
certified as airworthy and are not airworthy, and those hazards will exist in the future airliners you are asked to certify as airworthy. Please overcome your reluctance and pursue your initial interest in the wiring/cargo door explanation.

There is an ethical question which can best be described using a metaphor: What is the responsibility of one person to prevent injury to another?

For instance, if you are a plumber standing in line at a movie theater in civilian clothes and you overhear someone saying something about a fight around the corner and a woman is being beat up, what should you do? You might very well say it's none of your business and not wish to get involved and no one would blame you for ignoring the information, the reporter, and going inside to see the movie.

But then let's say you are an off duty policeman in line with your badge still on and you hear a loud noise around the corner and inquire to the person standing next to you about what's going on. That person is one who has previously been beaten up and reports in detail to you about the fight and describes in detail the assailant and victim. The person then tells you that the assailant has beaten up cousins of the current victim and the assailant has previously been convicted of killing another cousin. The person in line asks you officially to investigate and intervene based on his confirmable information and the fact that the assailant can beat up other cousins after this one around the corner.

What do you do, Mr. Abdulhosn, if you were that off duty, but in uniform, officer of the law when a clear and present danger to a citizen is reported to you in a clear, polite, factual way by a person who is experienced in beatings who then asks you to
check it out?

Would you stay in line, ignore the reports, tell the reporting person to go see someone else, and go into the theater with not a care in the world?

Or would you exercise your authority, check the reporting person's identification, determine his information is accurate, call for backup, and then go around the corner and fulfill your responsibility to protect trusting citizens?

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrystmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org

From: John Barry Smith <barry@johnbarrystmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: moin abulhosn <moinofboeing@yahoo.com>,
Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov,
Bob.Breneman@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV,
Lyle.Streeter@faa.dot.gov, Neil.Schalekamp@faa.dot.gov,
Ronald.Wojnar@faa.dot.gov, Joe.A.Nakanishi@faa.gov,
peter.wilhelmson@faa.gov, phil.randall@faa.gov,
Gloria.R.LaRoche@faa.gov, Brent.Phillips@faa.gov,
richard.jehlen@faa.gov, emily.a.white@faa.gov,
grossid@ntsb.org, lynn.a.boniface@faa.gov,
At 7:59 AM -0700 4/9/07, moin abulhosn wrote:

Dear John,

It seems that I stumbled into your 747 Rupture articles while I was doing a search on NTSB subjects, and you responded kindly by forwarding the articles to me and my colleagues. I am not going to formally respond to your queries without you first contacting the FAA Public Affairs office and petition within the proper channels. Also, whatever I communicate to you is not an official FAA finding and that’s why I am using my personal email today.

Good day, Moin Abulhosn.

Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch
AIR-130
Phone: (202) 385 4645
Dear Mr. Abulhosn,  

Tuesday, April 10, 2007

Thank you for your email of 9 April, 2007 in which you explain you came upon my web site about Boeing 747s while doing a search and requested information and documents from me. You thanked me for the documents I sent.

You then state you will not respond to my queries without me first contacting FAA Public Affairs and 'petition' within proper channels.

And lastly you state that whatever you communicate to me is not an official FAA 'finding' and that's why sent the email via personal Yahoo address.

Well, Mr. Abulhosn, I appreciate your intent to correspond by informal personal addresses instead of official formal means but I prefer, sir, that we keep the relationship professional, open, and correct. You initially sent me an email using a FAA email address and included your name, agency, division, title, and phone number which I appreciate as polite and official.

You even copied your request to me to two other FAA officials, Steve Ramdeen and Tim Shaver at their official FAA.gov addresses.

Mr. Abdulhosn, that's about as formal and official as can be and I appreciate that and will continue to follow your example of formal, polite, and official. Initial contact below:

At 10:30 AM -0400 3/27/07, Moin.Abulhosn@faa.gov wrote:
X-IronPort-AV: i="4.14,334,1170651600";
Now, Mr. Abdulhosn, I understand your desire to have an FAA authority approve of your official correspondence with me; that is wise and prudent. And you have it already!

Mr. Peter Wilhelmson of FAA Safety contacted me by phone about the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for Boeing 747s. We corresponded and his senior official, Mr. Phil Randall, Deputy National FAASTeam Manager, (AFS-8A), then referred me, after discussion at FAA Headquarters, to your office of Aircraft Certification Service. So, Mr. Abdulhosn, I have already petitioned through proper channels all the way to the top at FAA Headquarters and that highest channel has referred me to you so there is no problem with continued official correspondence between us. It's even encouraged.
Below referral and approval letter to me:

Subject: Re: Wiring/cargo door meeting with FAA safety officials
To: John Barry Smith <barry@johnbarrysmith.com>
Cc: peter.wilhelmson@faa.gov
From: phil.randall@faa.gov
X-Nonspam: None

Mr. Smith,

I apologize for the delay in replying to your emails, but my time has been very limited due to special projects that I have to complete involving implementation of the FAASTeam.

Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert, I discuss your emails with the appropriate people at FAA headquarters and they all feel that you need to address your concerns with Aircraft Certification. The office nearest to you is listed below. Please contact them and thank you for your concerns.

ACO Address & Contact

Info
Geographic Area of
Service
Los Angeles
Mr. Abdulhosn, we are allies. We are the good guys. We are trying to make airliners safer. You are a government official and I am a private citizen not affiliated with any agency, manufacturer, legal entity, airline, union, or other aviation group. I have had cordial relations with the FAA ever since I soloed at 18 years old and got my student license. As I progressed to private and commercial license (instrument rated) I interacted with many FAA examiners. I am quite proud of my FAA Part 135 Certificate
I earned. Through forty years of active flying as a civilian pilot and military navigator I have talked with thousands of FAA ATC ground control, tower, approach and center personnel. I have the highest respect for FAA officials and believe you queried me about the wiring/cargo door situation because you saw something that caught your eye. I trust it was my straight forward, fact heavy, reasonable narrative of probable cause for several Boeing 747s coupled with an irrefutable precedent of United Airlines Flight 811.

Below my resume and aviation credentials:

Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator NFO, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

The credential which trumps all others is I have survived a fiery, sudden, fatal jet airplane crash and I'm corresponding to you about sudden, fiery, fatal jet airplane crashes, specifically, Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

I imagine TWA Flight 800 is the one you are most interested in and the one in which the most contention between FAA and NTSB exists. Well, NTSB says that faulty wiring caused the explosion of TWA Flight 800 and I agree. The minor difference is NTSB says the ignition source (which they can not find) was in the center fuel tank and wants the fuel tanks inerted, and I say
it was in the forward cargo door unlatch motor circuit. The implications of that minor difference of opinion in location of the shorted wire are profound.

Let us agree that we agree on a few things:
1. When a door/window/hatch opens in flight the result is potentially catastrophic.

FAA Advisory Circular excerpt below:
1. PURPOSE. This advisory circular (AC) describes an acceptable means for showing compliance with the requirements of § 25.783, ÒFuselage doors,Ó and other applicable sections of Title 14, Code of Federal Regulations (CFR), part 25.

Subject: FUSELAGE DOORS AND HATCHES
Date: 4/25/05
Initiated By: ANM-115
AC No: 25.783-1A
d. On some airplanes, large cargo doors form part of the basic fuselage structure, so that, unless the door is properly closed, latched, and locked, the basic airframe structure is unable to carry the design aerodynamic and inertial loads. Large cargo doors also have the potential for creating control problems when an open door acts as an aerodynamic surface. In such cases, failure to secure the door properly could have catastrophic results, even when the airplane is unpressurized.

Below is United Airlines Flight 811 (nine fatalities) and the nose stayed on, unlike several other Boeing 747s.

2. Poly X wiring is prone to arcing, cracking, and chafing, especially in the presence of moisture.
Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:
- Abrasion of the insulation in bundles installed in high vibration areas.
  (This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)
- Random flaking of the topcoat.
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Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor."

3. United Airlines Flight 811 was a sudden fatal accident and the probable cause was electrical and a contributing cause was a deficiency in the design.
NTSB/AAR-92/02
(SUPERSEDES NTSB/AAR-90/01)
3.2 Probable Cause
The National Transportation Safety Board determines that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door inflight and the subsequent explosive decompression. The door opening was attributed to a faulty switch or wiring in the door control system which permitted electrical actuation of the door latches toward the unlatched position after initial door closure and before takeoff. Contributing to the cause of the accident was a deficiency in the design of the cargo door locking mechanisms, which made them
susceptible to deformation, allowing the door to become unlatched after being properly latched and locked. Also contributing to the accident was a lack of timely corrective actions by Boeing and the FAA following a 1987 cargo door opening incident on a Pan Am B-747.

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- Investigating and reporting aircraft accidents, incidents, and service difficulties

Since your office is tasked with approving future designs it is imperative that the safety or danger of nonplug cargo doors be determined since a failure of that door will and has resulted in confirmed fatalities such as United Airlines Flight 811. The new Boeing 787 is slated to have two more of those nonplug cargo doors and the Airbus A 380 has three.

Mr. Abdulhosn, I assert that the hazard of faulty wiring is more severe than currently understood because several other early model Boeing 747s have suffered catastrophic losses because of the failure of that wire insulation. I also assert that the hazard of outward opening nonplug cargo doors is more severe than currently understood because several accidents have been caused
when a cargo door has ruptured open in flight.

Specifically, I assert that faulty Poly X wiring has shorted on the cargo door unlatch motor which caused the non plug forward cargo door to rupture open in flight causing an explosive decompression in Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800. In addition, the Boeing 747 nonplug cargo doors have ten door latches but only eight locking sectors for each door; the two locking sectors for the two midspan latches on each door have been omitted which is a design deficiency.

The irrefutable model for my above assertions is United Airlines Flight 811 which matches TWA Flight 800 in many significant areas such as CVR data, flight recorder data, inflight damage, and engine FOD.

If rupturing open cargo doors are killing hundreds of passengers and crew in the past, as I claim, then a review is needed and corrective action taken to prevent a reoccurrence; I suggest making the cargo doors in future airliners the plug type, such as the passenger doors are now.

As an engineer, Mr. Abdulhosn, you should be able to quickly ascertain by questions to me if my shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s has validity or is nonsense. Please ask your questions to me.

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There are many wacky ideas out there about aviation safety and I've seen most of them. Most do not rely on hard evidence, or NTSB AARs, FAA ADs, ACs, and SDRs, or precedents. The wiring/cargo door explanation does rely on hard evidence and official reports. Most wacky ideas do not come from aviation educated professionals with years of experience and first hand knowledge of aircraft accidents. The wiring/cargo door explanation does come from such a person, me. The messenger is reliable and credible, check out his message.

As a retired military officer with thousands of flight hours as crew, navigator, and owner, as a survivor of a sudden fatal jet crash, and as an independent aircraft accident investigator for years, I report to you, Mr. Abdulhosn, (and all FAA and NTSB officials), there is a clear and present danger to the entire flying public for faulty Poly X wiring in early model Boeing 747s and a danger in all airliners with nonplug cargo doors. The hazard is clear that explosive decompression is a potentially catastrophic event and that danger is present since the wiring has not been replaced nor have the two midspan latches had locking sectors installed in the approximately five hundred early model Boeing 747s still in service nor the nonplug doors turned into plug doors.

My wiring/cargo door claims are based on your own documents in FAA reports, on NTSB AARs as well as UK AAIB, Canadian CASB and Indian AARs. There is the irrefutable precedent of United Airlines Flight 811 which matches the other Boeing 747 events I assert are caused by faulty wiring.
Mr. Abdulhosn, your most recent email implies that you may have a moral issue before you. You may perceive a conflict of career promotion versus aviation safety. There would certainly be some discussion among FAA officials to check out a safety hazard when reported by a civilian who is not in the usual chain of reporting points such as airline, pilot's union, manufacturer, NTSB, or legal units. (I would reply that it is my independence that has allowed me the luxury of being unbiased and able to see the pattern of destruction in four Boeing 747 accidents spread eight years and thousands of miles apart.)

To investigate the wiring/cargo door explanation and thus put into question future certification for Boeing airliners such as the 787 is indeed a political problem for some. It should not be for you as your mandate is clear:

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I sense a reluctance on your part to get involved in the wiring/cargo door explanation although you did demonstrate initial interest, Mr. Abdulhosn. I don't know why you are not actively asking me questions to resolve the issues I raise: Is Poly X wiring faulty, is that wiring still in early model Boeing 747s, are there two omitted locking sectors on the midspan latches on the nonplug cargo doors on Boeing 747s, are forward cargo doors rupturing open on four Boeing 747s that leave a sudden loud sound on the CVRs with many additional matching physical events which match each other and United Airlines Flight 811? If so, (and those questions are answered in the affirmative by me and government AARs,) then a present hazard exists in aircraft certified as airworthy and are not airworthy, and those hazards will exist in the future airliners you are asked to certify as airworthy. Please overcome your reluctance and pursue your initial interest in the wiring/cargo door explanation.

There is an ethical question which can best be described using a metaphor: What is the responsibility of one person to prevent injury to another?

For instance, if you are a plumber standing in line at a movie theater in civilian clothes and you overhear someone saying something about a fight around the corner and a woman is being beat up, what should you do? You might very well say it's none of your business and not wish to get involved and no one would blame you for ignoring the information, the reporter, and going inside to the see the movie.

But then let's say you are an off duty policeman in line with your badge still on and you hear a loud noise around the corner and inquire to the person standing next to you about what's going on.
That person is one who has previously been beaten up and reports in detail to you about the fight and describes in detail the assailant and victim. The person then tells you that the assailant has beaten up cousins of the current victim and the assailant has previously been convicted of killing another cousin. The person in line asks you officially to investigate and intervene based on his confirmable information and the fact that the assailant can beat up other cousins after this one around the corner.

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Or would you exercise your authority, check the reporting person's identification, determine his information is accurate, call for backup, and then go around the corner and fulfill your responsibility to protect trusting citizens?

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysthsmith.com
http://www.montereypeninsulaairport.com
From: John Barry Smith <barry@johnbarrystmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Moin.Abulhosn@faa.gov
Cc: Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov
Subject: Re: Please send me the info you have on the rupture, 747-100,200 etc. report Attached is SmithAARDoorstory in pdf.

At 10:30 AM -0400 3/27/07, Moin.Abulhosn@faa.gov wrote:
Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch
AIR-130
Phone: (202) 385 4645

Dear Mr. Abulhosn, Thursday, April 5, 2007

Re: Please send me the info you have on the rupture, 747-100,200 etc. report

As per your request:

Attached is SmithAARDoorstory in pdf.

Regards,

John Barry Smith
541 Country Club Drive
From: John Barry Smith <barry@johnbarrystsmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Moin.Abulhosn@faa.gov
Cc: Steve.Ramdeeen@faa.gov, Tim.Shaver@faa.gov
Subject: Re: Please send me the info you have on the rupture, 747-100,200 etc. report Attached is SmithAAR103 for Pan Am Flight 103.

At 10:30 AM -0400 3/27/07, Moin.Abulhosn@faa.gov wrote:
Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch
AIR-130
Phone: (202) 385 4645

Dear Mr. Abulhosn, Thursday, April 5, 2007

Re: Please send me the info you have on the rupture, 747-100,200 etc. report

As per your request:

Attached is SmithAAR103 for Pan Am Flight 103.
Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrystmith.com
http://www.montereypeninsulaaairport.com
http://www.ntsb.org

From: John Barry Smith <barry@johnbarrystmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Moin.Abulhosn@faa.gov
Cc: Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov
Subject: Re: Please send me the info you have on the rupture, 747-100,200 etc. report Attached is SmithAAR800 for TWA Flight 800.

At 10:30 AM -0400 3/27/07, Moin.Abulhosn@faa.gov wrote:
Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch
AIR-130
Phone: (202) 385 4645

Dear Mr. Abulhosn, Thursday, April 5, 2007

Re: Please send me the info you have on the rupture, 747-100,200 etc. report
As per your request:

Attached is SmithAAR800 for TWA Flight 800.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrystsmith.com
http://www.montereypeninsulairport.com
http://www.ntsb.org

From: John Barry Smith <barry@johnbarrystsmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Moin.Abuhlhosn@faa.gov
Cc: Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov
Subject: Re: Please send me the info you have on the rupture, 747-100,200 etc. report Attached is SmithAAR182 in pdf for Air India Flight 182.

At 10:30 AM -0400 3/27/07, Moin.Abuhlhosn@faa.gov wrote:
Moin Abuhlhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch
AIR-130
Phone: (202) 385 4645

Dear Mr. Abuhlhosn, Thursday, April 5, 2007
Re: Please send me the info you have on the rupture, 747-100,200 etc. report

As per your request:

Attached is SmithAAR182 in pdf for Air India Flight 182.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulairport.com
http://www.ntsb.org

From: John Barry Smith <barry@johnbarrysmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Moin.Abulhosn@faa.gov, Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov
Subject: Re: Please send me the info you have on the rupture, 747-100,200 etc. report 1

Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Aircraft Engineering Division/Avionics Systems Branch
AIR-130
Dear Mr Abulhosn, Mr. Ramdeen, Mr. Shaver, Friday, March 30, 2007

I have not heard back from you and am wondering if my reply got back to you on your request to me of 27 March 2006 in which you asked for my Boeing 747-100 and -200 information.

The hazard I am reporting to you, faulty wiring leading to explosive decompression when the forward cargo door blows out for early model Boeing 747s, is a clear and present danger to the flying public and flightcrews on the approximately five hundred early 747s in service. FAA and NTSB as well as manufacturers are aware of the hazard. The certification hazard is those outward opening non plug cargo doors which have the additional design fault of absent midspan latch locking sectors.

Subsequent airliners such as the Boeing 787 and the Airbus A 380 continue to have those dangerous outward opening non plug cargo doors.

Some sort of action is required by the FAA, I believe; the very least is to check out the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation. A few questions to me from well informed engineers such as yourself should be able to rule out the explanation or rule in further questions.

Regarding Avionics: I was an Aviation Electronics Technician (Radar) Second Class during my enlisted time in the Navy. My experience there helped me in my understanding of sudden loud sounds on the CVRs, radar returns on the charts in the AARs, and of electricity when the circuit is completed by shorted wiring.
A Plea to those government officials who have the responsibility to protect the lives of passengers and crew of airliners by oversight of the airlines, the manufacturer, and the parts suppliers: FAA and NTSB of the United States:
FEDERAL AVIATION ADMINISTRATION
1287 files downloaded.

162.58.82.244
US
UNITED STATES
OKLAHOMA
OKLAHOMA CITY
FEDERAL AVIATION ADMINISTRATION
2411 files downloaded.

You have visited ntsb.org and/or montereypeninsulaairport.com and read my shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for several early model Boeing 747s; you have downloaded four thousand eight hundred fifty eight of the supporting files; you understand the science behind the logic, you can see the reasoning based on precedent, you remember the history of other aviation accidents, you have learned how to evaluate probable causes, thus you know that the explanation makes sense. The wiring/cargo door explanation warrants further investigation by you and your specialized agencies. Please inquire and ask questions to rule in or rule out the wiring/cargo door explanation.

A Plea to the manufacturer of the early model Boeing 747s that suffer inflight breakups: Boeing with facilities in Long Beach, Seattle, and Chicago.

130.76.64.15
US
UNITED STATES
CALIFORNIA
You have read my shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for several early model Boeing 747s; you have downloaded two thousand ninety four of the supporting files; you created the aircraft; you know the design errors of no locking sectors for the midspan latches, you realize the risk of non plug doors, you are aware of the aging wiring problems, you understand the science behind the logic of explosive decompression, you can see the reasoning based on precedent, you remember the history of other aviation accidents, you have learned how to evaluate risk/reward issues, thus you know that the explanation makes sense. The wiring/cargo door explanation warrants further investigation by you and subsequent replacing
the faulty wiring and changing the non plug doors to plug type. Please inquire and ask questions to rule in or rule out the wiring/cargo door explanation.

A Plea to the parts suppliers to the manufacturer of the aircraft:

199.64.0.252
US
UNITED STATES
ARIZONA
PHOENIX
ALLIEDSIGNAL INC
1102 files downloaded

192.249.47.8
US
UNITED STATES
CONNECTICUT
MANCHESTER
UNITED TECHNOLOGIES RESEARCH CENTER
944 files downloaded

You have read my shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for several early model Boeing 747s; you have downloaded two thousand forty six of the supporting files; you created the engines and structure; you realize the risk of non plug doors, you are aware of the aging wiring problems, you understand the science behind the logic of explosive decompression, you can see the reasoning based on precedent, you remember the history of other aviation accidents, you have learned how to evaluate risk/reward issues, thus you know that the explanation makes sense. The wiring/cargo door explanation
warrants further investigation by you and your staff. Please inquire and ask questions to rule in or rule out the wiring/cargo door explanation.

A Plea to the airlines that fly aircraft with aging wiring and non-plug cargo doors, in particular those airlines that fly early model Boeing 747s.

207.250.30.3
US
UNITED STATES
INDIANA
INDIANAPOLIS
REPUBLIC HOLDINGS
972 files downloaded

205.174.22.27
US
UNITED STATES
GEORGIA
ATLANTA
DELTA AIR LINES
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US
UNITED STATES
GEORGIA
ATLANTA
DELTA AIR LINES
1020 files downloaded

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US
UNITED STATES
TENNESSEE
MEMPHIS
FEDERAL EXPRESS CORPORATION
796 files downloaded

171.21.80.126
NL
NETHERLANDS
NOORD-HOLLAND
AMSTERDAM
KLM ROYAL DUTCH AIRLINES
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161.215.18.51
US
UNITED STATES
ILLINOIS
SCHAUMBURG
UNITED AIRLINES
1361 files downloaded

159.49.254.2
US
UNITED STATES
WASHINGTON
SEATTLE
ALASKA AIRLINE INC
1778 files downloaded

144.9.8.21
US
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have downloaded twelve thousand six hundred fifty one of the supporting files; you fly the aircraft; you risk the lives of your staff and passengers every day, you are aware of the aging wiring problems, you understand the science behind the logic of explosive decompression, you can see the reasoning based on precedent, you remember the history of other aviation accidents, you have learned how to evaluate risk/reward issues, thus you know that the explanation makes sense. The wiring/cargo door explanation warrants further investigation by you.

NTSB.org statistics host report 11 sep 06 detailing the host computers who visit the website and how many files they downloaded over a one year time span. Ninety percent of the host computers were unlisted and not reported below.

213.56.63.128
FR
FRANCE
RAEI-AGENCE-FRANCAISE-DE-DEVELOPPEM-LB_INTERNET 784 files downloaded

208.8.57.2
US
UNITED STATES
TEXAS
FT. WORTH
SPRINT 1335

207.250.30.3
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INDIANA
INDIANAPOLIS
REPUBLIC HOLDINGS 972

207.76.142.9
US
UNITED STATES
MARYLAND
OXON HILL
NATIONAL TRANSPORTATION SAFETY BOARD 1160

205.174.22.27
US
UNITED STATES
GEORGIA
ATLANTA
DELTA AIR LINES 978

205.174.22.26
US
UNITED STATES
GEORGIA
ATLANTA
DELTA AIR LINES 1020

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US
UNITED STATES
MARYLAND
CURTIS BAY
FEDERAL AVIATION ADMINISTRATION 1287

202.156.6.68
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SINGAPORE
SINGAPORE
SINGAPORE
STARHUB CABLE VISION LTD
  1498

200.225.90.10
BR
BRAZIL
S—O PAULO
S—O PAULO
COMITE GESTOR DA INTERNET NO BRASIL 1058

199.82.243.73
US
UNITED STATES
TENNESSEE
MEMPHIS
FEDERAL EXPRESS CORPORATION
  796

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US
UNITED STATES
ARIZONA
PHOENIX
ALLIEDSIGNAL INC
  1102

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UNITED STATES
CONNECTICUT
MANCHESTER
UNITED TECHNOLOGIES RESEARCH CENTER 944

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NETHERLANDS
NOORD-HOLLAND
AMSTERDAM
KLM ROYAL DUTCH AIRLINES 1590

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US
UNITED STATES
OKLAHOMA
OKLAHOMA CITY
FEDERAL AVIATION ADMINISTRATION 2411

161.215.18.51
US
UNITED STATES
ILLINOIS
SCHAUMBURG
UNITED AIRLINES 1361

159.49.254.2
US
UNITED STATES
WASHINGTON
SEATTLE
ALASKA AIRLINE INC 1778

155.109.5.21
US
UNITED STATES
FLORIDA
MIAMI
FLORIDA POWER & LIGHT CO
874

144.9.8.21
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UNITED STATES
CALIFORNIA
RIVERSIDE
AMERICAN AIRLINES INCORPORATED
1583

130.76.64.15
US
UNITED STATES
CALIFORNIA
LONG BEACH
THE BOEING COMPANY 990

130.76.32.15
US
UNITED STATES
WASHINGTON
SEATTLE
THE BOEING COMPANY
822

129.123.156.28
US
UNITED STATES
UTAH
LOGAN
UTAH STATE UNIVERSITY 875

87.203.185.122
GR
GREECE
ATTIKI
ATHENS
MULTIPROTOCOL SERVICE PROVIDER TO OTHER ISP'S AND END USERS
1037

81.174.155.59
UK
UNITED KINGDOM
ENGLAND
LONDON
DIAL-UP AND ADSL POOL 1463

80.127.78.110
NL
NETHERLANDS
ZUID-HOLLAND
ROTTERDAM
XS4ALL INTERNET BV
1005

71.202.36.138
US
UNITED STATES
CALIFORNIA
MONTEREY
COMCAST CABLE COMMUNICATIONS IP SERVICES 2512
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UNITED STATES  
VIRGINIA  
MONTPELIER  
SPRINT DSL NETWORK  
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US  
UNITED STATES  
CALIFORNIA  
MONTEREY  
COMCAST CABLE COMMUNICATIONS HOLDINGS INC  
8139  

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UNITED STATES  
NEW YORK  
WEST BABYLON  
OPTIMUM ONLINE (CABLEVISION SYSTEMS)  
1036  

68.83.238.97  
US  
UNITED STATES  
PENNSYLVANIA  
MARCUS HOOK  
COMCAST CABLE COMMUNICATIONS INC  
926  

67.35.13.88
US
UNITED STATES
GEORGIA
ATLANTA
BELLSOUTH.NET INC
2671

66.249.72.225
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UNITED STATES
NEW YORK
NEW YORK
GOOGLE INC
893

66.249.72.148
US
UNITED STATES
NEW YORK
NEW YORK
GOOGLE INC
899

66.249.72.107
US
UNITED STATES
NEW YORK
NEW YORK
GOOGLE INC
855

65.118.216.209
US
UNITED STATES
NEW YORK
QWEST COMMUNICATIONS CORPORATION
1139

64.233.173.67
US
UNITED STATES
CALIFORNIA
MOUNTAIN VIEW
GOOGLE INC
861

64.143.220.132
US
UNITED STATES
SBC INTERNET SERVICES 888

62.179.56.10
AT
AUSTRIA
WIEN
VIENNA
UPC TELEWIZJA KABLOWA SP. Z O.O
806

24.4.191.82
US
UNITED STATES
CALIFORNIA
CASTRO VALLEY
COMCAST CABLE COMMUNICATIONS
At 10:30 AM -0400 3/27/07, Moin.Abulhosn@faa.gov wrote:

Moin Abulhosn
Federal Aviation Administration
Aerospace Engineer
Aircraft Certification Service
Dear Mr Abulhosn, Mr. Ramdeen, Mr. Shaver, Tuesday, March 27, 2007

Thank you for your email. Please be more specific so I can give you exactly what you request. I assume you are responding to my submission to the FAA Certification Service regarding the wiring/cargo door explanation after I was referred to you by Mr. Phil Randall of FAST of FAA.

There have been six serious hull ruptures on Boeing 747s:
Air India Flight 182
Pan Am Flight 103
United Airlines Flight 811
TWA Flight 800
China Airlines 611
JAL 123.

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I can send you the info on those in the form of NTSB AAR, AAIB AAR, CASB AAR, and my own AAR in pdf format. Which would you like?
Please ask any questions you may have in a reply email too. Those accidents are controversial I know but I stick to the hard evidence and use science for my conclusions, not conspiracy intrigue best left to fiction. I trust you respect science also.

Thank you for your interest.

Regards,

John Barry Smith
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1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaaairport.com

Los Angeles
ACO
3960 Paramount Boulevard
Lakewood, CA 90712-4137

Dear Designated Representatives of the Administrator,
Thursday, October 26, 2006

I have been referred to you by Mr. Phil Randall, of the FAA Safety Team, FAAST.

At 11:46 AM -0400 10/25/06, phil.randall@faa.gov wrote: Mr. Smith,
I apologize for the delay in replying to your emails, but my time has been very limited due to special projects that I have to complete involving implementation of the FAASTeam.

Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert, I discuss your emails with the appropriate people at FAA headquarters and they all feel that you need to address your concerns with Aircraft Certification. The office nearest to you is listed below. Please contact them and thank you for your concerns.

ACO Address & Contact

<table>
<thead>
<tr>
<th>Geographic Area of Service</th>
<th>Info</th>
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<tbody>
<tr>
<td>Los Angeles</td>
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<tr>
<td>ACO</td>
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<tr>
<td>3960 Paramount Boulevard</td>
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<tr>
<td>Lakewood, CA</td>
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<tr>
<td>90712-4137</td>
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<tr>
<td>(562) 627-5200 FAX: (562)</td>
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<td>627-5210</td>
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</tbody>
</table>

Arizona
California
Hawaii
Nevada
Phil

Phil Randall
Deputy National FAASTeam Manager (AFS-8A)
Greensboro FSDO
6433 Bryan Blvd.
Greensboro, NC 27409
(336) 662-1008 Office
(336) 662-1080 FAX
(336) 404-6396 Cell

Dear Representative, I note some of your duties below from the FAA website:

Aircraft Certification Service
Responsibilities
The Aircraft Certification Service is responsible for the... continued airworthiness programs of all U.S. civil aviation products. We support that mission with a training program and oversight of Designated Representatives of the Administrator.

Customer Service Initiative
The Customer Service Initiative (CSI) provides a way for you to request reconsideration of a decision made by an Aviation Safety office. The goals of the Initiative are to:

¥ Document Aviation Safety decisions

Aircraft Certification Offices (ACOs)
Contact the appropriate FAA Field Office that serves your geographic area for guidance on aircraft certification related activities.
ACOs assist with:

- Design approval and certificate management
- Engineering and analysis questions
- Investigating and reporting aircraft accidents, incidents, and service difficulties

Specifically, I wish to officially request reconsideration of a decision by an Aviation Safety Office to approve the non plug cargo doors in Part 121 aircraft based upon my research that wiring is causing non plug cargo doors to rupture open in early model Boeing 747s.

I also request the ACO to investigate the aircraft accidents of Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800 based upon my research that show that Poly X wiring is a continuing threat to cause non plug cargo doors to open in flight.

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I am available for telephone discussion or email or letter.

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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
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US Navy patrol crewman, P2V-5FS 2000 hours.
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- US production approvals
- Engineering and analysis questions
- Investigating and reporting aircraft accidents, incidents, and service difficulties
- Designated Engineering Representatives (DER) oversight

From: John Barry Smith <barry@johnbarrysmith.com>
Date: September 6, 2009 12:03:10 AM PDT
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Lakewood, CA 90712-4137
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I am available for telephone discussion or email or letter.

Can you give me an email address for your office?

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org
Commercial pilot, instrument rated, former FAA Part 135 certificate
holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Aircraft Certification Service
Responsibilities
The Aircraft Certification Service is responsible for the design and production approval, airworthiness certification, and continued airworthiness programs of all U.S. civil aviation products. We support that mission with a training program and oversight of Designated Representatives of the Administrator.

Customer Service Initiative
The Customer Service Initiative (CSI) provides a way for you to request reconsideration of a decision made by an Aviation Safety office. The goals of the Initiative are to:
¥ Document Aviation Safety decisions
¥ Make employees accountable for achieving Aviation Safety's mission
¥ Promote earlier resolution of disagreements
¥ Promote more consistency and fairness in applying FAA regulations

Aircraft Certification Offices (ACOs)
Contact the appropriate FAA Field Office that serves your geographic area for guidance on aircraft certification related activities.
ACOs assist with:
¥ Design approval and certificate management
¥ US production approvals
¥ Engineering and analysis questions
¥ Investigating and reporting aircraft accidents, incidents, and service difficulties
At 11:46 AM -0400 10/25/06, phil.randall@faa.gov wrote:
Mr. Smith,

I apologize for the delay in replying to your emails, but my time has been very limited due to special projects that I have to complete involving implementation of the FAASTeam.

Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert, I discuss your emails with the appropriate people at FAA headquarters and they all feel that you need to address your concerns with Aircraft Certification. The office nearest to you is listed below. Please contact them and thank you for your concerns.

ACO Address & Contact

Info

Los Angeles ACO
3960 Paramount Boulevard
Lakewood, CA
90712-4137
(562) 627-5200 FAX: (562) 627-5210

Geographic Area of Service

Arizona
California
Hawaii
Nevada
Phil

Phil Randall
Deputy National FAASTeam Manager (AFS-8A)
Greensboro FSDO
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Greensboro, NC 27409
(336) 662-1008 Office
(336) 662-1080 FAX
(336) 404-6396 Cell
To: phil.randall@faa.gov, peter.wilhelmson@faa.gov
From: John Barry Smith <barry@johnbarrysmith.com>
Subject: Wiring/cargo door
Cc:
Bcc:
X-Attachments: :Kicked:3169069:chart12.jpg:
Phil Randall
Pete Wilhelmson
FAA Safety Team
FAAST

Dear Mr. Randall and Mr. Wilhelmson, Sunday, October 15, 2006

Mr. Randall, permit me to address you directly, sir. From press release: "To take aviation safety one step further, Flight Standards Service created the FAASTeam. The FAASTeam is devoted to reducing aircraft accidents by promoting a cultural change in the aviation community toward a higher level of safety."

About time!

Normally I leave the political considerations out of my discussion of a probable cause for an accident but I now realize politics oversees
everything and in this case may be very important. My political opinions may be wrong about the reasons for the creation of FAAST but my scientific conclusions about the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s are correct.

Why was FAAST created? In my amateur opinion the team was created because it became apparent to FAA that the NTSB had become politicized, slow, and argumentative while producing delayed, incomplete, and flawed AARs. NTSB was not giving timely objective probable causes. The FAA has stepped in to fill the vacuum with FAAST.

From the editor of Air Data Research: "There are a lot of excellent investigators working for the NTSB. However, their efforts are directed by managers who may have other priorities than aviation safety. We've long been critical of the NTSB's delay in publishing the reports of their investigations. But they just don't seem to get it - their priorities seem to be determined by blood, bent metal and media attention. Fewer and quicker reports are not necessarily better reports."

The NTSB has pressed the FAA to inert fuel tanks based upon TWA Flight 800 and the FAA has rightly resisted by indicating the data does not justify the effort. Fuel tanks may or many not need to be inerted but TWA Flight 800 is irrelevant. The center fuel tank of that aircraft did have a fire/explosion but it was not the initial event by an unknown ignition source as the NTSB states. The wiring/cargo door explanation gives an ignition source for that fireball and it's the fodded on fire engine number three. The wiring/cargo door explanation for TWA Flight 800 also explains the streak, the strange radar returns, the red paint smears, the embedded turbine blades, and the sudden loud sound on the CVR followed by the abrupt power cut to the FDR, all important evidence clues which are ignored by the center fuel tank explosion explanation.
Spontaneously exploding aircraft fuel tanks with a mysterious ignition source may be a problem on a Boeing 737 sitting on a ramp but the faulty Poly X wiring in early model Boeing 747s is a much higher priority since my research has shown it has caused at least four fatal accidents, Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

I know two of the accidents are controversial and have other official explanations which are explanations from law enforcement, not aircraft accident investigators. The hard evidence from United Airlines Flight 811 is what connects the other three to each other not zany conspiracy stories based on fear of terrorists.

At this time, sir, I do not expect you to believe that frayed Poly X wiring is shorting on a cargo door unlatch motor allowing the forward cargo door to rupture open in flight at the midspan latches which leads to explosive decompression and in flight breakup of four early model Boeing 747s, but please, Mr. Randall, believe that I believe it. In my thousands of flight hours as crew and pilot, I have made life and death decisions based on less certainty that the cause of those four accidents was a ruptured open forward cargo door in flight probably caused by a failure in the electrical system (same as United Airlines Flight 811) and refined by subsequent accidents to be shorted Poly X wiring with the initial rupture occurring at the midspan latches.

A face to face meeting is inevitable. It will allow you to ascertain my credibility and evaluate my wiring/cargo door explanation. This messenger is in fact a 62 year old retired US military officer who survived a fatal US Navy carrier jet crash and has flown many hours over a forty five year career in aviation. The wiring/cargo door explanation can be explained with charts, data, sketches, photographs, and text. Let's call it data mining/analysis and it works.

From press release: "To further reduce accidents the FAASTeam will use
a coordinated effort to focus resources on particularly elusive accident causes. This will be accomplished by data mining/analysis, team work, instruction in the use of safety management systems/risk management tools, and development/distribution of educational materials. There's plenty of data available on aircraft accidents, but it's often difficult to determine exactly what should be done to reduce accidents from the data."

So very true! And wiring is a particularly elusive accident cause since the symptoms are often treated but not the underlying cause of frayed wiring.

To reduce accidents based upon my data, the wiring in the cargo door unlatch circuit needs to be replaced or inspected regularly for cracks, chafing, and exposed bare wire. Next, non plug cargo doors need to be exposed for the accident waiting to happen they are and then turned into plug type.

The wiring/cargo door explanation is simply a manufacturing flaw of defective Poly X wire exploiting design flaws of non plug cargo doors which don't have locking sectors on the two midspan latches. It's as simple as that.

I realize the FAA has two goals which often conflict, the promotion of US aviation and the safety of US aviation. Let the commerce guys say, "Safety is important, but...." Let us say, "Safety is important." I would argue that safe airplanes sell better than unsafe; an airline with less accidents makes more profit. Many sales and profitable airlines through safety are good for the United States.

We are safety men who respond to facts and data, so let me give some at this time: To reveal officially the dangers of wiring which require immediate action, I suggest the first accident to delve into deeply is TWA Flight 800. That updated accident investigation requires complete
knowledge of United Airlines Flight 811. The two are closely linked by the sudden loud sound on the CVR which is not a bomb but an explosive decompression sound.

Chart 12 above from NTSB public docket for TWA Flight 800 showing the sudden loud sound from the CVRs in graphical format. Air India is Air India Flight 182, PanAm is Pan Am Flight 103, and United is United Airlines Flight 811. (Philippine Air was a Boeing 737 that had a fuel tank explode on the ground and not a Boeing 747 exploding in the air as the others.)

United Airlines Flight 811
"The Safety Board believes that the approximate 1.5 to 2.0 seconds between the first sound (a thump) and the second very loud noise recorded on the CVR at the time of the door separation was probably the time difference between the initial failure of the latches at the bottom of the door, and the subsequent separation of the door, explosive decompression, and destruction of the cabin floor and fuselage structure. The door did not fail and separate instantaneously; rather, it first opened at the bottom and then flew open violently. As the door separated, it tore away the hinge and surrounding structure as the pressure in the cabin forced the floor beams downward in the area of the door to equalize with the loss of pressure in the cargo compartment."

TWA Flight 800
"The TWA flight 800 CVR recorded noise characteristics that were most similar to those recorded by the CVRs on board the United flight 811 and Philippine Airlines airplanes."

Mr. Randall, in a meeting, permit me to show you beyond doubt that the
forward cargo door ruptured open at the midspan latches at event time for TWA Flight 800 and that the center fuel tank exploded many seconds later, and the cause for the shattered door was probably faulty Poly X wiring in the unlatch door circuit.

To quickly rebut the center fuel tank explosion as the initial event:

A center fuel tank explosion would give bilateral damage in that area while a ruptured forward cargo door would give unilateral damage on the starboard side in the door area. Note the actual damage from the wreckage:

Smooth port side above nose to left, green leading edge of wing under the "R" of "World".

Above: Shattered forward cargo door starboard side nose to right, leading edge of wing is green area.

One more picture above: (from NTSB AAR for United Airlines Flight 811)

Well, enough of the pictures and charts for now. Your safety experts should be able to quickly rule in or rule out the wiring/cargo door explanation with a few pointed questions to me. I have written three lengthy AARs, one each for Air India Flight 182, Pan Am Flight 103, and TWA Flight 800. They are available for download at http://www.ntsb.org or upon request. The NTSB, AAIB, and CASB official AARs are also available (plus United Airlines Flight 811 AAR) at that ntsb.org website. (Not affiliated with NTSB and stated on home page)
Part IV of my AAR for TWA Flight 800 explains my differences with the NTSB conclusions.

To sum up:

1. Let us set up a face to face meeting, you with questions, me with answers.
2. Please download and review my AARs.
3. If the wiring/cargo door explanation is ruled in by your evaluation, then corrective action can be justified and another accident may have been averted.
4. If the wiring/cargo door explanation is ruled out by your evaluation, then I apologize for your expended time and expense.

The accidents under question may have happened a long time ago, but then, data mining and analysis need time. The internet has allowed me to identify the four trees in the forest of electrically caused inflight breakups of early model Boeing 747s and to deduce another tree may fall again.

Regards,

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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC  
Owner Mooney M-20C, 1000 hours.  
Survivor of sudden night fiery fatal jet plane crash in RA-5C

From Air Data Research: "Since the federal government is beginning a new fiscal year, it seems appropriate to take a look at the number and type of investigations conducted by the NTSB over the past few years.

If you work much with NTSB reports, you've figured out that characters 4 and 5 of the NTSB file number designate the fiscal year of the occurrence. And you may have wondered about the significance of characters 6 and 7 in the file number, which designate the type of investigation.

The code FA designates a field investigation - the most detailed type of investigation. Limited investigations, usually delegated to the FAA, are designated by LA in the file number. The CA code indicates a Data Collection investigation. Incident investigations are IA; GA or TA indicate a public use aircraft; and RA or WA are foreign investigations to which the NTSB is a party. It is not uncommon for a single occurrence to generate multiple reports as an occurrence is up or downgraded.

As a general rule, and as the Chairman stated, the NTSB field investigations involve fatal injuries. Non-fats, homebuilt and agricultural aircraft investigations are delegated to the FAA or simply a data collection report based on information submitted by the operator regardless of the safety implications of the mishap.

While the final numbers are sometimes not complete for several years, we can get a pretty good picture of how the NTSB's efforts are focused by looking at the following count by year and type of investigation - http://www.airsafety.com/reports/weeklycount.htm
You'll notice that the percentage of field investigations stayed at 15% or 16% for FY 01, FY 02, and FY 03. In FY 04 the percentage dropped to 12% where it has stayed since. In FY 01, limited investigations comprised 73% of the total. By FY 04, data collection investigations had climbed from zero in FY 01 to 24% and continued to climb to 35% in FY 05 and 42% in FY 06. This, with a corresponding decrease in limited investigations. Essentially these investigations were delegated to the operator rather than the FAA.

But you'll notice that throughout this period, incident investigations have stayed steady at 2% or 3%. Incident reports are often found to be much more valuable by analysts than full-fledged accident reports. (If nothing else, they had a live pilot to interview.) Apparently the NTSB doesn't share the FAA's curiosity.

The FAA and NTSB have quite different missions, but just to give a little context to the number of incidents, since 2001 the reports in the FAA database have been 49% accidents, 51% incidents.

So while the total number of NTSB investigations has stayed relatively constant over the past few years, the number of field investigations is down by roughly one-fourth. And there has been no corresponding increase in investigation of other types except the data collection non-investigations.

There are a lot of excellent investigators working for the NTSB. However, their efforts are directed by managers who may have other priorities than aviation safety. We've long been critical of the NTSB's delay in publishing the reports of their investigations. But they just don't seem to get it - their priorities seem to be determined by blood, bent metal and media attention. Fewer and quicker reports are not necessarily better reports.
Dear Mr. Randall and Mr. Wilhelmson, Wednesday, October 25, 2006

I have not heard back from you regarding the alert about Poly X wiring in Boeing 747 cargo door circuits. Did you get my email responding to the telephone call? (enclosed)

An article in the Washington Post (enclosed) states the FAA is still concerned about older planes and loaded with wiring. My shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation shows the danger is clear, present, and much worse than realized.

The FAA is concerned that planes are getting older and are loaded with more wiring -- the source of the majority of the smoke and fires -- as aircraft offer expanded on-board high-tech equipment and in-flight entertainment systems. Last year, the agency proposed new rules to stiffen requirements on the maintenance, installation and care of wiring
I've also included below a recent letter to Canadian officials (enclosed) regarding Air India Flight 182 that lays out the case in particular for Air India Flight 182. I was replying to responses from the office of the Prime Minister and Minister of Transportation.

There are lots of safety issues out there for FAAST; I would say that Poly X wiring should be high up on the list since my research has shown it has killed hundreds not officially recognized.

In all my decades of flying, thousands of flight hours, and tens of incidents/emergencies, I have learned that some problems are slow in coming and some are fast. I went from flying perfectly normally to being on the ground surrounded by burning debris in literally ten seconds. I also learned that there were many apparent slow problems that became no problems when I checked them out and took corrective action or dismissed them.

Please check out my alert on wiring/cargo door problems with early model Boeing 747s by setting up a meeting with me so I can present my research in detail using charts, documents, and photographs to FAA safety personnel. Salinas, San Jose, or San Francisco are all suitable for me or you can certainly visit me in Carmel Valley.

Regards,

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http://www.montereypeninsulaaairport.com
http://www.ntsb.org
Fires in the air still a risk for pilots, airlines

'Smoke conditions' called a problem that flight crews can't always get to Wednesday, October 18, 2006

BY DEL QUENTIN WILBER
WASHINGTON POST

The FAA is concerned that planes are getting older and are loaded with more wiring -- the source of the majority of the smoke and fires -- as aircraft offer expanded on-board high-tech equipment and in-flight entertainment systems. Last year, the agency proposed new rules to stiffen requirements on the maintenance, installation and care of wiring. It also has worked to reduce the amount of flammable materials on board.

Still, in a two-day period late last month, authorities reported several incidents. A Delta Airlines flight was evacuated at Boston's Logan International Airport when the pilot smelled smoke after landing. Another Delta flight from Paris to Atlanta was diverted to Knoxville, Tenn., after passengers reported smelling smoke. And a Chicago-bound American Airlines flight was diverted to a New Hampshire airport after passengers reported a burning smell.

The U.S. aviation world has experienced a particularly safe period in recent years. Only one major commercial jet crash has occurred since late 2001, when 49 people were killed in August in Kentucky after pilots tried to take off on a runway that was too short.

The good safety record is because of the elimination of the most glaring aviation risks, experts say. One of the biggest advances: an on-board computer system that warns pilots when they're approaching mountains, the ground or other terrain -- once a leading cause of aviation fatalities. Safety consultants said the FAA and the aviation industry have made strides in reducing the risk of in-flight fires. In the 1980s, regulators pushed to ensure that aircraft had better smoke detectors and extinguishers in lavatories, and forced airlines to use less-flammable material in aircraft cabins.
Next, they turned to improving aircraft wiring and stripping out flammable insulation and other material that could burn. Airlines have begun to concentrate on removing debris, such as lint and dirt, that builds up in hidden places and could sustain a blaze. Smoke detectors and automated fire extinguishers were installed in cargo holds.

Those efforts followed the crashes in 1996 of a ValuJet plane in the Florida Everglades and of TWA 800, a Boeing 747 that exploded in mid-flight after a spark apparently set off vapors in a center fuel tank. Two years later, a Swissair jet crashed off the coast of Nova Scotia after insulation near the cockpit was ignited by short-circuited wires, investigators say.

Researchers are studying ways to allow flight attendants to reach such inaccessible areas as behind aircraft walls to discharge fire extinguishers, after several incidents in which crews couldn't get to small blazes.

To streamline procedures for pilots -- who are often caught off guard by smoke incidents and must react quickly -- Boeing Co. plans soon to issue new simplified fire checklists for all of its planes. Studies suggest pilots may have no more than 15 to 20 minutes to get a burning aircraft on the ground before a fire leads to catastrophe.

Pilots groups have been pushing for such checklists, which are expected to begin with a warning: "A Diversion May Be Required," said H.G. "Boomer" Bombardi, a pilot who has worked on fire safety for the Air Line Pilots Association.

To: pm@pm.gc.ca, barney.brucker@justice.gc.ca, MINTC@tc.gc.ca, communications@tsb.gc.ca, Paulette.Delorme@tsb.gc.ca, Terry.Burth@tsb.gc.ca, securitas@tsb.gc.ca, mтанsey@majorcomm.ca
From: John Barry Smith <barry@johnbarrsmith.com>
Subject: Air India Flight 182 wiring/cargo door explanation1
Cc:
Bcc:
X-Attachments:
Stephen Harper
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Ottawa  
K1A 0A2  
Salpie Stepanian  
Assistant to the Prime Minister  
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Honourable  
Vic Toews, Minister of Justice and Attorney General of Canada,  
Mr. Barney Brucker  
Attorney General of Canada  
Department of Justice  
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Honourable Lawrence Cannon,  
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Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182
Honourable John C. Major, Q.C. Commissioner
Sheila-Marie Cook, Executive Director and Commission Secretary
Mark J. Freiman, Commission's Lead Counsel
Michel Dorval, Commission's Co-Counsel
Ken Dickerson, Public Affairs Officer / Agent des affaires publiques
Michael Tansey, Commission Spokesperson
mtansey@majorcomm.ca

Sgt. B. Blachford
Air India Task Force
5255 Heather St.
Vancouver, B. C.
V5Z 1K6
Dear Honourable Ministers, Commissioner, and Respected Staff,

Sunday, October 22, 2006

All roads lead to Barney. But first...our subject:
Introduction:

An action transferred is an action completed and an action completed is better than no action at all, so let me thank the below staff for their referrals:
1. Salpie Stepanian, Assistant to the Prime Minister for the reply to my email to the Prime Minister; "Please be assured that your comments have been carefully reviewed and are appreciated. I have taken the liberty of forwarding your correspondence directly to the Minister of Justice and Attorney General of Canada, the Honourable Vic Toews, within whose responsibilities this matter falls."

2. Richard Stryde, Senior Special Assistant, to Honourable Lawrence Cannon, Minister of Transport, Infrastructure and Communities for his reply to my email. "The Minister has asked me to reply on his behalf. I have noted your comments with respect to this matter. Although, as you indicate, the Attorney General of Canada is the Government of Canada's representative on the Commission of Inquiry into the investigation of the bombing of Air India Flight 182. This being the case, I have taken the liberty of forwarding a copy of your correspondence to the office of the Honourable Vic Toews, Minister of Justice and Attorney General of Canada, for consideration.

Thank you both, Ms. Stepanian and Mr. Stryde, and I appreciate the attention at highest political levels that my alert has received of the clear and present danger to the Canadian flying public by the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s, of which Air India Flight 182 was but one. It occurred to me that since my wiring/cargo door explanation received the attention of such high officials, then it must also be considered by others, such as the AG, TSB, and the Commission of Inquiry.
I present myself to you as someone who is not seeking compensation, who is not pursuing a lawsuit, who is not angry and ranting, who does not seek a special tax break, nor one who is pleading for mercy for a criminal conviction. I am someone who is trying to prevent mass deaths in another airplane crash similar to Air India Flight 182. I am qualified to do so through experience and education but not by rank or title. I have proven my good intentions by flying to Ottawa from California and staying in a hotel at my own expense and time. I consider myself one of the good guys and would like to think that everyone involved here is also good. We are to protect and serve the people, you from your official public positions and me from my private and unofficial one. We are on the same side. We have the same goals although different routes. I understand your way. I'm asking that you understand my path; it's down to earth, makes sense, and is clear cut.

There was some surprise that my research and conclusions about an airplane crash were referred to the Attorney General but I still appreciate the referrals, thank you again, Ms. Stepanian and Mr. Stryde. Sooner or later the Transportation Safety Board (Air) will be the ones to evaluate the causes of an airplane crash based on the physical laws of science and not the emotional, irrational motives of human nature. The other official responses to my alert from the Minister of Justice, the Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182, the TSB (Air), and Securitas (TSB) have been...silence. The Attorney chooses to remain silent, the Spokesperson will not speak, the Inquirer will not inquire, and the security officers will not...do whatever they do. I shall hopefully assume the silences reflect deep contemplation, solemn pondering, if you will.

I must make do with what I have and what I have are two referrals from high authority to the Minister of Justice and Attorney General of Canada...which is actually his representative, Mr. Barney Brucker. My presentation must be appropriate to the audience and will therefore be
made using legal terms in a courtroom model with attorney relationships. Mr. Brucker and I are most certainly good sons, wonderful husbands, terrific fathers, loyal to our friends, and competent professionals. However, in the courtroom model we shall be professional adversaries as the British system uses the plaintiff and defendant style to determine findings: I shall be polite and respectful while arguing a common goal to understand what happened and why; in this case, why Air India Flight 182 exploded in midair so many years ago. If everyone knew 'why' for sure, there would not be the many conflicting official opinions about what and where in the aircraft the explosion occurred nor the current Commission of Inquiry or an upcoming perjury trial. The issue is still contentious and will remain so until a conclusive ending is attained.

In the old days, say before June, 1985, the government was the stolid, conservative arbiter of verdicts and justice while the wild eyed conspiracy guys with their erratic connecting the coincidental dots into plots of mass murder by foreign looking gents were the barely tolerated and scorned rabble. Now the government is the conspiracy bomber terrorist believing guy and a scientific fellow like me is on the outside, trying to reason with the unreasonable. Please be reasonable; respond to reason not emotional hate and a lust for revenge based on horror and grief. There are real terrorists out there wanting to blow up airliners but they were not involved with the destruction of Air India Flight 182.

Let us assume that the Crown believes and has prosecuted several men on the premise that two or three bombs were placed on two Boeing 747s which departed Vancouver BC and later blew up, one on a baggage cart and one in an aircraft, murdering many. Furthermore, those bombs were placed by several revenge seeking turbaned terrorists who conspired with each other over a period of months. Subsequent attempts at prosecution revealed administrative lapses among various agencies which are alleged to have thwarted justice. A witness lied. Victims' families remain irate. Law enforcement is frustrated. Thus an Inquiry
and further prosecution of a presumed conspirator continue.

Assume that I claim that there was no bomb on Air India Flight 182 and therefore no bombers, no conspiracy, no crime, and no criminals. The cause was the mechanical one of the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation which is amply supported by facts, data, evidence, recorders, schematics, and a matching precedent of United Airlines Flight 811.

Presentation Outline:
Introduction
Opening Statement
Presenting Case:
Part I: Witnesses
Part II: Analogy
Part III: Matchups
Part IV: Best Evidence
Part V: Human Nature Conjecture
Part VI: Photograph evidence
Part VII: Layperson Explanation
Part VIII: Template
Part IX: The Unifying Official Version
Part X: Sequence of Destruction
Part XI: Political Implications
Part XII: Standing
Summation

Permit me now to make my opening statement to Mr. Barney Brucker, (the judge, jury, and prosecutor of one), then present my case in detail, and sum up to conclusion and await the verdict from Mr. Brucker.

Opening statement:
Mr. Brucker, I am the plaintiff, I have come to you for redress of a grievance, that grief being the loss of a huge airliner and the deaths of 329 men, women, and children and flight crew. I believe the probable cause of that airplane crash to be the same probable cause of about half of all the thousands of airplane crashes, a mechanical fault with the machine. I do not believe the cause of that inflight breakup to have been caused by the rarest of causes for an explosion in a highly pressurized hull; sabotage and specifically a bomb explosion. My explanation is called the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation or wiring/cargo door for short. That electrical cause occurred for Air India Flight 182 and for several other early model Boeing 747s, in particular United Airlines Flight 811. That wiring problem can occur again and another 329 persons can needlessly die. The problems are mechanical and can be fixed thus preventing another inflight explosion when that cargo door ruptures outward in flight, causing an explosion which mimics a bomb explosion. The hard evidence refutes a bomb explosion because the necessary scientific evidence which would confirm a bomb explosion is missing and the scientific evidence which confirms an explosive decompression due to a ruptured open cargo door is present. A bomb explosion on Air India Flight 182 is scientifically ruled out and an open cargo door is ruled in.

The defence (government) contends it was a bomb explosion in the aft bulk cargo compartment on the left side that caused the inflight breakup of Air India Flight 182. They have offered as proof a complicated conspiracy theory involving a Mr. X, an adulterous affair, jealous lovers, misappropriated funds, shootouts, angry and revengeful savages, army assaults, religious conflicts and a potential breakaway civil war. Fine, that's all very exciting and a movie with those elements would be very entertaining, I'm sure. Air India Flight 182 was first and foremost an airplane crash. It was not a domestic disturbance that escalated into violence or a bank robbery. An airplane has to obey immutable laws of physics to fly and the same laws to breakup in flight and crash. Humans
who commit crimes react to their own internal changing moral rules and can not be predicted. Machine behaviour can be predicted. The conspiracy guys will claim that the reason there were no convictions is because one of the conspirators perjured himself during trial and if he had just told the truth, convictions would have followed.

To understand and explain why Air India Flight 182 crashed I will stick to the facts and leave the intrigue to the newspapers and TV. Please bear with me as I present charts, photographs, text, expert opinions, similar airplane accidents with similar evidence, and closely reasoned conclusions. Swiss Air Flight 111 and TWA Flight 800 have taught the Canadian, UK, and USA government investigators much about the consequences of faulty wiring in widebody airliners.

Both sides, the conspiracy and the mechanical, have a common goal with different routes to get there. We want to protect the trusting flying public and prevent needless deaths. Here are my paths starting from the end and working backwards:
1. The known faulty and aging Poly X type wiring needs to be replaced in early model Boeing 747s.
2. The design flaw of non-plug cargo doors needs to be corrected by making the doors like the plug type passenger doors.
3. The design flaw of absent locking sectors on the two midspan latches of the two cargo doors needs to be corrected by inserting the missing locking sectors.
4. The USA Federal Aviation Administration will issue an Airworthiness Directive (AD) for emergency inspection of the cargo door wiring for chafing and charring based upon the Transportation Safety Board (TSB) updated findings.
5. The TSB (Air) will investigate and issue an updated CASB Aircraft Accident Report (AAR) for Air India Flight 182 based upon hindsight using the knowledge gained from several subsequent similar accidents, specifically United Airlines Flight 811, Swiss Air 111, and TWA Flight 800. I will assist the TSB in their investigation. The new AAR will be
based upon the suggestion of the Commissioner of the Inquiry into Air India Flight 182.
6. The Commissioner will request TSB (Air) for their official opinion as to the cause of Air India Flight 182 since the last official accident report of twenty years ago by the predecessor CASB did not conclude the cause was a bomb and evidence at that time refuted the bomb explosion explanation and suggested a explosive decompression caused by structural failure.
7. I persuade Commissioner Major that it would be prudent to order an updated AAR to fulfill his mandate of a full and thorough inquiry and to satisfy his personal goal that the inquiry was to be very broad in the evidence that it heard, in order to put to rest the various theories, rumours and neglect that have occurred since the explosion in 1985.
8. The Attorney General of Canada will suggest to the Commissioner that I be granted standing as witness since I qualify under a Term of Reference and have submitted the paperwork in a timely manner.
9. I persuade the AG representative to act on my behalf because the evidence I present today warrants the checking out of the reasonable, mechanical, alternative explanation. I persuade the AG representative to solicit Crown expert opinions about Air India Flight 182 from the quasi-judicial and technical fields of the Commission of Inquiry and the TSB (Air) aircraft accident investigators.

Or: Mr. Brucker or Commissioner Major directly asks TSB (Air) to provide to them an opinion as to the probable cause of Air India Flight 182. TSB has never been asked and might very well welcome the chance to express their professional opinion; after all, this crash is the most famous airplane crash in Canadian history and their purpose for existence is to explain airplane crashes to the political leadership and public.

Or: Mr. Brucker suggests to TSB (Air) staff that they meet with me in Vancouver to allow me to present my wiring/cargo door explanation in person to the investigators.
The path of the Crown prosecutors and RCMP Air India Task Force appears to be to try to put several people in prison which will 'send a message' and salve some grief. The Crown has many who agree it was a bomb explosion which include the RCMP, the CSIS, the prosecutors, the accused, the defence counsels, newspapers, books, TV, radio, the manufacturer, the airline, the victim's families, justices, and the man in the street.

The start of my path is here today and I will now present my case for the mechanical explanation, the non bomb explanation, for Air India Flight 182. The only people who agree with me of not concluding it was a bomb explosion in the aft bulk cargo compartment are those who actually know why airplanes fly and why they don't; who know why airplanes mostly land safely and why they occasionally come apart in the air; that is, professional government aircraft accident investigators from four countries, the USA, the UK, India, and Canada. It should be an interesting argument, a pleasing myth believed by millions versus unpleasant science concluded by dozens.

Presenting the wiring/cargo door case. It's detailed, it's complex, it's science, it's logical, it's factual, and it makes sense.

Part I: I call several witnesses by means of quoting their official words in documents.

Speech excerpts - Prime Minister Harper announces inquiry into Air India bombing
"A full public inquiry is required. This inquiry will be launched immediately and led by an outstanding Canadian, retired Supreme Court Justice John Major. He has agreed to serve as Commissioner for this inquiry and I have every confidence that he will conduct a thorough and compassionate investigation into the events surrounding this tragedy. This inquiry is about analyzing the evidence that has come to light since
1985 and applying it to the world we live in today."

From transcript of 18 July 2006, Hearing on Standing, Commissioner Major:
The Commissioner: "Yes. Well, I will confirm that. The nature of this Commission was to be very broad in the evidence that it heard, in order to put to rest the various theories, rumours and neglect that have occurred since the explosion in 1985."

From transcript again: Mr. Barney Brucker:
Mr. Brucker: I just wanted to indicate to you, Commissioner, that I have provided this morning to Mrs. Cook and to Commission counsel a brief submission that we had prepared just on the general test for standing and issues that we submit you will be taking into account.

The Commissioner: You canÕt do much better than get standing, though, can you?
Mr. Brucker: No, we canÕt, but we are concerned about the focus of the Inquiry. When I attended here and listened to your Opening Statement I was struck by one comment that you made and I will paraphrase that, perhaps not accurately, but what I took from your comments was that you intended to conduct a thorough but efficient inquiry and that an efficient inquiry does not mean that it has to take a great deal of time. We have, in my submission to you, a very compressed time schedule in which we have to get things done and my submissions simply highlight that in that environment, a matter which is of interest to all Canadians, that there should be some judicious consideration of who will get standing and who wonÕt or who may be an intervenor and who wonÕt, and that to ensure that the process is thorough and efficient I have offered some general principles that I submit might be of assistance to you.

The Commissioner: Thank you. ThatÕs been filed and will be looked at."
I can not cross examine but I can comment on those statements. The Prime Minister desires a full, thorough, and compassionate public inquiry into the events surrounding Air India Flight 182 by analyzing the evidence that has come to light since 1985. The direction for the Commission is pointed by the two leading authorities, the Prime Minister and the Commissioner to be full, thorough, and broad.

Mr. Brucker recommends an efficient inquiry. Well, kangaroo courts are efficient and lynch mobs are cheap and fast. "Thorough and broad" requires time for the presentation of various theories since the explosion of 1985, one of which is the wiring/cargo door explanation. That alternative explanation should have its time in front of the Commission of Inquiry and that can be done by granting me witness or intervenor standing. It's been twenty one years since the event and several more hours of listening to a 'various theory' is certainly justified in the name of thoroughness. As far as efficiency goes, when the wiring/cargo door explanation is confirmed by Crown aircraft investigators, the Commission of Inquiry can reduce 90% of its workload since the reason for the acquittals by Justice Josephson is obvious, the accused were innocent and the prosecutors, RCMP and CSIS can be exonerated for failing to obtain convictions.

Does the wiring/cargo door explanation have validity? Is it as wild as a mid air with a flying saucer explanation and thus not worthy of consideration? Or is the wiring/cargo door explanation down to earth and real?

Let me present expert witnesses through their quotes:

CASB Aviation Occurrence Report on Air India Flight 182, 1986: "The Canadian Aviation Safety Board respectfully submits as follows:
4.1 Cause-Related Findings

5. There is considerable circumstantial and other evidence to indicate that the initial event was an explosion occurring in the forward cargo compartment.

From Kirpal Report for Air India Flight 182, 1986: "Mr. R.A. Davis, Head, Flight Recorder Section, Accidents Investigation Branch, Farnborough, U.K. 3.4.6.16 In conclusion, Mr. Davis reported as follows :- "It is considered that from the CVR and ATC recordings supplied for analysis, there is no evidence of a high explosive device having detonated on AI 182. There is strong evidence to suggest that a sudden explosive decompression occurred but the cause has not been identified. It must be concluded that without positive evidence of an explosive device from either the wreckage or pathological examinations, some other cause has to be established for the accident".

End quotes:

That 'other cause' was established by me in 1996 based on an event in 1989, United Airlines Flight 811, plus other accidents. (And there is good reason why it is called an ÔexplosiveÕ decompression. It is an explosion that mimics a bomb.)

That non bomb concluding finding from CASB is absolutely correct. It does not conclude the destruction of the aircraft was caused by a bomb. It is specific on the location of the mystery explosion as the forward cargo compartment and rules out the rear cargo compartments. There are several alternative explanations for that confirmed explosion, from fire in the cargo hold or hull rupture at a door, or bomb in baggage explodes. I agree there was an explosion in the forward cargo compartment as did all the experts agree on that point in 1986 for solid reasons.

The Canadian and United Kingdom government experts in aircraft accident investigation for Air India Flight 182 did not state the cause was a bomb and in fact, the UK expert stated in 1986 it was not a bomb
and gave strong evidence for his conclusion. To claim the Canadian Aviation Safety Board concluded the cause was a bomb is incorrect, prejudicial, and inflammatory.

The Canadian crash experts (CASB) called Air India Flight 182 a 'crash'. It was. The word ÔbombÕ was never used in relation with Air India Flight 182 in their entire CASB report. ÔBombÓ was used only once in reference to a different aircraft and event for comparison purposes and there was no match.

Aircraft accidents are sometimes complicated events and analogies may possibly explain the misunderstandings. Air India Flight 182 is but one tree in a forest of four early model Boeing 747s that experienced an inflight breakup leaving similar evidence.

Part II: An analogy to include the four trees in the forest but I'll call them brothers instead:

Early model Boeing 747s are machines. We say they die when they crash but they were never really alive, now were they? We anthropomorphize. Let me continue with the analogy.

It's as if a person falls down dead. The police, the media, the man's family, the courts, the prosecution, and the defence all agree, yes, it was a shot to the head that killed him but we'll argue about who and where and when he was shot. Several men are arrested, and at the trial the defence states that yes, the victim was shot in the head but their clients did not do it. All the while some physicians who examined the dead person are saying, no, it was not a gunshot to the head but a heart attack, while other physicians say we don't know how he died but we may find out later.

And then another man falls down dead at same spot and it's the brother of the previous dead man. Same thing happens, most non physicians say
gunshot to head but the autopsy cause of death determined by
government physicians claim natural causes. Several more men are
accused and tried. The defence agreed with the prosecution as to cause
of death as gunshot but their clients did not pull the trigger.

And then another brother falls down dead under similar
circumstances...first guesses were gunshot to head but later proven
wrong.

And then another brother falls down dead under similar
circumstances...first guesses were gunshot to head but later proven
wrong.

All four brothers share the same exact DNA and the evidence discovered
at their deaths is generally the same. Two brothers are conclusively
proven to have died of heart attacks and the deaths of the other two
remain controversial.

And all the while, the people who know why people fall down dead are
saying, not a gunshot to the head but heart attack, probably caused by
poor diet.

How does a four time serial killer called faulty wiring get away with it?

1. The deaths happen over a period of years, 1985 through 1996.
   Memories are short. Personnel change. Documents are thrown away,
   misplaced, or lost. Witnesses forget.
2. The deaths happen many thousands of miles apart from each other,
   such as Ireland, New York, Lockerbie, and Hawaii.
3. The deaths involve many agencies; RCMP, Scotland Yard, FBI, CIA,
   CSIS, TSB, NTSB, CASB, AAIB, Indian Civil Aviation Agency, and all
   the way to the top political leaders. The agencies do not cooperate or
   communicate fully, they defend their area of investigation, they are
   secretive, and they have many administrative senior officials directing
them. Each agency looks closely at its lone tree/brother/aircraft in the forest/family of four while ignoring the other three.

4 The deaths involve objects that look different at first glance such as different colors in their livery, different names in their titles, and different nicknames.

5. The deaths involve victims who are not wealthy, important, connected to authority, or famous.

6. The deaths involve different complex legal jurisdictions in faraway places such as India, Canada, UK, and USA.

7. The deaths involve billions of dollars which means people get funny when they get around money.

A. The killer is well loved, well connected, wealthy, powerful, and not a suspect and anybody raising suspicion is scorned.

B. The killer has killed before but is still above suspicion having said to have reformed.

C. The killer's freedom is necessary for the financial well being of thousands of workers.

1. The accused are relatively poor, different color skin and language than the accusers, and have in the past expressed violent thoughts.

2. The accused reinforce the prejudices of the accusers.

3. The accused get the suspicion off the real killer.

Part III: Matchups to determine a pattern.

There are no conspiracies among the agencies, courts, media, or public to hide or protect the real killer or to convict the innocent. All involved really believe the real killer is not guilty and the accused are guilty based upon the public's own self interest. The well meaning accusers all believe in a vast international conspiracy by the accused to commit mass murder and like all conspiracy zealots, refuse to consider down to earth explanations for such mass grief causing events. The hysteria feeds on itself with the stories gaining myth status with constant repeating,
embellishment and modifications.

The real killer is faulty wiring, a small failure which brings down huge machines, early model Boeing 747s, by exploiting the design flaws of non plug cargo doors and no locking sectors on the midspan latches. The dead brothers/machines are Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

The deaths are respectively 329, 270, 9, and 230 for a total of eight hundred thirty eight fatalities. That's a mass killing in four events over eleven years and thousands of miles apart involving the governments of four countries.

The four mechanical victims are virtually identical. They are early model Boeing 747s. There are tens of thousand of airliners out there in hundreds of model and submodels but there are currently about five hundred Boeing 747-100 and 747-200 aircraft still in service of which only four planes have the below similar evidence after inflight breakups.

The similarities in the circumstances and of the wreckage of those events are many: larger version at http://www.montereypeninsulaairport.com Other details at http://www.ntsb.org

The defence counsel for the four accused of bombing two of those aircraft essentially stipulated to the cause of the crashes as bombs and quibbled over a few feet of where it was in the aircraft and challenged the Crown to prove who planted the bombs.

And the defence followed that strategy all the while knowing (assuming they did their homework) that the actual government experts in aviation crash investigations were saying they did not know the cause, or the
cause was an explosive decompression and that one UK crash expert even refuted the bomb cause. The defence knew that similar type aircraft had similar type fatal accidents in 1989 and 1996 and the cause was electrical, not a bomb explosion. The defence uncritically believed the police story and that of the Crown prosecutors, the media, the public, and the anguished victim's families, while ignoring the one group who knew what they were talking about, the Canadian Aviation Safety Board investigators, the UK Air Accidents Investigation Board investigators, the National Transportation Safety Board investigators, and the Indian accident investigators.

For Air India Flight 182 the location of the explosion was in the forward cargo compartment for fifteen years. That conclusion is amply supported by hard wreckage evidence and yet on the day of the trial the location switched to the aft bulk cargo compartment, a location conclusively ruled out by earlier investigators. The defence never disputed the move of the explosion from forward to aft compartments.

For Pan Am Flight 103 the AAIB investigator of the wreckage observed that the cause of the soot in the container alleged to have held a powerful, spherical and loud bomb was actually: "Where these panels formed the boundary of the shatter zone, the metal in the immediate locality was ragged, heavily distorted, and the inner surfaces were pitted and sooted - rather as if a very large shotgun had been fired at the inner surface of the fuselage at close range." The defence never objected to the premise of a bomb explosion which was shown by evidence to be mild, directed, and silent, three physical impossibilities for a bomb but natural for a 'very large shotgun' in the luggage which was safe unless a huge explosive decompression were to occur nearby were a cargo door to rupture open inflight.

Emotion trumped science. Wishful revenge thinking ruled the day. Pleasant explanations based on grief salving emotions were believed while unpleasant explanations supported by hard evidence that could be
touched, seen, and listened to was rejected without consideration.

Part IV: Best Evidence:

Speaking legally as an amateur, I understand there are several types of evidence; circumstantial, indirect, hearsay, and direct. All can be very persuasive. The best evidence is direct evidence. For Air India Flight 182, Pan Am Flight 103, and TWA Flight 800 there is much circumstantial evidence such as airspeed, altitude and time of day. There is indirect evidence such as wreckage debris pattern and twisted metal. Hearsay is for the conspiracy guys believing quarreling lovers and taped political ramblings.

The one source for the best evidence which is direct and irrefutable is the cockpit voice recorder and the flight data recorder. They were there at event time. Those recorders were put there to do precisely what they did, record for later evaluation events which took place in the cockpit and in the aircraft at large. They tell us directly what went on in the final minutes.

And what does the best and indisputable direct evidence show as to what the cause of Air India Flight 182 and Pan Am Flight 103 and two others?

Chart 12 above from NTSB public docket for TWA Flight 800 showing the sudden loud sound from the CVRs in graphical format. Air India is Air India Flight 182, PanAm is Pan Am Flight 103, and United is United Airlines Flight 811. (Philippine Air was a Boeing 737 that had a fuel tank explode on the ground and not a Boeing 747 exploding in the air as the others.)

The graph shows a sudden loud sound followed by an abrupt power cut to the flight data recorders, a rare event separately, and extremely rare to
have both together.

The sudden loud sound was analyzed very carefully by the government analysts for frequency, duration, limiting, and rise and fall time.

The conclusion reached by all the analysts in the UK, USA, Canada and India is that the sudden loud sound is not a bomb explosion sound, nor a missile exploding sound, but that of an explosive decompression sound. The bomb sound was ruled out because necessary low frequencies were not present and the rise time was too slow. There was no bomb sound in the cockpit at the initial event time for Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

If not a bomb sound, then what was the cause of the sudden loud sound?

Air India Flight 182
"Mr. R.A. Davis, Head, Flight Recorder Section, Accidents Investigation Branch, Farnborough, U.K. 3.4.6.16 In conclusion, Mr. Davis reported as follows :- "It is considered that from the CVR and ATC recordings supplied for analysis, there is no evidence of a high explosive device having detonated on AI 182. There is strong evidence to suggest that a sudden explosive decompression occurred but the cause has not been identified. It must be concluded that without positive evidence of an explosive device from either the wreckage or pathological examinations, some other cause has to be established for the accident".

2.10.2 Analysis by Accidents Investigation Branch (AIB), United Kingdom
The AIB analysis was restricted to the CVR and the Shannon ATC tape. An analysis of the CVR audio found no significant very low frequency content which would be expected from the sound created by the detonation of a high explosive device. A comparison with CVRs recording an explosive decompression* on a DC-10, a bomb in the cargo hold of a B737, and a gun shot on the flight deck of a B737 was
made. Considering the different acoustic characteristics between a DC-10 and a B747, the AIB analysis indicates that there were distinct similarities between the sound of the explosive decompression on the DC-10 and the sound recorded on the AI 182 CVR. *Explosive decompression is an aviation term used to mean a sudden and rapid loss of cabin pressurization.

(Please note the DC-10 explosive decompression above referenced in the Air India Flight 182 CVR analysis was probably the Turkish Airlines DC-10 fatal event when the aft cargo door blew open causing an explosive decompression which destroyed the flight controls leading to the crash.)

Pan Am Flight 103
"It is not clear if the sound at the end of the recording is the result of the explosion or is from the break-up of the aircraft structure. The short period between the beginning of the event and the loss of electrical power suggests that the latter is more likely to be the case."

United Airlines Flight 811
"The Safety Board believes that the approximate 1.5 to 2.0 seconds between the first sound (a thump) and the second very loud noise recorded on the CVR at the time of the door separation was probably the time difference between the initial failure of the latches at the bottom of the door, and the subsequent separation of the door, explosive decompression, and destruction of the cabin floor and fuselage structure. The door did not fail and separate instantaneously; rather, it first opened at the bottom and then flew open violently. As the door separated, it tore away the hinge and surrounding structure as the pressure in the cabin forced the floor beams downward in the area of the door to equalize with the loss of pressure in the cargo compartment."

TWA Flight 800
"The TWA flight 800 CVR recorded noise characteristics that were most
similar to those recorded by the CVRs on board the United flight 811 and Philippine Airlines airplanes."

The Pan Am Flight 103 sudden loud sound is 'more likely' to be the case for the break-up of the aircraft structure, not a bomb sound.

The United Airlines Flight 811 sudden loud sound is indisputably and irrefutably the explosive decompression sound when the forward cargo door burst open because that aircraft barely landed safely at Honolulu.

The TWA Flight 800 sudden loud sound is most similar to United Airlines Flight 811 as both were early model Boeing 747s.

United Airlines Flight 811 is the model that fits the other three, it is the victim of the killer wiring that was able to make it back to Honolulu to eventually identify the culprit, the electrical system of wiring or a switch. Just as it was only after United Airlines Flight 811 that the cause of the sound on Air India Flight 182 was identified, it was only after Swiss Air Flight 111 and TWA Flight 800 that the true extent of the pervasive and dangerous Poly X wiring in all early model Boeing 747s was made known.

(United Airlines Flight 811 is the case law analogy; it was a similar case that was tried and proven beyond doubt to be a certain cause and that cause may be applied to other similar cases.)

The best evidence for these similar events in similar aircraft is the direct evidence which is the cockpit voice recorder which recorded the sudden loud sound which when analyzed indicated an explosive decompression from a ruptured open forward cargo door and not a bomb explosion sound. That's science, that's real, that's confirmable, and it's corroborated by government sound analysts.

Part V: Human Nature Conjecture:
Why has the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for Air India Flight 182, Pan Am Flight 103, and TWA Flight 800 not been advanced before in the public's mind?

I would hope I would not, but I might very well have reacted as others have if my job, my reputation, my income, and my freedom depended upon the bomb explosion explanation being the accepted one and the wiring/cargo door explanation rejected. There is no conspiracy, just people acting in their own perceived best interests. Who and what are they?

1. The manufacturer wants the blame for the loss of the aircraft and life to be placed upon factors out of its control and not on its design errors of non plug cargo doors and absent locking sectors in the midspan latches. The manufacturer does not want to have to spend millions to correct the manufacturing faults in the wiring nor modify the cargo doors.

2. The airline wants the blame placed on others such as airport screening personnel and not on itself for not finding the frayed wires to the cargo door unlatch motor. The aircrews want to believe the event was a rare occurrence and do not want to believe that every minute they fly in early model Boeing 747s the aircraft can come apart in flight in seconds when the cargo door blows open as it did in United Airlines Flight 811.

3. The police, the RCMP, the FBI, Scotland Yard and prosecutors all welcome the inclusion of the high profile catastrophes into their jurisdiction so they can solve the crime and increase their budgets and staff to counter the threats. They would reject the mechanical cause as their general involvement would end.

4. The court system welcomes the chance to establish justice by punishing the criminals asserted by the law enforcement agencies. Vast amounts of bailiffs, new court facilities, numerous attorneys, and much tax money goes into trials while a mechanical cause is relegated to settlement meetings between insurance attorneys.
5. The victims' families have turned their grief to anger to hate and want someone to vent their emotion of revenge against. They would prefer to believe their loved ones died in some vast international conspiracy which is part of a worldwide larger force instead of a trivial event such as bare wire shorting to metal and turning on a motor which is supposed to remain off while in flight.

6. The media such as TV, radio, and newspapers much prefer an emotional human tragedy interesting story to tell rather than a scientific story which requires education into basic laws of nature such as gravity, lift, thrust, drag, and pressure differential. Emotional stories require feelings which everyone has while science stories require education which is absent in many viewers, listeners, and readers. The media tells people what they want to hear and that is exciting, illogical, conspiracy stories, not boring mechanical proofs.

7. The government oversight agencies want to shift the blame of the crashes to foreign terrorists slipping through lax airport security and not their own failures as regulators and monitors of safety issues. The wiring/cargo door explanation reveals their failure to order the airlines and manufacturer to fix the documented problem of faulty wiring causing cargo doors to open in early model Boeing 747s such as Pan Am Flight 125 in 1987, United airlines preflight in 1991, and United Airlines Flight 811 in 1989.

8. The public demands revenge for a great loss of human life which was preventable. Dying in a bombed airplane crash offends two basic instincts of all humans at birth, a startle reflex shown by arms stretched wide and the falling reflex shown by grasping hands. The public pays money to hear what it wants and rejects that which is unpleasant. The bombing explanation reinforces their prejudices of xenophobia and racism; it implies the event was a one off affair and not likely to reappear if only security were tighter. The bombing story gives an opportunity for revenge; it gives an exciting tale of intrigue, spying, shootouts, and chase scenes. The wiring/cargo door explanation is dry, has lots of charts and statistics, and implies the faulty wiring and dangerous non plug cargo doors are industry wide, not fixed, and the
problems could reappear the next time they fly as a passenger.

I say again, there are no conspiracies among the principals, only people acting in their own perceived best interests which is essentially, "It's not my fault, nor my company's fault, nor my government's, nor the police, nor the airline, nor the media, nor the courts' fault; it's the fault of those revenge seeking turbaned terrorists over there."

To support that blame shifting exculpatory bomb explosion explanation, vast illogical and science defying fantasies had to be devised and repeated until the myth of the Lockerbie bombing and the bombing of Air India Flight 182 was implanted into the public psyche. Debunking will be very difficult as myths are generated and believed by a people needing them. Debunking is important because the genuine cause of faulty wiring remains at large, waiting for the right circumstances to strike again.

However.....conspiracy zealots defeat their cause eventually. The continued controversies with Air India Flight 182 and Pan Am Flight 103 are evidence that something is not right and thus the trials, the appeals, and the inquiries continue.

Part VI: Photograph evidence:

More logical conclusions supported by photographic evidence:

1. When a bomb is detonated on the port side of pressurized early model Boeing 747s, that port side will be shattered and the starboard opposite side remains smooth, like the Bruntingthorpe staged bombing of a real Boeing 747. (Port side is left side facing forward and starboard side is right side.)

2. When the faulty wiring causes the forward cargo door to blow out on the starboard side, that starboard side is shattered into characteristic
pattern of rectangle and longitudinally split cargo door, as is Air India Flight 182, Pan Am Flight 103, Pan Am Flight 103, and United Airlines Flight 811, while the port side remains relatively smooth.

Which of the above choices fits the Air India Flight 182 and Pan Am Flight 103 actual evidence? Let's look at the photographs and wreckage reconstruction sketches by the authorities.

A Boeing 747 had a real bomb go off in the aft cargo compartment in a real Boeing 747 during a staged event. (Bruntingthorpe photos below)

Results:
1. Port side blown to bits
2. Starboard side opposite the blast has the aft cargo door and bulk cargo door latched, intact, and smooth skin all around.

Now to Pan Am Flight 103, (thought by many to be bomb explosion of same type and size as Bruntingthorpe.)

Below is wreckage reconstruction sketch from UK AAIB AAR: Port side, a small blue rectangle (from alleged bomb explosion) with relatively smooth non exploded skin around. Other bent skin is from aero dynamics not explosion. Starboard side at same initial time is shattered and large area with door split longitudinally, stringers exposed and large rectangle destruction area.
Port side above for Pan Am Flight 103, nose to left.

Starboard side forward cargo door for Pan Am Flight 103, nose to right.

United Airlines Flight 811

Port side is very smooth and undamaged.

Starboard side is shattered with large rectangle destruction area, split longitudinal door, and stringers exposed.

1.3 Damage to the Airplane
The primary damage to the airplane consisted of a hole on the right side in the area of the forward lower lobe cargo door, approximately 10 by 15 feet large.

TWA Flight 800

Port smooth side below opposite cargo door and forward of center fuel tank, nose to left.
Starboard side below, with cargo door shattered area to right. Center fuel tank explosion as initial event would be bilateral, not unilateral.

TWA Flight 800 starboard side, nose to right.

TWA Flight 800 forward cargo door area to right.

Air India Flight 182 below:

Air India Flight 182 wreckage reconstruction from CASB and Kirpal Report. Of the small amount of wreckage recovered, only the pieces of wreckage that showed damage was reported. There is no reports of inflight or other damage to the port side opposite either cargo door so the assumption can be that there was none and thus smooth. The forward cargo door was damaged and split in two longitudinally which matches Pan Am Flight 103 and United Airlines Flight 811.

CASB report: "All cargo doors were found intact and attached to the fuselage structure except for the forward cargo door which had some fuselage and cargo floor attached. This door, located on the forward right side of the aircraft, was broken horizontally about one-quarter of the distance above the lower frame. The damage to the door and the fuselage skin near the door appeared to have been caused by an outward force. The fractured surface of the cargo door appeared to have been badly frayed. Because the damage appeared to be different than that seen on other wreckage pieces, an attempt to recover the door was made by CCGS John Cabot. Shortly after the wreckage broke clear of the water, the area of the door to which the lift cable was attached broke free from the cargo door, and the wreckage settled back onto the sea bed. An
attempt to relocate the door was unsuccessful." "This damage was
different from that seen on other wreckage pieces. A failure of this door
in flight would explain the impact damage to the right wing areas. The
door failing as an initial event would cause an explosive decompression
leading to a downward force on the cabin floor as a result of the
difference in pressure between the upper and lower portions of the
aircraft." 2.11.6.5 Target 47 - Aft Cargo Compartment This portion of
the aft cargo compartment roller floor was located between BS 1600 and
BS 1760. Based on the direction of cleat rotation on the skin panel
(target 7) and the crossbeam displacement on this structure, target 47
moved aft in relation to the lower skin panel when it was detached from
the lower skin. No other significant observation was noted. There was
no evidence to indicate characteristics of an explosion emanating from
the aft cargo compartment. Target 47, which is a portion of the aft cargo
compartment roller floor, shows no indications characteristic of an
explosion emanating from the aft cargo compartment."

The above quotes from the accident investigators indicate the explosion
was not on the port side but on the starboard side and in the forward
cargo compartment. The implications are that the inflight damage was
on the starboard side and the port side was undamaged. The rear cargo
compartment had no explosion from a bomb or otherwise.

Below is a layout of the staged bombs for the Bruntingthorpe
experiment with standard container with bomb inside exploding on port
side, shattering it but leaving the starboard side smooth and door intact
and latched.

Deductions:

When the port side is smooth and starboard side opposite and near the
cargo door is shattered, that means cargo door opened in flight and no bomb. That description fits Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800. That evidence rules in ruptured open cargo door as initial event. When port side is shattered and starboard side opposite and near cargo door is smooth, that means bomb and no open cargo door. That description fits none. That evidence rules out bomb explosion.

The conclusions to be made from the above photographs is that for Air India Flight 182, Pan Am Flight 103, Pan Am Flight 103, and United Airlines Flight 811, the damage occurred on the starboard side near the forward cargo door leaving the port side smooth. That actually did happen and rules in the wiring/cargo door explanation. A bomb explosion on the port side, as in the Bruntingthorpe experiment and alleged for Air India Flight 182 and Pan Am Flight 103 would have shattered the port side and left the starboard side smooth. That did not happen, but the reverse did, thus ruling out the bomb explosion explanation and confirming the wiring/cargo door explanation.

Part VII: Layperson Explanation

One excuse I am given by those unwilling to evaluate the hard evidence that supports the shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup explanation for Air India Flight 182 is that it is 'too technical'.

Well, it's not too technical; below is the explanation for laypersons who have a basic education in science. If a person knows why lightning strikes, why balloons pop, the power of wind, and why gravity pulls, then that person can understand what happened to Air India Flight 182.

Lightning Strikes
Balloon Pops
Wind Power
Gravity Pulls

Lightning strikes because of an imbalance between the negative electrically charged particles and the further away positively charged particles. When sufficient negative and positive charges gather, and when the electric field becomes sufficiently strong, an electrical discharge (the bolt of lightning) occurs within clouds or between clouds and the ground. Lightning occurs because the bottom of a thundercloud becomes negatively charged. The ground becomes positively charged. Simple physics says that opposite charges attract, so boom, the lightning takes a one way trip to the closest positively charged item- usually a tree, phone pole, or other high object.

In a Boeing 747 the opening and closing of the cargo doors is done by an electric current through a latching or unlatching motor controlled by a switch. When the switch is open/off, there is no current to turn the motor which would turn the latching cams around the latching pins. When the switch is closed/on the circuit between the negatively charged particles and the positively charged is closed and current flows through the resistive motor which turns torque tubes which turn cams to surround pins which closes and holds the door tight against the fuselage.

When the aircraft is airborne a switch is opened/off which prevents any current from inadvertently turning on the cargo door unlatch motor. There is no way to turn on the unlatch motor to open the cargo door from inside the cockpit.

However, when faulty wiring such as Poly X type, which was used in Air India Flight 182, chafes and cracks to bare wire to short on the metal fuselage, the voltage has a path to complete the circuit and the lightning strikes; that is, the safety feature of a switch is bypassed and the now
flowing current turns on the cargo door unlatch motor. The imbalance between the charged electrons which was held steady by the safety switch is now allowed to discharge/equalize through the shorted wire through the resistive motor which turns on as it is supposed to do when receiving current. The latching cams now turn around the latching pins into the unlock/unlatch direction thus releasing their hold on the closed cargo door. The faulty wire which allowed the motor to turn on when it was supposed to stay off was installed during manufacture of the aircraft. The defective wiring is a manufacturing error.

The bare wire shorted on the cargo door unlatch motor which turned the cams to the unlatch position. Lightning struck and the unlatch motor turned on and started to allow the cargo door to open in flight.

Balloon pops:

Air tends to move in a straight line from a high-pressure area to a low pressure area. As balloons reach maximum expansion they get to a point where the latex runs out of stretch and gets stiff and resists further stretching. This is obvious in a fresh, over inflated balloon. It will become stiffer and get very rigid as all the latex molecules all become oriented in the tensile stress directions. This increase in stiffness will cause balloons, unlike soap bubbles, to increase in internal air pressure just before bursting.

Even small balloons like nine inch rounds can produce a very big bang if they are strong high quality balloons and are blown up to the limit. They can develop fantastically high tensions. Of course a larger balloon blown up to a similar extreme tension all over would make an even bigger bang.

The hull of a Boeing 747 such as Air India Flight 182 can be considered a huge balloon when pressurized. As the aircraft climbs the air molecules outside are further apart and have less pressure than those that
were inside the aircraft at takeoff. If the aircraft is not pressurized, the air molecules inside and outside the aircraft are the same and there is no differential. The hull is not inflated and there would be no inside high pressure trying to equalize with the outside lower pressure.

But the hull of the Boeing 747 in flight with crew and passengers aboard can not remain unpressurized as the air would be too thin to sustain life so oxygenated air is pumped into the hull and the balloon/hull inflates. There now exists a distance difference between the air molecules inside the aircraft to those outside of the airplane. There is an imbalance. There is now pressure to equalize the air molecules but the sealed metal fuselage skin prevents the equalization. The hull stays inflated.

As the plane climbs higher, the pressure inside is kept constant at a comfortable level for the passengers while the pressure outside continues to decline the higher the aircraft goes. When the aircraft is about 20000 feet, the pressure on the inside of the fuselage is about 3.5 PSI or pounds per square inch. At cruise altitude of about 31000 feet, the pressure on each square inch on the inside of the inflated balloon called the hull is 8.9 PSI.

The Boeing 747 has two cargo doors 110 by 99 inches in size. The pressure on the cargo doors of Air India Flight 182 when cruising at 31000, when the initial event occurred, was 96921 pounds pressing on each of the nine foot by eight foot doors held in place only by a long hinge, eight rotating lower latching cams around latching pins and two midspan rotating latching cams around latching pins.

An analogy: Imagine a large under inflating balloon with no holes in it. Then cut six small holes in the balloon and two large square holes. Then, if you could, put patches over the six small holes from the inside of the
balloon so that when the balloon is inflated, the inside high pressure would press the patch tighter into the balloon and seal the hole tighter. That is called a 'plug type' patch. But then put patches over the two large square cut holes on the outside of the balloon so that when the balloon is inflated, the high air pressure inside the balloon presses against the outside patch to push it outward. That is called a 'non plug type' patch.

Another analogy for the patch is a band aid wound dressing on an arm. The arm has the cut hole/wound and the patch is the band aid to stop the bleeding wound. A band aid on the inside of the arm would be more effective but impractical so band aids are put on the outside of the arm and often are pulled off inadvertently.

Air India Flight 182 has those several small holes cut into the pressurized hull and then patched from the inside. They are called plug type passenger doors. When airborne and at altitude, those passenger entry and exit doors can not be opened in flight because the inside air pressure presses them tight against the metal fuselage. Only if the pilot depressurizes the inside of the hull can those doors be opened, such as on the ground. The wounds are small and the band aid is sufficient to stop the bleeding since the patch is in the inside and the blood pressure actually prevents bleeding.

However, the two huge cargo doors which were cut from the metal fuselage and then patched back are non-plug type. It's as if they are patched from the outside so that as the inside pressure grows higher and the outside pressure goes lower, the pressure differential increases and about 97000 pounds of air presses on the eight by nine foot door to burst it open. The door does not press on the inside of the fuselage tighter because it is not a plug type. The only things holding the door closed are the hinge and the ten latches around the ten latch pins. The latch cams are not told to unlatch in flight because there is no current to the unlatch motor. The non plug cargo doors are a design error; they should be plug
type. The wounds are large and the band aid is not sticky enough to stop the bleeding as the blood pressure pushes outward.

A hull rupture in flight can be a catastrophic event so safety efforts are made to prevent its occurrence. As the cams are turned around the pins, a locking sector is then manually placed against the latch pin to prevent the inadvertent unlatching should electrical current turn the unlatch motor on. The locking sector would stop the cam from turning to the open position and the unlatch motor would burn itself out trying.

However, while the lower eight latches have eight locking sectors as a safety measure, the two midspan latches have no locking sectors at all. That is another design error; the midspan latches need locking sectors similar to the eight lower ones. The band aid over the wound was too small.

(As it turns out, years after Air India Flight 182 crashed, it was shown that the eight locking sectors themselves were too weak to stop the cams from unlatching when the unlatch motor did in fact inadvertently receive power and the door unlatched in flight; United Airlines Flight 811. The eight locking sectors were then strengthened but the midspan latches had no locking sectors to strengthen.)

For Air India Flight 182, the faulty bare wire shorted on the power for the cargo door unlatch motor which turned the cams to the unlatch position after bypassing the safety switch. The eight lower latching cams overrode the weak lower eight locking sectors. Just past dead center of the pins the 97000 pounds of internal pressure finally popped the balloon of a pressurized hull at the forward cargo door. The result was an explosive decompression which occurred in an instant. Explosive decompression is an aviation term used to mean a sudden and rapid loss of cabin pressurization.

The sudden and powerful rushing out of the higher pressure air inside
the pressurized hull of Air India Flight 182 mimicked a bomb in sound and fury. The sound of the explosion was so loud it was picked up on the cockpit voice recorder. The forward cargo door split into two parts and burst apart as it tore out and up taking further fuselage skin with it. The contents of the forward cargo hold were blown out and into the nearby starboard engines number three and four causing foreign object damage to the nacelles and turbine blades inside the engines. The ensuing hole in the starboard side of the fuselage forward of the wing centered around the forward cargo door of Air India Flight 182 in the wreckage reconstruction below was now about thirty feet tall and twenty feet wide, target 204 and cross hatch skin above it.

The manufacturing flaw of installing defective wiring had exploited the design flaw of a non plug door coupled with the design flaw of no locking sectors on the mid span latches allowing the door to inadvertently open in flight causing a massive explosive decompression which created a huge hole in the nose of Air India Flight 182.

Lightning struck and the unlatch motor turned on. The balloon popped when the forward cargo door unlatched and ruptured open.

Wind Power:

From the CVR and DFDR, AI 182 was proceeding normally en route from Montreal to London at an altitude of 31,000 feet and an indicated airspeed of 296 knots when the cockpit area microphone detected a sudden loud sound: 296 knots is 341 miles per hour or 549 km/h.

If the newly created huge hole in the nose of Air India Flight 182 had occurred while the aircraft were motionless in the calm air, the nose would have stayed on and the aircraft would not have broken up in flight. However, the wind force on the now compromised formerly
streamlined hull was higher than any natural wind on earth.

Category V Hurricane, Catastrophic >155 mph
Shrubs and trees blown down and uprooted; considerable damage to roofs of all buildings; all signs down. Very severe and extensive damage to windows and doors. Complete failure of roofs on several residences and industrial buildings. Extensive shattering of glass from pressure variation and blown debris. Some complete building failures. Smaller buildings are overturned or destroyed. Complete destruction of mobile homes.
F3 Tornado, Fujita Scale 3 158-206 mph, strongly built schools, homes, and businesses have outside walls blown away; weaker homes completely swept away,
F4 Tornado, Fujita Scale 4 207-260 mph, strongly built homes have all interior and exterior walls blown apart; cars thrown 300 yards or more in the air
F5 Tornado, Fujita Scale 5 261-318 mph, strongly built homes are completely blown away

An intact egg is strong when pressed on its small end but after the shell is cracked, the strength is gone and it crumbles. So it was with Air India Flight 182.

The wind force of 341 miles per hour tore the gashed nose off which fell first in the debris pattern on the ocean floor. The wind force tore into the rest of the tubular, now unpressurized hull, and ruptured open the rest of the fuselage and other compartments. The debris was blown aft and hit the starboard wing and stabilizer causing inflight damage. The engines and wings came off and mixed with the rest of the disintegrating aircraft.

Lightning struck and the unlatch motor turned on. The balloon popped when the forward cargo door unlatched and ruptured open. The enormous wind power tore the nose off and disintegrated the rest of the
Gravity grabs.

Gravity is one of four known fundamental forces of nature. Gravity is by far the weakest of the four, yet it dominates on the scale of large space objects. Gravity cannot be shielded in any way. Intervening objects, whatever their make-up, have no effect whatsoever on the attraction between two separated objects.

If Air India Flight 182 were in far outer space the thousands of broken parts would just float around but those debris pieces were affected by the gravity of Earth and caused the aircraft parts to flutter down to the sea and further down to the ocean floor 6500 feet under the water surface.

Lightning struck and the unlatch motor turned on. The balloon popped when the forward cargo door unlatched and ruptured open. The enormous wind tore the nose off and disintegrated the rest. Gravity pulled the pieces downward to the bottom of the ocean.

Lightning Struck
Balloon Popped
Wind Powered
Gravity Pulled

Part VIII: Template:

If the DNA can be used as an analogy for specific evidence discovered for one event and that specific evidence is matched in another event, it can be said the DNA matches.

United Airlines Flight 811 below:
"Executive Summary from USA NTSB AAR 92/02 of March 1992:
On February 24, 1989, United Airlines flight 811, a Boeing 747-122, experienced an explosive decompression as it was climbing between 22,000 and 23,000 feet after taking off from Honolulu, Hawaii, en route to Sydney, Australia with 3 flightcrew, 15 flight attendants, and 337 passengers aboard.

The airplane made a successful emergency landing at Honolulu and the occupants evacuated the airplane. Examination of the airplane revealed that the forward lower lobe cargo door had separated in flight and had caused extensive damage to the fuselage and cabin structure adjacent to the door. Nine of the passengers had been ejected from the airplane and lost at sea.

A year after the accident, the Safety Board was uncertain that the cargo door would be located and recovered from the Pacific Ocean. The Safety Board decided to proceed with a final report based on the available evidence without the benefit of an actual examination of the door mechanism. The original report was adopted by the Safety Board on April 16, 1990, as NTSB/AAR-90/01.

Subsequently, on July 22, 1990, a search and recovery operation was begun by the U.S. Navy with the cost shared by the Safety Board, the Federal Aviation Administration, Boeing Aircraft Company, and United Airlines. The search and recovery effort was supported by Navy radar data on the separated cargo door, underwater sonar equipment, and a manned submersible vehicle. The effort was successful, and the cargo door was recovered in two pieces from the ocean floor at a depth of 14,200 feet on September 26 and October 1, 1990.

Before the recovery of the cargo door, the Safety Board believed that the
door locking mechanisms had sustained damage in service prior to the accident flight to the extent that the door could have been closed and appeared to have been locked, when in fact the door was not fully latched. This belief was expressed in the report and was supported by the evidence available at the time. However, upon examination of the door, the damage to the locking mechanism did not support this hypothesis. Rather, the evidence indicated that the latch cams had been backdriven from the closed position into a nearly open position after the door had been closed and locked. The latch cams had been driven into the lock sectors that deformed so that they failed to prevent the back-driving.

Thus, as a result of the recovery and examination of the cargo door, the Safety Board's original analysis and probable cause have been modified. This report incorporates these changes and supersedes NTSB/AAR-90/01.

The issues in this investigation centered around the design and certification of the B-747 cargo doors, the operation and maintenance to assure the continuing airworthiness of the doors, cabin safety, and emergency response.

The National Transportation Safety Board determines that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door in flight and the subsequent explosive decompression. The door opening was attributed to a faulty switch or wiring in the door control system which permitted electrical actuation of the door latches toward the unlatched position after initial door closure and before takeoff. Contributing to the cause of the accident was a deficiency in the design of the cargo door locking mechanisms, which made them susceptible to deformation, allowing the door to become unlatched after being properly latched and locked. Also contributing to the accident was a lack of timely corrective actions by Boeing and the FAA following a 1987 cargo door opening incident on a Pan Am B-747. As a result of this investigation, the Safety Board issued safety recommendations
concerning cargo doors and other nonplug doors on pressurized transport category airplanes, cabin safety, and emergency response."
The first probable cause was incorrect so the NTSB issued another AAR based upon new evidence. The same can be done by TSB Air for Air India Flight 182 based upon the subsequent new evidence. I have had the benefit of hindsight to research all Boeing 747 hull losses for matches to the evidence retrieved regarding Air India Flight 182. There have been five matches, including Air India Flight 182. All are controversial while United Airlines Flight 811 is the only aircraft that was able to land after the shorted switch or wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup occurred. The DNA evidence and probable cause for United Airlines Flight 811 is irrefutable.

In none of the five official investigations for Air India Flight 182 was United Airlines Flight 811 considered. For four of those investigations, United Airlines Flight 811 had not occurred yet; for the fifth, the attorneys and law enforcement agencies chose not to refer to it.

What happened to Air India Flight 182 happened to United Airlines Flight 811 and others. The cause of United Airlines Flight 811 is the same cause for Air India Flight 182. The sequence is the shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup explanation.

The linchpin DNA match to all five Boeing 747 accidents is the sudden loud sound on the Cockpit Voice Recorder followed by the abrupt power cut to the Flight Data Recorder. The CVR and FDR data is the only direct evidence available and it is the best.

NTSB AAR, United Airlines Flight 811:
"The CVR revealed normal communication before the decompression. At 0209:09:2 HST, a loud bang could be heard on the CVR. The loud bang was about 1.5 seconds after a "thump" was heard on the CVR for
which one of the flightcrew made a comment. The electrical power to
the CVR was lost for approximately 21.4 seconds following the loud
bang. NTSB Accident Report 92-02 Page 25

CASB AOR, Air India Flight 182:
"From the CVR and DFDR, AI 182 was proceeding normally en route
from Montreal to London at an altitude of 31,000 feet and an indicated
airspeed of 296 knots when the cockpit area microphone detected a
sudden loud sound. The sound continued for about 0.6 seconds, and then
almost immediately, the line from the cockpit area microphone to the
cockpit voice recorder at the rear of the pressure cabin was most
probably broken. This was followed by a loss of electrical power to the
recorder." Canadian Aviation Safety Board Air India 23 June 1985, page
21

Kirpal Report: "Mr. R.A. Davis, Head, Flight Recorder Section,
Accidents Investigation Branch, Farnborough, U.K. 3.4.6.16 In
conclusion, Mr. Davis reported as follows :- "It is considered that from
the CVR and ATC recordings supplied for analysis, there is no evidence
of a high explosive device having detonated on AI 182. There is strong
evidence to suggest that a sudden explosive decompression occurred but
the cause has not been identified. It must be concluded that without
positive evidence of an explosive device from either the wreckage or
pathological examinations, some other cause has to be established for
the accident"

Premise Explanation for Air India Flight 182: Explosion in the forward
cargo compartment caused by explosive decompression caused by
structural failure of ruptured open forward cargo door at one or both of
the midspan latches caused by faulty electrical wiring:

Analysis: There is close agreement with the opinions of the two aviation
authorities (CASB and AAIB), the judicial finding of Judge Kirpal, and
this independent aircraft accident investigator in the specific location in
the aircraft and consequences of the explosion with the only difference being the cause of the explosion on the starboard side of the forward cargo compartment of Air India Flight 182:

A. CASB: There was an explosion, which could have been a bomb explosion, on the starboard side of the forward cargo compartment near the forward cargo door which caused the inflight breakup of Air India Flight 182.

B. AAIB: There was an explosion, cause not identified but not a bomb explosion, which caused the inflight breakup of Air India Flight 182.

C. Justice Kirpal: There was an explosion, a bomb explosion, on the starboard side of the forward cargo compartment near the forward cargo door which caused the inflight breakup of Air India Flight 182.

D. Justice Josephson: There was an explosion, a bomb explosion, on the port side of the aft cargo compartment opposite the aft cargo door which caused the inflight breakup of Air India Flight 182.

E. John Barry Smith: There was an explosion, an explosive decompression when faulty wiring shorted on the forward cargo door unlatch motor which allowed one or both of the midspan latches to rupture open in the forward cargo door on the starboard side of the forward cargo compartment, which caused the inflight breakup of Air India Flight 182.

F. Transportation Safety Board of Canada (Air): Yet to be asked for opinion.

To determine the pattern in early model Boeing 747 accidents that suffered breakups in flight, it was necessary to evaluate carefully all the official accident reports concerning them. A pattern was detected of similar significant evidence among only five of the over forty hull damages or losses, two of which are Air India Flight 182 and United Airlines Flight 811.
Summary of specific matching evidence between Air India Flight 182 and United Airlines Flight 811: (The DNA evidence listed below applies to both aircraft)

A. Boeing 747
B. Early model
C. Polyimide wiring (Poly X type)
D. Sudden airframe breakup in flight
E. Breakup occurs forward of the wing
F. Section 41 retrofit not done
G. At least medium flight time
H. At least medium aged airframe
I. Previous maintenance problems with forward cargo door
J. Initial event at about 300 knots while proceeding normally in all parameters
K. Initial event involves hull rupture in or near forward cargo door area
L. Initial event starts with sudden sound
M. Initial event sound is loud
N. Initial event sound is audible to humans
O. Initial event followed immediately by abrupt power cut to data recorders
P. Initial event sound not matched to explosion of bomb sound
Q. Initial event sound is matched to explosive decompression sound in wide body airliner
R. Torn off skin on fuselage above forward cargo door area
S. Evidence of explosion in forward cargo compartment
T. Foreign object damage to engine or cowl of engine number three
U. Foreign object damage to engine or cowl of engine number four
V. Right wing leading edge damaged in flight
W. Vertical stabilizer damaged in flight
X. Right horizontal stabilizer damaged in flight
Y. More severe inflight damage on starboard side than port side
Z. Port side relatively undamaged by inflight debris
AA. Vertical fuselage tear lines just aft and forward of the forward
cargo door
AB. Fracture/tear/rupture at a midspan latch of forward cargo door
AC. Midspan latching status of forward cargo door not reported as latched
AD. Airworthiness Directive 88-12-04 not implemented (stronger lock sectors)
AE. Outwardly peeled skin on upper forward fuselage
AF. Rectangular shape of shattered area around forward cargo door
AG. Forward cargo door fractured in two longitudinally
AH. Status of aft cargo door as latched
AI. Passengers suffered decompression type injuries
AJ. At least nine missing and never recovered passenger bodies
AK. Initial official determination of probable cause as bomb explosion.
AL. Initial official determination modified from bomb explosion
AM. Structural failure considered for probable cause
AN. Inadvertently opened forward cargo door considered for probable cause
AO. Takeoff after sunset on fatal flight
AP. Takeoff after scheduled takeoff time on fatal flight

A few of the above matches may be common, trivial, or irrelevant but most are rare and critical.

The important DNA matches that determine the certainty that both aircraft:

1. Were similar model and type of early model Boeing 747s.
2. Had the same appearance for each longitudinally fractured forward cargo doors
3. Had sudden loud sounds which were an explosive decompression sound and not a bomb explosion sound.
4. Had an abrupt power cut to the flight data recorders after the sudden loud sound.
5. Had the same damaged areas around the forward cargo door.
6. Had relatively smooth fuselage skin on port side opposite the shattered starboard cargo door side.
7. Had similar inflight damage to the starboard engines and flight surfaces.
8. Had at least nine never recovered bodies.
9. Had explosions in the forward cargo compartment which were initially thought to have been bombs but the opinions were later somewhat modified.

There are many reasonable possible explanations for an explosion or explosive decompression near the forward cargo door of an early model Boeing 747, only one of which is a rare bomb explosion:

A. Bomb explosion. (Considered for both, ruled out in one, should be ruled out for both.)
B. Crew or passenger error. (Ruled out for both flights.)
C. Electrical fault in switch or wiring. (Ruled in for one.)
D. Pneumatic overpressure. (Ruled out for both flights.)
E. Cargo shift. (Ruled out for both flights.)
F. Compressed air tank explosion. (Ruled out for both flights.)
G. Fire. (Ruled out for both flights.)
H. Missile strike. (Ruled out for both flights.)
I. Midair collision. (Ruled out for both flights.)
J. Fuel tank explosion. (Ruled out for both flights.)
K. Stowaway. (Ruled out for both flights.)
L. Electromagnetic interference. (Ruled out for both flights.)
M. Comet or meteor. (Ruled out for both flights.)
N. Space debris. (Ruled out for both flights.)
O. Turbulence. (Ruled out for both flights.)
P. Out of rig door. (Ruled out for both flights.)
Q. Lightning. (Ruled out for both flights.)
R. Metal fatigue. (Ruled out for both flights.)
S. Improperly latched. (Initially accepted for one flight, then ruled out...
T. Design error. (Accepted for one flight)
U. Repair error. (Ruled out for both flights.)
V. Maintenance error. (Ruled out for both flights.)

General Conclusion: Based upon the indisputable probable cause of electrical fault for United Airlines Flight 811 and the many matches of evidence to Air India Flight 182, the discovered common cause for United Airlines Flight 811 and Air India Flight 182 is the shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup explanation which is a mechanical explanation for an explosion on the starboard side in the forward cargo compartment of explosive decompression when the forward cargo door ruptured open in flight, probably at one or both of the midspan latches and probably caused by faulty wiring inadvertently turning on the door unlatch motor.

Specific Conclusions for Air India Flight 182:

These conclusions are based on evidence available after 1985.
A. While proceeding normally, an inflight breakup of Air India Flight 182 occurred suddenly and catastrophically at 0714Z at 31000 feet at 300 knots TAS about 110 miles west of Cork, Ireland on 23 June, 1985. There were no survivors.
B. The breakup was caused by an explosion in the forward cargo compartment.
C. The explosion was a severe and sudden explosive decompression.
D. The explosive decompression was caused by the suddenly ruptured open forward cargo door probably at one or both of the midspan latches.
E. The ruptured open forward cargo door was probably caused by faulty wiring which turned on the door unlatch motor which unlatched the latching cams from around the latching pins in flight.
F. The wiring fault was probably the Poly X wiring with inferior
insulation which easily cracked to bare wire especially in the presence of moisture.

G. There was no bomb explosion in any cargo compartment, crew cabin, passenger cabin, or anywhere else on the aircraft.

H. There was no explosion from any source in the aft cargo compartment.

I. The sudden loud sound on the cockpit voice recorder was the sound of the air rushing out during the explosive decompression in the forward cargo compartment.

J. The abrupt power cut to the recorders was caused by the explosive effects of the decompression affecting the power cables in the adjacent main equipment compartment to the forward cargo compartment.

Contributing causes:

A. Water or moisture in the forward cargo compartment.

B. Weak locking sectors on the bottom eight latches of the cargo doors.

C. Poor design of one midspan latch per each eight foot side of the cargo doors.

D. Poor design of no locking sector for each midspan latch of the cargo doors.

E. Poor design of outward opening, nonplug type, large, square cargo doors in a highly pressurized hull.

There were no bombs on Air India Flight 182. There were no crimes and no criminals and no conspiracies. There was and is a mechanical problem which exists to this day, aging and failing Poly X wiring which exploits design errors of non plug cargo doors and omitted midspan locking sectors allowing an explosive decompression when the forward cargo door ruptures open in flight.

To know the cause of Air India Flight 182 and Pan Am Flight 103, one must know the details of United Airlines Flight 811, the model and irrefutably explained event. All of those official AARs are available at
Part IX: The Unifying Official Version

There is one scenario that unites the five official versions: Bombs in baggage explode.

1. The first official determination is the Narita Event is from the Japanese police point of view.

"At 0541 GMT, 23 June 1985, CP Air Flight 003 arrived at Narita Airport, Tokyo, Japan, from Vancouver. At 0619 GMT a bag from this flight exploded on a baggage cart in the transit area of the airport within an hour of the Air India occurrence. Two persons were killed and four were injured... Baggage cart explodes in transit area... The explosion of a bag from CP 003 at Narita Airport, Tokyo, took place 55 minutes before the AI 182 accident...the site where the blast had taken place was inspected which gave some, though very vague, idea of the detonating power of the blast."

To sum up: "A bag from a Vancouver flight exploded on a baggage cart in a transit area from a vague power of a blast."

The Narita Event is officially determined by the police to be a bomb which caused the blast of vague power in a bag as part of the baggage on a baggage cart in a transit area of a major airport hub. The first official bomb in the baggage explodes.

2. The next official determination of the Air India Flight 182 Event is from an Indian judge's point of view.

Kirpal Report: "4.10 After going through the entire record we find that there is circumstantial as well as direct evidence which directly points to the cause of the accident as being that of an explosion of a bomb in the forward cargo hold of the aircraft."
"All cargo doors were found intact and attached to the fuselage structure, except for the forward cargo door which had some fuselage and cargo floor attached. This door, located on the forward right side of the aircraft, was broken horizontally about one-quarter of the distance above the lower frame. The damage to the door and the fuselage skin near the door appeared to have been caused by an outward force. The fractured surface of the cargo door appeared to have been badly frayed. Because the damage appeared to be different from that seen on other wreckage pieces,..."

The Air India Flight 182 Event is officially determined by an Indian judge to be caused by a bomb in the baggage in the forward cargo hold possibly on the right side. (No physical connection between the forward and aft cargo holds which are several hundred feet apart.) That is the second official bomb in the baggage to explode.

3. The next official determination of the Air India Flight 182 Event is from a Canadian judge's point of view.

Below from "Reasons for Judgment" by Justice Josephson regarding Malik and Bagri.

I. Overview [1] In the early morning hours of June 23, 1985, Air India Flight 182, carrying 329 people[1], was destroyed mid-flight by a bomb located in its rear cargo hold.

H. Conclusion [190] It is agreed amongst the experts that the Kanishka was destroyed by the detonation of an explosive device within its left aft fuselage.

The Air India Flight 182 Event is officially determined by a Canadian judge to be a bomb in the baggage in the rear cargo hold on the left side. That is the third official bomb in the baggage to explode.

4. The next official determination of the Air India Flight 182 Event is from the Canadian aviation accident investigators point of view:

The Canadian Aviation Safety Board respectfully submits as follows:
4.1 Cause-Related Findings

5. There is considerable circumstantial and other evidence to indicate that the initial event was an explosion occurring in the forward cargo compartment.

"The forward cargo door which had some fuselage and cargo floor attached was located on the sea bed. The door was broken horizontally about one-quarter of the distance above the lower frame. The damage to the door and the fuselage skin near the door appeared to have been caused by an outward force and the fracture surfaces of the door appeared to be badly frayed. This damage was different from that seen on other wreckage pieces. A failure of this door in flight would explain the impact damage to the right wing areas. The door failing as an initial event would cause an explosive decompression leading to a downward force on the cabin floor as a result of the difference in pressure between the upper and lower portions of the aircraft."

The Air India Flight 182 Event is officially determined by Canadian aviation accident investigators to be an explosion of unknown cause in the forward cargo compartment probably on the right side. An explosion in the forward cargo compartment occurs from undetermined cause.

5. The next official determination for Air India Flight 182 is from the United Kingdom aircraft accident investigator point of view.

"Mr. R.A. Davis, Head, Flight Recorder Section, Accidents Investigation Branch, Farnborough, U.K. 3.4.6.16 In conclusion, Mr. Davis reported as follows :- "It is considered that from the CVR and ATC recordings supplied for analysis, there is no evidence of a high explosive device having detonated on AI 182. There is strong evidence to suggest that a sudden explosive decompression occurred but the cause has not been identified. It must be concluded that without positive evidence of an explosive device from either the wreckage or pathological examinations, some other cause has to be established for the accident".

The Air India Flight 182 Event is officially determined by a British
aviation accident investigator to be something, not a bomb, somewhere, causes an explosive decompression. That is the fifth explanation for an explosion.

Those are the five official determinations of explosions related to Air India Flight 182 by five official investigations in three countries over two decades.

1. A vaguely powerful explosion of a bag on a baggage cart with bags in a major transit area hub airport determined by the Japanese police in 1985.
2. A very powerful explosion of a bomb in a bag in the baggage in the forward cargo hold, possibly on the right side, of Air India Flight 182 determined by the Indian Justice Kirpal in 1986.
3. A very powerful explosion of a bomb in a bag in the baggage in the rear cargo hold on the left side of Air India Flight 182 determined by the Canadian Justice Josephson, in 2005.
4. An explosion of unknown cause in the forward cargo compartment, probably on the right side, of Air India Flight 182 determined by the Canadian aircraft accident investigators of the Canadian Aviation Safety Board, CASB in 1986.

There is no consensus on any significant issue by any officials other than explosive events occurred on a baggage cart and on an airplane thousands of miles apart and within the hour.

There is official disagreement in the determinations of whether it was a bomb or something else, how many bombs were involved, where the bombs were loaded, how powerful the bombs were, what container the bomb was in, which major section of the aircraft the bomb was placed,
on what side of the aircraft the bomb was located, or what caused an explosive decompression that was not a bomb. (Not counted are the disagreements of who put the bombs there and why.)

There was no official hard evidence determined for bombs such as three fuses, three bomb casings, three bomb residues, shrapnel wounds, or three timers in any of the three locations stated as having bombs detonated which are the Narita airport, the rear cargo, and the forward cargo compartments of Air India Flight 182. (The rear and forward cargo compartments are hundreds of feet apart with no physical connection.)

There is one official cause to unite them all: Three bombs by assuming that an explosion means only one thing and that is bomb explosion and assuming that official determinations after official investigations are correct.

The one scenario that unites the five official determinations is that bomb, bomb, bomb, in the baggage, baggage, baggage go boom, boom, boom.

Two of the bombs were surreptitiously placed on two Boeing 747s at Vancouver airport on 22 June 1985, the day before they blew up. The third bomb was placed into one of the Boeing 747s at the Montreal airport later that same day.

The official versions united:

Bomb 1: One bomb was loaded on CP003 which flew to Tokyo with no detonation of the bomb during the long flight across the Pacific. This bomb was then unloaded in a busy airport, put on a baggage cart which was wheeled through a 'transit' area with many other bags from many other flights, and only then did the vaguely powerful bomb detonate at 0619Z, not from an altimeter fuze but from a timing fuze which went off when it was not supposed to for an aircraft terrorist bombing. No fuze or parts of any bomb or the suitcase were reported to have been discovered.
No match of any debris parts of this bomb were made to other bombs by same terrorist group. No claims of responsibility or confessions were obtained. (The Japanese police determined bomb.)

Bomb 2: At the same time the Narita bomb was loaded at Vancouver onto CP 003 on the afternoon of 22 June 1985, another bomb was loaded onto CP 060, also in Vancouver, and successfully slipped past the extensive security of men, dogs, and machines. CP 060 then flew to Toronto without the bomb going off by timer or altimeter fuse. At Toronto, the bomb was then off loaded from CP 060 and sent, along with some passengers, to a different aircraft, a Boeing 747 which was Flight 181 which, after another flight to Montreal, would change to Flight 182. At Toronto, all the baggage from Vancouver on CP 060, including the bomb, was placed in the aft cargo hold of the Boeing 747. This aircraft, called Flight 181, took off and flew to Montreal with the bomb still not detonating by altimeter or timing fuze. The timer was set to go off at 0714Z. (The Judge Josephson determined bomb.)

Bomb 3: After the Boeing 747 called Flight 181 landed in Montreal with the bomb from Vancouver still in the aft cargo hold, the flight number of the same Boeing 747 changed to Air India Flight 182, and more passengers and baggage were put on board. All their baggage was placed into the forward cargo hold. A new aircraft bomb was thus loaded into the forward cargo compartment with the timer set to go off at 0714Z. (The Judge Kirpal determined bomb.)

There were many delays involved with loading parts of a large engine into the aft cargo compartment which did not set off the bomb in that compartment. Finally, the aft and forward cargo compartment bomb laden Boeing 747 now called Air India Flight 182 took off from Montreal for its third flight in many hours, flew for five hours across the Atlantic and then a fuze for the Montreal loaded bomb activated and exploded in the forward cargo compartment, not by an altimeter fuze because the aircraft was level at 31000 feet and had been so for hours,
but by a timer fuze. The Vancouver bomb, first loaded in Vancouver and transferred to the aft cargo compartment of the doomed aircraft in Toronto, detonated at exactly the same time, 0714Z. The two bombs blew holes in the pressurized hull causing an explosive decompression.

Thus explains and unites the Japanese police bomb, the Justice Kirpal bomb, the Justice Josephson bomb, the CASB explosion, and the UK AIB explosive decompression events.

The official determinations assume inefficient ticketing agents, dull-witted security forces, and malfunctioning X ray machines in four large metropolitan airports in two industrialized nations. It assumes incompetent terrorists who can't set a bomb to go off on time. It assumes quiet bombs in an aircraft that leave no sound when they go off. It assumes three stealthy bombs that managed to slip through sniffing dogs, portable metal detectors, X-Ray machines, private security teams, and yet leave no trace of their fuzes, timers, explosive material, or containers.

Officially the terrorists were of two groups; one group in Vancouver to check the bomb in the baggage which was placed in the aft cargo compartment of Air India Flight 182 to explode according to the Canadian judge. Another terrorist group in Montreal checked their bomb in baggage which was placed in the forward cargo compartment of Air India Flight 182 to explode there according to the Indian judge. The Vancouver terrorist group also checked in another bomb in the baggage of another aircraft to explode later on a baggage cart at Narita airport, according to the Indian judge.

The terrorists were stupid because:
1. The bombs did not go off when a real aircraft bomb usually goes off, shortly after takeoff climb on the initially loaded flight.
2. The fuzes were three timers set to go off at odd times such as 0619, 0714, and 0714 many hours later after being set.
3. They did not claim responsibility to advertise their cause.
The terrorists were smart because:
1. They were able to construct bombs which left no fuse, no casings, no timer evidence and were silent.
2. They were able to smuggle three bombs through tight security at four large airports in two countries.
3. They coordinated two bomb explosions on the same aircraft loaded in different locations at two airports to ensure destruction.

The terrorists were lucky because:
1. The four takeoffs and landings and turbulence did not detonate the amateur improvised bombs.
2. The changing of two planes and movement of baggage from plane to transit area did not detonate the bombs.
3. Their bomb laden baggage was not misplaced or misdirected by the airline.
4. The many unexpected schedule delays and aircraft changes still allowed the bombs to go off to kill innocent people instead of in an unoccupied hangar or baggage storage area.

This is the official unified motive to explain the Narita airport transit area and Air India Flight 182 bombings: Revenge seeking terrorist groups managed to place three stealthy bombs in three aircraft and on one baggage cart through four airports in one day.

Part X: Sequence of Destruction

Below is the scientific explanation for Air India Flight 182 in narrative form based on direct, circumstantial, tangible, deduced, historical, and inferred evidence obtained through government aircraft accident reports and testimony under oath, 1953-2006. All statements of fact can be corroborated as having occurred in Air India Flight 182 or other similar Boeing 747s under similar circumstances.

Pressurized hulls of jet airliners have been blowing up since 1953 with
the Comet.

03/03/1953
location: Karachi, Pakistan
carrier: Canadian Pacific  flight:
aircraft: comet  registry:
aboard: fatal: 11  ground:
details: First fatal crash of a commercial jet aircraft

05/02/1953
location: near Jagalogori West Bengal, India
carrier: British Overseas Airlines  flight: 783/057
aircraft: De Havilland comet 1  registry: g-alyv
aboard: 43  fatal: 43  ground:
details: broke up in flight during a violent thunderstorm. Metal fatigue due to design flaw.

01/10/1954
location: Elba, Italy
carrier: British Overseas Airlines  flight:
aircraft: De Havilland comet 1  registry:
aboard: fatal: 35  ground:
details: broke up in flight. Metal fatigue due to design flaw.

04/08/1954
location: stromboli, italy
carrier: South African Airways  flight:
aircraft: De Havilland comet 1  registry:
aboard: fatal: 21  ground:
details: broke up in flight. Metal fatigue due to design flaw.

The Wiring/Cargo Door Explanation

Hull ruptures in flight leading to sudden explosive decompressions have
occurred in over fifty airliners over the years. The causes can be bombs, metal fatigue, cargo shifts, inadvertent door openings from improperly latched to electrical faults, cockpit windows being broken by bird strikes, fuel tank explosion, missile hits, corrosion, faulty repair of damaged bulkhead, midair collisions, thunderstorms, and improperly fitted pressure relief valves.

Air India Flight 182 fits into one of those categories, the shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup one.

There are literally hundreds of pressurization problems that occur in airliners that are not sudden explosions but slow failures. These events rarely lead to fatalities while the sudden loud events usually do.

In an historical and statistical sense Air India Flight 182 was a normal aircraft accident: The cause was mechanical and not unusual. There have been several subsequent explosive decompressions in Boeing 747s similar to Air India Flight 182 that left similar evidence.

The forward cargo door of Air India Flight 182 opened inadvertently in flight for certain, the cause of that opening was probably faulty wiring.

Background:

On 18 July, 1984 a high lift vehicle damaged the fuselage skin near the forward cargo door of a Boeing 747-237B, Air India Flight 182, construction number 330, operated by Air India airlines. The fuselage skin had wiring routed on the inside which became bent from the impact and subsequently cracked to bare wire, a characteristic of the polyimide type insulated Poly X wiring installed in the aircraft. The forward cargo door had non-steel locking sectors to keep the bottom eight latching cams from being back driven which would allow the door to open in flight causing explosive decompression which would be a catastrophic event well known to aircraft designers.
In June of 1986 several passengers changed their flight plans and their baggage routing for various flights through Canada to overseas destinations probably from Vancouver.

On 22 June, 1986, two aircraft had baggage loaded aboard them at the Vancouver B. C. airport; one flight was called CP 003 and the other CP 060. Flight 003 took off and flew uneventfully to the extremely busy Narita airport near Tokyo, Japan. After the baggage was unloaded from the flight, it was put on a baggage cart which was wheeled through a transit area of many other baggage carts containing many other bags from many other flights. An explosion of unspecified cause, unknown fuzing, unknown container, and unknown material occurred on the baggage cart which killed two people and injured others. The airport had high security because of previous terrorist attacks on it resulting in fatalities over the years.

The other flight, CP 060, flew uneventfully to Toronto Airport. The baggage was unloaded from CP 060 and those bags continuing on to London on Air India Flight 181/182 were loaded into the aft cargo compartment of the Boeing 747-237B, construction number 330. The flight, now called Air India Flight 181, then flew uneventfully to Mirabel Airport in Montreal. After landing, some baggage of the departing passengers was unloaded from the aft compartment. Parts of a broken engine were placed in the aft cargo compartment for ferry back to India. New passengers and new baggage from Montreal for the next flight of the same aircraft, construction number 330 and now called Air India Flight 182, were loaded with all the new baggage going into the forward baggage compartment. The baggage from Vancouver on CP 060 and reloaded at Toronto remained in the aft cargo compartment of the Boeing 747-237B now called Air India Flight 182.

The forward cargo compartment was filled with summer night air, warm and moist. When flying at altitude the air would be cooled by the
air conditioning and the very cold outside air would cool the fuselage skin thus condensing out moisture along the inside of the compartment which would run through the wiring bundles and down into the cargo door bilge.

Air India Flight 182 took off from Montreal for London at 0218 Z on 23 June 1985 and flew uneventfully for about five hours and while at 31000 feet at 296 knots and about 115 miles west of Ireland a tragic sequence of events began at 0714 Z. The pressure differential between outside and inside air was at its maximum design limit, 8.9 pounds per square inch.

Water may have met the cracked insulated wire which may have been previously damaged by the high lift accident to the cargo door area. The now exposed and bare wire shorted against the metal fuselage. The electricity then flowed around safety cutout switches and powered on the cargo door actuator unlatch electric motor which attempted to rotate all ten cam sectors to unlocked positions around their ten latching pins. The eight lower cam sectors may have been prevented from unlatching around the latching pins because of the bottom eight locking sectors. However, the two midspan latches had no locking sectors to prevent the inadvertent rotation of the midspan latching cams around the midspan latching pins.

The lower eight cams probably overcame the weaker locking sectors to just turn past center and allow the door to unlatch in flight, a defect known years later in two other Boeing 747 flights, Pan Am Flight 125 and United Airlines Flight 811. The midspan cams turned just past center with no locking sectors to prevent the backdriving of the cams, an operation only supposed to be allowed on the ground. Possibly other factors such as an out of rig cargo door, a poor repair job on the door area, the slack in bellcranks, torque tubes, and worn latch pins may have contributed to have allowed the two midspan latches to rotate just past center permitting the almost 100,000 pounds of internal pressure on the
99 inch by 110 inch door to rupture outward inflight relieving the maximum pressure differential on the internal fuselage.

The nine foot by eight foot squarish forward cargo door would have instantly burst open at the midspan and bottom latches sending the latches, door material, and large pieces of fuselage skin spinning away. The forward cargo compartment would have spewed its contents outward onto the starboard side of the fuselage. It was as if a huge mylar balloon had popped. The severe explosion of explosive decompression caused the forward cargo door to be fractured and shattered into a few large pieces and many small pieces which gave a frayed appearance from an outward force. Many small bits of metal from the explosion were embedded into the cargo door area metal fuselage structure.

The top part of the door swung outward and upward on its hinge and then separated taking large vertical pieces of fuselage skin with it, exposing stringers and bulkheads. The very lower part of the door sill with its eight bottom latches may have stuck to fuselage skin. The resulting damage zone appeared as a huge rectangle of shattered door, skin, and stringers. Some pieces of the door and fuselage skin flew directly aft and impacted the leading edge of the right wing, the vertical stabilizer and the right horizontal stabilizer inflight.

This explosion of explosive decompression blew out a large hole about thirty feet wide and forty feet high on the starboard side of the nose forward of the wing. It looked as if a bomb had gone off inside the forward cargo hold. Fuselage skin was peeled outward at various places on the starboard side of the nose.

The forward cargo door had some fuselage and cargo floor attached. This door, located on the forward starboard side of the aircraft, was broken horizontally about one-quarter of the distance above the lower frame. The damage to the door and the fuselage skin near the door appeared to have been caused by an outward force. The fractured
surface of the cargo door appeared to have been badly frayed. The cargo
door pieces and the adjacent skin had holes, flaps, fractures, inward
concavity, tears, deformities, outward bent petals, curls, missing pieces,
cracks, separations, curved fragments, spikes, and folds. The fast and
powerful explosion of the explosive decompression would have caused
a metallurgical effect called "twinning" on a few fragments of pieces
of wreckage.

The now uncompressed air molecules rushed out of the huge hole
equalizing the high pressure inside the fuselage to the low pressure
outside the aircraft while making a sudden very loud audible sound. This
sudden rushing outward air was recorded on the Cockpit Voice Recorder
as a sudden loud sound. The sound did not accurately match any bomb
explosion sounds on other aircraft but did match the explosive
decompression sound on another wide body airliner, a DC-10 cargo door
open event.

The tremendous explosive force in the forward cargo hold severely
disrupted the adjacent main equipment compartment which housed
power cables and abruptly shut off power to the Flight Data Recorders.
The resulting data tapes showed a sudden loud audible sound followed
by an abrupt power cut to the flight data recorder, the cockpit voice
recorder and transponder.

The number three engine and cowling, closest to the forward cargo
compartment, were damaged by inflight debris from material ejected
from the now exposed compartment and cabin above, debris which also
damaged the number four engine cowling by a displaced turbine blade
from number three engine. The resulting vibration from the internal
damage to engine number three caused the nacelle and engine to fall
away from the wing, as designed, and land apart from the other three
engines.

The floor beams above the forward cargo hold were sucked
downward, and were fractured and broken from the sudden decompression. The floor panels were stationary but gave the appearance of separating upward by the suddenly moving downward floor beams.

The flight attitude of the aircraft was askew to the left from reaction of explosive decompression from the right. Air rushed into the large hole and weakened other skin and frames thus peeling skin further outward and rupturing the aft part of the aircraft to include the aft cargo compartment and the aft pressure bulkhead. There was no evidence of an explosion of any source in the aft cargo compartment.

The 296 knots of wind force pressed upon the weakened airframe and broke it in half amidships. This wind force was larger than any wind force the surface of the earth had ever experienced. The nose portion and wings tore off and landed in a dense debris heap apart from the debris field of the aft part.

The rest of the plane without the forward section suddenly decelerated from 296 knots and caused whiplash injuries to passengers. After the breakup, the passengers who were not wearing their seatbelts were scattered to far distances. They suffered explosion type injuries such as pieces of metal embedded in them from flying debris in the cabin. They were not burned because there was no fire nor explosion from a bomb explosion. The passengers had no other bomb explosion evidence. The passengers and crew were ejected from the disintegrating aircraft to tumble to the water and suffer upward impact physical damage to their bodies. Some remained in their seats and were trapped in the fuselage underwater. Some had decompression type injuries of hypoxia from the high altitude aircraft breakup.

The passengers fell to the sea and some floated and some sank. The baggage from Vancouver passengers and loaded into the aft cargo compartment fell to the sea and some floated and some sank. The baggage from Montreal passengers and loaded into the forward cargo
compartment fell to the sea and some floated and some sank. The aircraft fell in pieces and some pieces floated and some sank.

The pilots may have been conscious for a few seconds and adjusted the trim controls out of habit. The communications radio may have been activated by the disturbances in the cockpit and transmitted for a few seconds to air traffic control.

The port side forward of the wing was relatively smooth and undamaged from inflight debris while the starboard side forward of the wing was shattered, torn, and frayed at the ruptured cargo door area.

A few local fires appeared on the surface of the ocean from the jet kerosene fuel and singed some seat cushions and floating passengers.

All was quiet as the ground controllers tried to contact Air India Flight 182 as the flight crew did not respond to radio calls. Rescue teams were sent. Authorities became aware of the tragedy of 329 men, women, and children dying in a sudden plane crash.

Aftermath:

Explanations were sought as to what happened. Immediately the suggestion was made by authorities that a bomb explosion had caused the accident because of the sudden and catastrophic nature of the immediate evidence.

The Canadian aviation accident investigation authorities became involved since the aircraft had taken off from Canada and had many Canadian citizens aboard. Indian authorities became involved since the airline, Air India, has government ties. The Indian authorities quickly dismissed their aviation experts and assigned a Judge of the Court to oversee the investigation.

After a period of investigation, much of which was conducted to confirm the bomb explosion explanation and identify the culprits, the
Indian judge made a finding in 1986 that a bomb in the forward cargo compartment had caused the inflight breakup of Air India Flight 182 and ruled out any type of explosion in the aft cargo compartment.

After a period of investigation, during which the opinion of the UK Air Accidents Investigation Branch representative of an explosive decompression not caused by a bomb but a cause as yet to be determined was given, the Canadian Aviation Safety Board made a conclusion in 1986 that an explosion of unstated cause in the forward cargo compartment had caused the inflight breakup of Air India Flight 182 while also ruling out any explosion of any type in the aft cargo compartment.

The immediate finding by the Indians of a bomb explosion in the forward cargo compartment was accepted and remained the probable cause for Air India Flight 182 twenty one years later although subsequent accidents of a similar type aircraft in similar circumstances leaving similar evidence now resolutely contradicted that finding although confirming the Indian finding of an explosion on the starboard side of the forward cargo compartment and no explosion in the aft.

The Canadian probable cause of an explosion in the forward cargo compartment of an undetermined cause has been proven to be correct by subsequent accidents of a similar type aircraft in similar circumstances leaving similar evidence which do reveal the cause of the explosion: faulty wiring causing the forward cargo door to rupture open inflight at the latches leading to a tremendous explosion of explosive decompression causing Air India Flight 182 to totally breakup in flight.

In 2001 three men were arrested for involvement in the unproved bombing. One pled guilty on a bomb making charge and went to prison while denying any involvement with Air India Flight 182.

In 2005 two of the accused were found not guilty by a Canadian
judge in British Columbia. The other man remains in prison and charged with perjury in that trial. The Canadian judge determined that an explosion occurred in the rear cargo compartment on the left side and the cause was a bomb. No explanations were offered to rebut the original findings of explosion in the forward cargo compartment on the right side and no explosion of any source in the aft cargo compartment.

In 2006 a Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182 was appointed. The shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup explanation was presented to the Commissioner at an open hearing on 19 July, 2006. Excerpts below:

Application for Standing presented by Mr. Smith: Mr. Smith:
Thank you, Commissioner Major, for allowing me to supplement my written application for standing...I have an alternate explanation for Air India 182. It's a mechanical explanation. I'll go into some detail during my presentation and my detail will not be to persuade you that my explanation is correct but to persuade you that my research has depth and is worthy of being granted standing.

The Commissioner: Well, I don't think, Mr. Smith, that you need 15 minutes to persuade me of that. Here's the difficulty...You have an alternate theory. The alternate theory may over time prove to be correct. I don't know...but the Terms of Reference preclude our considering whether or not there was any cause for that explosion other than the bomb that is found by the Supreme Court of British Columbia.

Hindsight:

In 1985, when Air India Flight 182 suffered an inflight breakup from an explosion, it was believed that an explosive decompression in an early model Boeing 747 could not cause an abrupt power cut to the data flight recorders. That belief was cited by the Indian Kirpal Report as a reason to reject the explosive decompression explanation because,
in fact, Air India Flight 182 had suffered an abrupt power cut to the data
recorders. The Indian Kirpal Reports states: "It was not possible that any
rapid decompression caused by a structural failure could have disrupted
the entire electrical power supply from the MEC compartment." The
later event of United Airlines Flight 811 showed that it was possible, and
indeed, did happen, that an explosive decompression caused by a
structural failure could and did cause an abrupt electrical cutoff to the
recorders.

The reason for the Indians in 1986 to rule out explosive
decompression by structural failure was negated by the reality of United
Airlines Flight 811 in 1989. If the Indians had the foreknowledge of
United Airlines Flight 811 and the explosive decompression which cut
off abruptly the power to the recorders, it is most probable they would
have sustained the findings of the Canadians and the British who said
that a explosion in the forward cargo compartment occurred and all
would have then known the solution to the mystery posed by the AAIB
investigator: "...but the cause has not been identified." The cause was
identified in 1989 and demonstrated by United Airlines Flight 811 in
NTSB AAR 92/02: The National Transportation Safety Board
determines that the probable cause of this accident was the sudden
opening of the forward lower lobe cargo door in flight and the
subsequent explosive decompression.'

The evidence that was unavailable to the Air India Flight 182
CASB, AAIB, and Indian accident investigators in 1985 that became
available in the ensuing 16 years that would have been invaluable in
assisting them in determining the probable cause was:

A. Evidence that an explosive decompression could cause an
   abrupt power cut to the data recorders.

B. Evidence that floor panels can appear to separate upwards when in
   fact the floor beneath were pulled down.

C. Testimony that twinning can occur in explosions other than
   bombs, such as an aviation fuel explosion, or explosive decompression.
D. Evidence that the type of wiring installed, Poly-X, was
defective in that it cracked to bare wire easily, especially in the presence
of moisture.

E. Visible ruptures in flight in forward cargo doors of other early
model Boeing 747s that suffered the same events in flight.

F. Several Airworthiness Directives for defects in and around the
forward cargo doors of Boeing 747s that if uncorrected could lead to
inadvertent opening of the cargo door in flight leading to catastrophic
explosive decompression.

The evidence that was available to the Air India Flight 182 CASB,
AAIB, and Indian accident investigators in 1985 was such to lead them
to conclude that an explosion had taken place on the starboard side in
the forward cargo compartment which was picked up by the cockpit
voice recorder and cut off the electrical power in the adjacent main
electrical equipment compartment. The cause of the explosion was given
as either unknown, structural failure of explosive decompression, or a
bomb explosion. Since the event in 1989 with United Airlines Flight 811
had not happened yet, the understandable decision of the Indians, based
on three assumptions later proven unreliable, was to state the cause of
the explosion in the forward cargo compartment a bomb whilst the
cautious Canadian CASB and the British AAIB left the cause unstated
or unidentified.

Part XI: Political Implications

Mr. Brucker, if and when the substantiated mechanical explanation for
Air India Flight 182 is confirmed by Crown experts in aircraft crashes
(TSB Air investigators), the political consequences are very positive:
(Assuming I'm a political amateur optimist)
1. The caution and prudence of the Canadian Aviation Safety Board of
1986 will be revealed; their findings were correct, there was an
explosion in the forward cargo compartment of Air India Flight 182 with
an electrical cause only apparent four years later with United Airlines
Flight 811.
2. The RCMP and CSIS will be exonerated for their failure to catch their men because there were no men to catch. There was no bomb, there were no bombers, there was no conspiracy, there was no crime, there were no criminals; the small cause was faulty Poly-X wiring destroying a large machine, an early model Boeing 747.

3. The security of Canadian airports was intact and not penetrated because there was no bomb placed in a CP aircraft leaving Vancouver, BC, which then passed through Montreal and Toronto airports.

4. The wisdom of the Canadian judicial system will be reaffirmed as represented by Justice Josephson who found the two accused not guilty because they were.

5. The tenacity and bravery of the Prime Minister to order an Inquiry that eventually would reveal the probable cause for the two decade old tragedy whilst knowing that official Inquiries sometimes answer key questions that remain unsolved, can help prevent future aircraft accidents, but can cause turbulent changes in attitude amongst the public.

6. A grand reduction in the amount of fear, suspicion, and hate among Canadian citizens against themselves, a religion, an airline, and law enforcement.

7. Closure for the families.

A pessimist might opine that acceptance of a mechanical explanation and rejection of the bomb conspiracy story would create disturbance in the minds of the citizens and cause unrest among the families and my reply would be, "That's why politicians and high officials get the respect, because they explain clearly and smooth upsets over to maintain the peace and prosperity of the state."

Part XII: Standing as witness before the Commission of Inquiry

I have fulfilled a Term of Reference and thus worthy of being granted standing because:
1. I have flown in Boeing 747s and about twenty other types of military and civilian aircraft during forty five years of aviation experience accumulating thousands of hours of flight time.
2. My crew duties have included pilot in command, co-pilot, navigator, bombardier, flight crew, mechanic, and owner.
3. I am a qualified nuclear weapon loading officer/bombardier which means I know how to create, load, arm, deliver, and detonate nuclear weapons as well as conventional bombs.
4. I have dropped bombs.
5. I have investigated in depth the bombing of Air India Flight 182 and other explanations for the inflight breakup and have written a three hundred page aircraft accident report and built a thousand page website demonstrating a substantial interest. (Smith AAR for Air India Flight 182 and Exhibit S-18 in the Commission files)
6. I have been investigated by the RCMP, the Air India Task Force, and the security branch of Transport Canada during their investigation of the bombing of Air India Flight 182.
7. I am personally aware of a conflict between the RCMP and Transportation Safety Board of Canada which resulted in problems of effective cooperation which I believe adversely affected the investigation into the bombing of Air India Flight 182.
8. I have been in a sudden fiery fatal jet airplane crash and suffered lifelong injuries.
9. I have seen the fatal victim in that crash.
10. I have visited and discussed the crash with the surviving family members of the victim.
11. I have discovered a clear and present hazard to the security and safety of Canadian passengers flying in early model Boeing 747s such as Air India Flight 182. (The shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup hazard)

Summation

There were no bombs on Air India Flight 182. There were no crimes and
no criminals and no conspiracies. There was and is a mechanical problem which exists to this day, aging and failing Poly X wiring which exploits design errors of non plug cargo doors and omitted midspan locking sectors allowing an explosive decompression when the forward cargo door ruptures open in flight.

Mr. Brucker, please check out this alternate explanation for the current bomb explosion one for Air India Flight 182. The alternative mechanical explanation with precedent warrants requests to Crown experts in technical matters (TSB (Air) investigators), and the Crown expert in inquiry (Commissioner Major of the Commission of Inquiry), for their opinions to assist you on a course of action to follow after their inquiries are complete. I can also help those agencies by being available to present the wiring/cargo door explanation to them in detail. Can you ask TSB (Air) for their professional opinions?

Can you set up a meeting with TSB (Air) investigators and me in Vancouver? I will go there to meet them.

Can you suggest to Commissioner Major that I be granted standing as a witness before him? It is in the best interest of the Commission of Inquiry to inquire into the wiring/cargo door explanation to fulfill the guidance given by the Prime Minister to conduct a full and thorough inquiry and also fulfill the Commissioner's stated goal of being very broad in the evidence that it heard, in order to put to rest the various theories, rumours and neglect that have occurred since the explosion in 1985.

On a personal note, I have read the law somewhat in my forty five years of adulthood. In my opinion, my readings of military law, federal law, local law, and aviation law have revealed one thing that is always apparent: Fairness. The law as written always allows the other side the same advantages or concessions as the other. If one side has time, the other does too. If one side makes a statement, the other side has an
opportunity to rebut, and the original side can rebut the rebuttal and then the other side gets to rebut that rebuttal. The bombing explanation has had twenty one years to present its case, please allow the wiring/cargo door a few hours in front of TSB (Air) or the Commission of Inquiry. Please turn those fair words of the written law and the idealistic words of the Prime Minister and the Commissioner into reality.

Respectfully,

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http://www.montereypeninsulaairport.com
http://www.ntsb.org

Mr. John Barry Smith
barry@johnbarrysmith.com

Dear Mr. Smith:
On behalf of the Prime Minister, I would like to thank you for your e-mail of October 2 regarding the Commission of Inquiry into the Bombing of Air India Flight 182. Please be assured that your comments have been carefully reviewed and are appreciated.

I have taken the liberty of forwarding your correspondence directly to the Minister of Justice and Attorney General of Canada, the Honourable Vic Toews, within whose responsibilities this matter falls.

Once again, thank you for taking the time to write.
Sincerely,
Salpie Stepanian  
Assistant to the Prime Minister

cc: Hon. Vic Toews, P.C., M.P., Minister of Justice and Attorney General of Canada

Mr. John Barry Smith  
barry@johnbarrysmith.com

Dear Mr. Smith:
Thank you for your correspondence of August 20, 2006, to the Honourable Lawrence Cannon, Minister of Transport, Infrastructure and Communities, regarding Air India Flight 182. The Minister has asked me to reply on his behalf.
I have noted your comments with respect to this matter. Although, as you indicate, the Attorney General of Canada is the Government of Canada's representative on the Commission of Inquiry into the investigation of the bombing of Air India Flight 182. This being the case, I have taken the liberty of forwarding a copy of your correspondence to the office of the Honourable Vic Toews, Minister of Justice and Attorney General of Canada, for consideration.

I trust that this action will prove satisfactory. Again, thank you for writing.

Yours truly,
Richard Stryde  
Senior Special Assistant

c.c. Office of the Honourable Vic Toews, P.C. M.P.

Dear John Barry Smith,
Thank you for your interest in Transportation Safety Board.

Your comments are important to us and we will address them as quickly as possible.

We have lots of information already available on-line which may be exactly what you need. Our e-mail service is now available. The subscription page lets you choose the documents for which you would like to receive a notification. When a type of document you have requested is posted on our Web site, an e-mail that includes a short summary and a link to the document on our Web site will be sent to you. Please use the following link to subscribe to our e-mail service (http://listserv.tsb.gc.ca/en/subscribe/).

We invite you to start by reading:

About the TSB (http://www.tsb.gc.ca/en/common/about.asp);

FAQ (http://www.tsb.gc.ca/en/common/faq.asp) where many of your questions may already have been addressed;

The Site Map (http://www.tsb.gc.ca/en/common/site_map.asp); and

Search (http://www.tsb.gc.ca/en/search/query.asp) pages are valuable tools to find specific information.

If you wish to contact a TSB employee, please use the GEDS Employee Directory at http://direct.srv.gc.ca/cgi-bin/direct500/BE.
Please note that personal information collected by TSB is protected.

Thank you for taking the time to provide us with your comments.

Communications Group
Transportation Safety Board
E-mail: communications@tsb.gc.ca

Good afternoon,

The Transportation Safety Board (TSB) has implemented SECURITAS, a confidential program through which you can report potentially unsafe acts or conditions relating to the Canadian transportation system that would not normally be reported through other channels.

For more information, please follow this link:

Thank you for your interest in the Transportation Safety Board of Canada.

Best regards,

Christian Plouffe
Communications Advisor
Transportation Safety Board of Canada

Dear Mr. Smith:

Thank you for your recent inquiry regarding the last correspondence you had with Mr. Bill Tucker on the Air India file. Mr. Tucker's replacement
is Mr. Terry Burtch, who joined us last October. I have forwarded your request to Mr. Burtch, who is pursuing it at present. You may also be interested to know that just before we received your request, both the Director of Investigations - Air and the Director, Engineering, retired from the Transportation Safety Board. Mr. Burtch is presently following up with other staff in those respective organizations, and will communicate directly with you at the earliest opportunity. We regret the delay in responding, but trust that this approach will be satisfactory.

Paulette G. Delorme
Executive Assistant / Adjointe exécutive
Transportation Safety Board of Canada/
Bureau de la sécurité des transports du Canada
Tel.: (819) 994-8002
FAX: (819) 994-9759

To: phil.randall@faa.gov, peter.wilhelmson@faa.gov
From: John Barry Smith <barry@johnbarrysmith.com>
Subject: Wiring/cargo door
Cc:
Bcc:
X-Attachments: :Kicked:3169069:chart12.jpg:
Phil Randall
Pete Wilhelmson
FAA Safety Team
FAAST

Dear Mr. Randall and Mr. Wilhelmson, Sunday, October 15, 2006

Mr. Randall, permit me to address you directly, sir. From press release: "To take aviation safety one step further, Flight Standards Service created the FAASTeam. The FAASTeam is devoted to reducing aircraft accidents by promoting a cultural change in the aviation community
toward a higher level of safety."

About time!

Normally I leave the political considerations out of my discussion of a probable cause for an accident but I now realize politics oversees everything and in this case may be very important. My political opinions may be wrong about the reasons for the creation of FAAST but my scientific conclusions about the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s are correct.

Why was FAAST created? In my amateur opinion the team was created because it became apparent to FAA that the NTSB had become politicized, slow, and argumentative while producing delayed, incomplete, and flawed AARs. NTSB was not giving timely objective probable causes. The FAA has stepped in to fill the vacuum with FAAST.

From the editor of Air Data Research: "There are a lot of excellent investigators working for the NTSB. However, their efforts are directed by managers who may have other priorities than aviation safety. We've long been critical of the NTSB's delay in publishing the reports of their investigations. But they just don't seem to get it - their priorities seem to be determined by blood, bent metal and media attention. Fewer and quicker reports are not necessarily better reports."

The NTSB has pressed the FAA to inert fuel tanks based upon TWA Flight 800 and the FAA has rightly resisted by indicating the data does not justify the effort. Fuel tanks may or many not need to be inerted but TWA Flight 800 is irrelevant. The center fuel tank of that aircraft did have a fire/explosion but it was not the initial event by an unknown ignition source as the NTSB states. The wiring/cargo door explanation gives an ignition source for that fireball and it's the fodded on fire engine
number three. The wiring/cargo door explanation for TWA Flight 800 also explains the streak, the strange radar returns, the red paint smears, the embedded turbine blades, and the sudden loud sound on the CVR followed by the abrupt power cut to the FDR, all important evidence clues which are ignored by the center fuel tank explosion explanation.

Spontaneously exploding aircraft fuel tanks with a mysterious ignition source may be a problem on a Boeing 737 sitting on a ramp but the faulty Poly X wiring in early model Boeing 747s is a much higher priority since my research has shown it has caused at least four fatal accidents, Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

I know two of the accidents are controversial and have other official explanations which are explanations from law enforcement, not aircraft accident investigators. The hard evidence from United Airlines Flight 811 is what connects the other three to each other not zany conspiracy stories based on fear of terrorists.

At this time, sir, I do not expect you to believe that frayed Poly X wiring is shorting on a cargo door unlatch motor allowing the forward cargo door to rupture open in flight at the midspan latches which leads to explosive decompression and inflight breakup of four early model Boeing 747s, but please, Mr. Randall, believe that I believe it. In my thousands of flight hours as crew and pilot, I have made life and death decisions based on less certainty that the cause of those four accidents was a ruptured open forward cargo door inflight probably caused by a failure in the electrical system (same as United Airlines Flight 811) and refined by subsequent accidents to be shorted Poly X wiring with the initial rupture occurring at the midspan latches.

A face to face meeting is inevitable. It will allow you to ascertain my credibility and evaluate my wiring/cargo door explanation. This messenger is in fact a 62 year old retired US military officer who
survived a fatal US Navy carrier jet crash and has flown many hours over a forty-five year career in aviation. The wiring/cargo door explanation can be explained with charts, data, sketches, photographs, and text. Let's call it data mining/analysis and it works.

From press release: "To further reduce accidents the FAASTeam will use a coordinated effort to focus resources on particularly elusive accident causes. This will be accomplished by data mining/analysis, team work, instruction in the use of safety management systems/risk management tools, and development/distribution of educational materials. There's plenty of data available on aircraft accidents, but it's often difficult to determine exactly what should be done to reduce accidents from the data."

So very true! And wiring is a particularly elusive accident cause since the symptoms are often treated but not the underlying cause of frayed wiring.

To reduce accidents based upon my data, the wiring in the cargo door unlatch circuit needs to be replaced or inspected regularly for cracks, chafing, and exposed bare wire. Next, non plug cargo doors need to be exposed for the accident waiting to happen they are and then turned into plug type.

The wiring/cargo door explanation is simply a manufacturing flaw of defective Poly X wire exploiting design flaws of non plug cargo doors which don't have locking sectors on the two midspan latches. It's as simple as that.

I realize the FAA has two goals which often conflict, the promotion of US aviation and the safety of US aviation. Let the commerce guys say, "Safety is important, but...." Let us say, "Safety is important." I would argue that safe airplanes sell better than unsafe; an airline with less accidents makes more profit. Many sales and profitable airlines through
We are safety men who respond to facts and data, so let me give some at this time: To reveal officially the dangers of wiring which require immediate action, I suggest the first accident to delve into deeply is TWA Flight 800. That updated accident investigation requires complete knowledge of United Airlines Flight 811. The two are closely linked by the sudden loud sound on the CVR which is not a bomb but an explosive decompression sound.

Chart 12 above from NTSB public docket for TWA Flight 800 showing the sudden loud sound from the CVRs in graphical format. Air India is Air India Flight 182, PanAm is Pan Am Flight 103, and United is United Airlines Flight 811. (Philippine Air was a Boeing 737 that had a fuel tank explode on the ground and not a Boeing 747 exploding in the air as the others.)

United Airlines Flight 811
"The Safety Board believes that the approximate 1.5 to 2.0 seconds between the first sound (a thump) and the second very loud noise recorded on the CVR at the time of the door separation was probably the time difference between the initial failure of the latches at the bottom of the door, and the subsequent separation of the door, explosive decompression, and destruction of the cabin floor and fuselage structure. The door did not fail and separate instantaneously; rather, it first opened at the bottom and then flew open violently. As the door separated, it tore away the hinge and surrounding structure as the pressure in the cabin forced the floor beams downward in the area of the door to equalize with the loss of pressure in the cargo compartment."
TWA Flight 800
"The TWA flight 800 CVR recorded noise characteristics that were most similar to those recorded by the CVRs on board the United flight 811 and Philippine Airlines airplanes."

Mr. Randall, in a meeting, permit me to show you beyond doubt that the forward cargo door ruptured open at the midspan latches at event time for TWA Flight 800 and that the center fuel tank exploded many seconds later, and the cause for the shattered door was probably faulty Poly X wiring in the unlatch door circuit.

To quickly rebut the center fuel tank explosion as the initial event:

A center fuel tank explosion would give bilateral damage in that area while a ruptured forward cargo door would give unilateral damage on the starboard side in the door area. Note the actual damage from the wreckage:

Smooth port side above nose to left, green leading edge of wing under the "R" of "World".

Above: Shattered forward cargo door starboard side nose to right, leading edge of wing is green area.

One more picture above: (from NTSB AAR for United Airlines Flight 811)

Well, enough of the pictures and charts for now. Your safety experts should be able to quickly rule in or rule out the wiring/cargo door
explanation with a few pointed questions to me. I have written three lengthy AARs, one each for Air India Flight 182, Pan Am Flight 103, and TWA Flight 800. They are available for download at http://www.ntsb.org or upon request. The NTSB, AAIB, and CASB official AARs are also available (plus United Airlines Flight 811 AAR) at that ntsb.org website. (Not affiliated with NTSB and stated on home page) Part IV of my AAR for TWA Flight 800 explains my differences with the NTSB conclusions.

To sum up:

1. Let us set up a face to face meeting, you with questions, me with answers.
2. Please download and review my AARs.
3. If the wiring/cargo door explanation is ruled in by your evaluation, then corrective action can be justified and another accident may have been averted.
4. If the wiring/cargo door explanation is ruled out by your evaluation, then I apologize for your expended time and expense.

The accidents under question may have happened a long time ago, but then, data mining and analysis need time. The internet has allowed me to identify the four trees in the forest of electrically caused inflight breakups of early model Boeing 747s and to deduce another tree may fall again.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
safety@ntsb.org
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

From Air Data Research: "Since the federal government is beginning a new fiscal year, it seems appropriate to take a look at the number and type of investigations conducted by the NTSB over the past few years. If you work much with NTSB reports, you've figured out that characters 4 and 5 of the NTSB file number designate the fiscal year of the occurrence. And you may have wondered about the significance of characters 6 and 7 in the file number, which designate the type of investigation.

The code FA designates a field investigation - the most detailed type of investigation. Limited investigations, usually delegated to the FAA, are designated by LA in the file number. The CA code indicates a Data Collection investigation. Incident investigations are IA; GA or TA indicate a public use aircraft; and RA or WA are foreign investigations to which the NTSB is a party. It is not uncommon for a single occurrence to generate multiple reports as an occurrence is up or downgraded.

As a general rule, and as the Chairman stated, the NTSB field investigations involve fatal injuries. Non-fats, homebuilt and agricultural aircraft investigations are delegated to the FAA or simply a data collection report based on information submitted by the operator «
regardless of the safety implications of the mishap.

While the final numbers are sometimes not complete for several years, we can get a pretty good picture of how the NTSB’s efforts are focused by looking at the following count by year and type of investigation - http://www.airsafety.com/reports/weeklycount.htm

You’ll notice that the percentage of field investigations stayed at 15% or 16% for FY 01, FY 02, and FY 03. In FY 04 the percentage dropped to 12% where it has stayed since. In FY 01, limited investigations comprised 73% of the total. By FY 04, data collection investigations had climbed from zero in FY 01 to 24% and continued to climb to 35% in FY 05 and 42% in FY 06. This, with a corresponding decrease in limited investigations. Essentially these investigations were delegated to the operator rather than the FAA.

But you'll notice that throughout this period, incident investigations have stayed steady at 2% or 3%. Incident reports are often found to be much more valuable by analysts than full-fledged accident reports. (If nothing else, they had a live pilot to interview.) Apparently the NTSB doesn't share the FAA's curiosity.

The FAA and NTSB have quite different missions, but just to give a little context to the number of incidents, since 2001 the reports in the FAA database have been 49% accidents, 51% incidents.

So while the total number of NTSB investigations has stayed relatively constant over the past few years, the number of field investigations is down by roughly one-fourth. And there has been no corresponding increase in investigation of other types except the data collection non-investigations.

There are a lot of excellent investigators working for the NTSB. However, their efforts are directed by managers who may have other
priorities than aviation safety. We've long been critical of the NTSB's delay in publishing the reports of their investigations. But they just don't seem to get it - their priorities seem to be determined by blood, bent metal and media attention. Fewer and quicker reports are not necessarily better reports.

Editor"

To: phil.randall@faa.gov
From: John Barry Smith <barry@johnbarrysmith.com>
Subject: Re: Wiring/cargo door meeting with FAA safety officials
Cc: peter.wilhelmsen@faa.gov
Bcc:
X-Attachments:
At 11:46 AM -0400 10/25/06, phil.randall@faa.gov wrote:

Mr. Smith,

I apologize for the delay in replying to your emails, but my time has been
very limited due to special projects that I have to complete involving implementation of the FAASTeam.

Dear Mr. Randall, Wednesday, October 25, 2006

Thank you for your reply to my alert about wiring in aging Boeing 747s causing cargo doors to open in flight.

>Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert,

What areas are you an expert in? Aerodynamics? Structures? Metallurgy? Acoustics? All of those areas are relevant to the wiring/cargo door explanation.
I discuss your emails with the appropriate people at FAA headquarters.

All right! HQ. Mr. McSweeny?

- (Normal) Tom.McSweeny@faa.dot.gov 1:38 PM 6/5/98 57 Inspect cargo door wiring too
- (Normal) Tom.McSweeny@faa.dot.gov 7:37 AM 6/12/98 14 Red Paint Transfer Marks TWA 800 Cargo Door Area
- (Normal) Tom.McSweeny@faa.dot.gov 2:33 PM 7/2/98 9 Response to Chairman Hall's letter to Congressman Farr
- (Normal) Tom_McSweeny@admin.tc.faa.gov 5:11 AM 5/29/98 10 Wiring/cargo door evidence from US government document
- (Normal) Tom_McSweeny@admin.tc.faa.gov 2:41 AM 6/5/98 57 Inspect cargo door wiring too.

and they all feel that you need to address your concerns with Aircraft Certification.

The Aircraft Certification Service is responsible for the design and production approval, airworthiness certification, and continued airworthiness programs of all U.S. civil aviation products.

Aircraft Certification Offices (ACOs)
ACOs assist with:

- Design approval and certificate management
- Investigating and reporting aircraft accidents, incidents, and
service difficulties
The office nearest to you is listed below.

Thank you for taking the time to find the address and phone and fax, I wish I had an email address in this day and age. LA is a lot farther than SF or SJ, too bad. I shall mail them a big package.

Please contact them and thank you for your concerns.
Los Angeles ACO
3960 Paramount Boulevard
Lakewood, CA 90712-4137
(562) 627-5200 FAX: (562) 627-5210

Well, I shall certainly follow up and send my concerns to them.

There have been about 44 hull losses of the 1500 or so Boeing 747s constructed over the past 35 years. Five experienced a rare combination of sudden loud sound on the cockpit voice recorder followed by an abrupt power cut, more inflight damage on the starboard side, foddled engine number three and a shattered cargo door. United Airlines Flight 811 was the only one that returned.

I have pursued this since 1990 and immediately recognized the event in 1996 (and informed the authorities) with TWA Flight 800 and China Flight 611 in 2002. When another Boeing 747 is reported to suddenly disappear and a bomb is suspected after the sudden loud sound is identified on the CVR followed by the abrupt power cut to the FDR, then we'll both know that the wiring has struck again.

Here is a curious thing, in all the emails below which consist of
thousands of pages of data, photos and evidence, not one of the FAA employees, in safety or otherwise, ever, ever asked a question about the wiring/cargo door explanation.

Curiosity is not a strong suit in the FAA apparently. I am a curious fellow about why airplanes fly and why they don't.

But at least you replied, thank you again for the referral to LA ACO. I shall follow up on your guidance.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org

Phil

Phil Randall
Deputy National FAASTeam Manager (AFS-8A)
Greensboro FSDO
6433 Bryan Blvd.
Greensboro, NC 27409
(336) 662-1008 Office
(336) 662-1080 FAX
(336) 404-6396 Cell
Aircraft Certification Service
Responsibilities
The Aircraft Certification Service is responsible for the design and production approval, airworthiness certification, and continued airworthiness programs of all U.S. civil aviation products. We support that mission with a training program and oversight of Designated Representatives of the Administrator.
Customer Service Initiative
The Customer Service Initiative (CSI) provides a way for you to request reconsideration of a decision made by an Aviation Safety office. The goals of the Initiative are to:

- Document Aviation Safety decisions
- Make employees accountable for achieving Aviation Safety's mission
- Promote earlier resolution of disagreements
- Promote more consistency and fairness in applying FAA regulations

Aircraft Certification Offices (ACOs)
Contact the appropriate FAA Field Office that serves your geographic area for guidance on aircraft certification related activities.
ACOs assist with:

- Design approval and certificate management
- US production approvals
- Engineering and analysis questions
  - Investigating and reporting aircraft accidents, incidents, and service difficulties
  - Designated Engineering Representatives (DER) oversight

S (Normal) WebmasterFAA@mail.hq.faa.gov 3:08 AM 8/11/96 1 The President's Life is in Danger
S (Normal) WebmasterFAA@mail.hq.faa.gov 3:36 AM 9/2/96 25 Fiction story about TWA 800
I am not a 'peddler.'

Wiring Cargo Door CyberReport V.1.0

Pretend Reality Does Not Exist

800 photos, new real evidence http://www.cora

Smoking guns for wiring/cargo door for TWA 800

matches TWA 800

Swissair 111, Comair, TWA 800

Swissair 111/ TWA 800/ UAL 811 connected by wiring

Bare polyimide wiring found in TWA 800 cargo area

Photos of ruptures at midspan latches TWA 800

Chapters 4, 5, 6, no pictures

So close, yet so far.

Close calls

Well done

Another close call

Wiring/Metrojet 737 match to Bournemouth 737 yaw damper
MD11, now check 747

Check wiring in 747 cargo areas

Wiring/moisture

Still time to pursue the wiring/cargo door explanation

New AAIB wiring/cargo door problem

Wiring checks on TWA 800

It's bare wire and water. Bad combo

Please reevaluate the wiring/cargo door explanation for

Uncommanded inputs to elevators, ailerons, and autopilots

http://www.corazon.com/EgyptAir990crashsequence.html

103 defense team.
Photos of ruptures at latches of TWA 800/wiring/cargo

And Mr. Wildey of NTSB relies on Mr. Schalekamp and Mr

For the NTSB, thought you might be interested...

Still trying TWA 800 wiring/cargo door

door explanation for TWA 800

cargo door AD for 747s

Ha, ha, ha

Turn this stone over

And you know it

Still time for wiring/cargo door to be evaluated

but can't have it both ways: Inward outward at

cargo door explanation

credentials

door letter for Mr. Wildey

sequence

NTSB Eyewitness and Cargo door exhibits published
Fwd: Part 2 of text version of letter
S (Normal) FAA 1:54 PM 1/24/01 56 Fwd: FAA
says door may have separated in flight
S (Normal) FAA 1:54 PM 1/24/01 5 Fwd: FAA
Need to talk to Chief Theoretician for TWA 800
S (Normal) FAA 1:54 PM 1/24/01 8 Fwd: Please
resolve contradictions/We are on the same
S (Normal) FAA 1:54 PM 1/24/01 9 Fwd: Three
contradictions
S (Normal) FAA 1:54 PM 1/24/01 55 Fwd:
Inward or Outward
S (Normal) FAA 1:54 PM 1/24/01 43 Fwd: Dear Mr.
Wildey,
S (Normal) FAA 1:54 PM 1/24/01 71 Fwd: Senator
McCain/cargo door/Mr. John B. Drake
S (Normal) FAA 1:54 PM 1/24/01 7 Fwd: Another exhibit with your name on it that doesn't
S (Normal) FAA 1:54 PM 1/24/01 31 Fwd: FAA/
NTSB link to wiring/cargo door cause for TWA
S (Normal) FAA 1:54 PM 1/24/01 7 Fwd: Cargo
doors mixed up by FAA for TWA 800
S (Normal) FAA 1:54 PM 1/24/01 28 Fwd: TWA
800 cargo door mixup
S (Normal) FAA 1:54 PM 1/24/01 18 Fwd:
Retrieve forward cargo door sill of TWA 800
S (Normal) FAA 1:55 PM 1/24/01 12 Fwd: Retrieve Door!
S (Normal) FAA 1:55 PM 1/24/01 5 Fwd: Sill
confusion
S (Normal) FAA 1:55 PM 1/24/01 22 Fwd: Locate
forward cargo door for TWA 800
S (Normal) FAA 1:55 PM 1/24/01 9 Fwd:
Cracked wiring found in TWA 800 cargo door zone.
Orange zone/door wiring
Orange zone/door wiring too.
Wiring/cargo door evidence from US government doc
cargo door wiring too.
Wiring/cargo door wiring too.
Inspect cargo door wiring too.
My errors corrected
Response to Chairman Hall's letter to Congressman
Hoop Stresses/Mr. Wildey
Hoop Stresses/Mr. Wildey
Please resolve contradictions/We are on the s
Please resolve contradictions/We are on the s
latched/mostly latched
Quick note/AI 182 to TWA 800
Metallurgist
emails to Mr. Wildey
cargo door explanation/judgment
The precision of the English language
This explains a
lot
S  (Normal)    Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV 3:15 PM 2/14/01 10  Check it out, please
S  (Normal)    Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV 9:30 AM 7/23/01 5
S  (Normal)    Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV 9:09 AM 6/9/02 4  China Airlines Flight 611
S  (Normal)    mary.ctr.chiappetta@faa.gov  3:43 PM 6/12/02 1  Safety data analysis shows pattern in five 747 acciden
S  (Normal)    Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV 9:43 PM 9/3/02 28  China Airlines Flight 611 cargo door strange areas...
S  (Normal)    Brent.Philips@faa.gov, richard.jehlen@faa.gov, 10:44 PM 7/4/06 8  TWA Flight 800 Anniversary coming up and Hazard still exis
S  (Normal)    phil.randall@faa.gov  9:06 PM 10/10/06 22  Reporting safety issue to you, the FAA Safety Team
S  (Normal)    peter.wilhelmson@faa.gov  2:19 PM 10/13/06 1  contact
S  (Normal)    peter.wilhelmson@faa.gov  6:35 PM 10/13/06 3  contact1
S  (Normal)    phil.randall@faa.gov, peter.wilhelmson@faa.gov  2:11 PM 10/15/06 16  Wiring/cargo door
S  (Normal)    phil.randall@faa.gov, peter.wilhelmson@faa.gov  7:54 AM 10/25/06 169  Wiring/cargo door meeting with FAA safety officials
-  (Normal)    John.Dimtroff@FAA.DOT.GOV  1:38 PM 6/5/98 57  Check cargo door wiring too.
-  (Normal)    John.Dimtroff@FAA.DOT.GOV  7:38 AM 6/12/98 14  Red Paint Transfer Marks TWA 800 Cargo Door
<table>
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<th>To</th>
<th>Time</th>
<th>Subject</th>
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<tbody>
<tr>
<td></td>
<td><a href="mailto:John.Dimtroff@FAA.DOT.GOV">John.Dimtroff@FAA.DOT.GOV</a></td>
<td>9:45 AM 6/23/98 9</td>
<td>My errors corrected</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:John_Dimtroff@admin.tc.faa.gov">John_Dimtroff@admin.tc.faa.gov</a></td>
<td>2:34 PM 7/2/98 9</td>
<td>Response to Chairman Hall's letter to Congressman Farr</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:darrellpederson@faa.gov">darrellpederson@faa.gov</a></td>
<td>5:48 AM 10/15/97 3</td>
<td>Inspect cargo door wiring too.</td>
<td></td>
</tr>
</tbody>
</table>
5/26/98 1 Email tone for wiring.
- (Normal) TOPGUNJPD@aol.com 2:03 AM
5/27/98 3 Prudent
- (Normal) TOPGUNJPD@aol.com 5:34 PM
5/27/98 0 Re: Email tone for wiring.
- (Normal) TOPGUNJPD@aol.com 10:36 PM
5/27/98 1 Re: Prudent
¥ (Normal) TOPGUNJPD@aol.com 10:41 PM
5/27/98 0 Re: Email tone for wiring.
- (Normal) TOPGUNJPD@aol.com 2:29 AM
5/28/98 5 Email level of comm
- (Normal)TOPGUNJPD@aol.com 3:38 PM
5/28/98 0 Request to correspond officially
- (Normal) TOPGUNJPD@aol.com 5:17 AM
5/29/98 11 Wiring/cargo door
- (Normal) TOPGUNJPD@aol.com 12:45 PM
5/29/98 1 Re: Request to correspond officially
- (Normal) TOPGUNJPD@aol.com 1:22 PM 5/29/98
13 Relax
- (Normal) TOPGUNJPD@aol.com 4:08 AM 5/30/98
25 Young death
- (Normal) TOPGUNJPD@aol.com 8:23 AM
5/30/98 1 Re: Relax
- (Normal) TOPGUNJPD@aol.com 8:43 AM
5/30/98 1 Re: Wiring/cargo door
- (Normal) Neil.Schalekamp@faa.dot.gov 1:39 PM
6/5/98 57 Inspect cargo door wiring too
- (Normal) Neil.Schalekamp@faa.dot.gov 7:37 AM
6/12/98 14 Red Paint Transfer Marks TWA 800 Cargo Door Area
- (Normal) Neil.Schalekamp@faa.dot.gov 9:45 AM
6/23/98 9 My errors corrected
- (Normal) Neil.Schalekamp@faa.dot.gov 2:34 PM
7/2/98 9 Response to Chairman Hall's letter to Congressman Farr
- (Normal) Neil_Schalekamp@admin.tc.faa.gov 5:12
AM 5/29/98 10  Wiring/cargo door evidence from US government document
- (Normal) Neil_Schalekamp@admin.tc.faa.gov
2:40 AM 6/5/98 57  Inspect cargo door wiring too.
- (Normal) Ronald.Wojnar@faa.dot.gov 7:38 AM
6/12/98 14  Red Paint Transfer Marks TWA 800 Cargo Door Area
- (Normal) Ronald.Wojnar@faa.dot.gov 1:40 PM
6/5/98 57  Inspect cargo door wiring too.
- (Normal) Ronald.Wojnar@faa.dot.gov 7:40 AM
6/12/98 14  Red Paint Transfer Marks TWA 800 Cargo Door Area
- (Normal) Ronald.Wojnar@faa.dot.gov 9:45 AM
6/23/98 9  My errors corrected
- (Normal) Ronald.Wojnar@faa.dot.gov 2:34 PM
7/2/98 9  Response to Chairman Hall's letter to Congressman Farr
- (Normal) Ronald_Wojnar@admin.tc.faa.gov 5:12 AM
5/29/98 10  Wiring/cargo door evidence from US government document
- (Normal) Ronald_Wojnar@admin.tc.faa.gov 2:41 AM
6/5/98 57  Inspect cargo door wiring too.
- (Normal) FAAOAI 4:21 AM 11/5/97 30  Cargo door rupture amplification explanation
- (Normal) FAAOAI 12:19 PM 11/15/97 18  Mr. Streeter for Chairman Hall, part one Chairman
- (Normal) FAAOAI 12:20 PM 11/15/97 27  Part three Chairman
- (Normal) FAAOAI 12:20 PM 11/15/97 27  Part two Chairman
- (Normal) FAAOAI 3:55 AM 11/18/97 9  Letter for Chairman Hall/door rupture destruction sequ
- (Normal) FAAOAI 1:13 AM 11/20/97 11  Aging A/C, Analysis of center tank vs cargo door ruptu
- (Normal) FAAOAI 3:27 PM 11/28/97 16  Cargo door rupture/NTSB TWA 800 Hearing
- (Normal) FAAOAI 3:30 PM 11/28/97 16
Cargo door rupture/NTSB TWA 800 Hearing
- (Normal) FAAOAI 3:28 PM 12/18/97 35
All latched/mostly latched
- (Normal) FAAOAI 4:10 AM 12/19/97 36
Sending again/TWA 800 cargo door
- (Normal) FAAOAI 3:50 AM 12/31/97 71
Cargo door letter for Mr. Streeter
- (Normal) FAAOAI 12:18 PM 1/7/98 4 Wiring
before door, door before center tank
- (Normal) FAAOAI 8:40 AM 1/8/98 4 I'll resend anyway.
- (Normal) FAAOAI 9:44 AM 1/29/98 60 NTSB
Eyewitness and Cargo door exhibits published/Part
- (Normal) FAAOAI 9:44 AM 1/29/98 52 Part two of
text version of letter
- (Normal) FAAOAI 5:51 AM 2/4/98 4 FAA says
doors may have separated in flight
- (Normal) FAAOAI 4:34 PM 2/4/98 4 FAA says
doors may have separated in flight/resend
- (Normal) FAAOAI 10:16 AM 2/13/98 26
Need to talk to Chief Theoretician for TWA 800
- (Normal) FAAOAI 3:48 AM 2/21/98 6 Fluid causes
problems for 737
- (Normal) FAAOAI 9:55 AM 2/27/98 51 Inward or
Outward
- (Normal) FAAOAI 9:07 AM 3/13/98 35 Dear Mr.
Streeter,
- (Normal) FAAOAI 4:06 AM 3/17/98 6 NTSB/
cargo door meeting
- (Normal) FAAOAI 3:21 PM 3/20/98 4
Something to chew on...
- (Normal) FAAOAI 12:32 AM 3/25/98 52
Two steps forward, one step back/engine data
- (Normal) FAAOAI 10:23 AM 3/28/98 15 Ox
Gored/Cargo door ADs
- (Normal) FAAOAI 7:41 AM 4/1/98 28 FAA/
NTSB link to wiring/cargo door cause for TWA 800
- (Normal) FAAOAI 10:22 AM 4/2/98 0 Thank you
- (Normal) FAAOAI 3:03 AM 4/4/98 15 Analysis in progress.
- (Normal) FAAOAI 1:43 AM 4/5/98 8 FAAOAI role
- (Normal) FAAOAI 2:50 AM 4/8/98 3 FAA inspected wrong cargo door of TWA 800
- (Normal) FAAOAI 2:50 AM 4/8/98 3 Wrong door examined in TWA 800
- (Normal) FAAOAI 3:14 AM 4/9/98 18 Wrong door/ what to do?
- (Normal) FAAOAI 12:19 PM 4/9/98 10 Returned email about TWA 800
- (Normal) FAAOAI 12:19 PM 4/9/98 10 Part II TWA 800 message
- (Normal) FAAOAI 2:18 AM 4/10/98 5 Important message can't get through
- (Normal) FAAOAI 3:50 AM 4/13/98 25 TWA 800 cargo door mixup
- (Normal) FAAOAI 2:57 AM 4/20/98 14 Retrieve forward cargo door sill of TWA 800
- (Normal) FAAOAI 1:45 PM 4/22/98 9 Please ask NTSB to retrieve door.
- (Normal) FAAOAI 6:26 AM 4/27/98 4 Door sill confusion
- (Normal) FAAOAI 4:08 AM 4/30/98 20 Cargo sill confusion
- (Normal) FAAOAI 5:38 AM 5/12/98 8 Cracked wiring found in TWA 800 cargo door zone.
- (Normal) FAAOAI 10:56 AM 5/20/98 8
Orange zone/door wiring
- (Normal) FAAOAI 5:12 AM 5/29/98 10 Wiring/cargo door evidence from US government document
- (Normal) FAAOAI 2:41 AM 6/5/98 57 Inspect cargo door wiring too.
- (Normal) FAAOAI 7:41 AM 6/12/98 14 Red Paint Transfer Marks TWA 800 Cargo Door Area
- (Normal) FAAOAI 9:44 AM 6/23/98 9 My errors corrected
- (Normal) FAAOAI 2:32 PM 7/2/98 9 Response to Chairman Hall's letter to Congressman Farr S (Normal) FAAOAI 4:33 AM 9/8/98 17 Bare wiring found in TWA 800 S (Normal) FAAOAI 3:16 PM 9/9/98 9 Another forwarding favor please.
S (Normal) FAAOAI 2:12 AM 10/16/98 2 Please check 747 cargo doors S (Normal) FAAOAI 11:26 AM 10/19/98 2 TWA smooth port/Email picture test S (Normal) FAAOAI 2:01 PM 10/19/98 3 Another picture test.
S (Normal) FAAOAI 11:02 AM 10/20/98 4 Picture test/uncontained engine failure S (Normal) FAAOAI 11:36 PM 10/20/98 24 Great stories and lessons
   (Normal) Lyle Streeter 8:27 AM 11/4/97 13 for Office of Accident Investigation
   (Normal) Lyle Streeter 8:49 AM 11/6/97 46 Re: Cargo door rupture amplification explanation
- (Normal) Lyle Streeter 3:58 PM 11/6/97 9 Hinge inspection for overtravel impressions
   (Normal) Lyle Streeter 7:32 AM 11/7/97 12 Re: Hinge inspection for overtravel impressions
- (Normal) Lyle Streeter 10:02 AM 11/7/97
Wiring before door, door before center tank
- Wiring before door, door before center tank, vibration

NTSB/cargo door meeting

FAA/NTSB link to wiring/cargo door cause for TWA 8

Wrong door examined in TWA 800
- Wrong door examined in TWA 800

TWA 800 cargo door mixup

TWA 800 cargo door mixup

Retrieve forward cargo door sill of TWA 800
- Retrieve forward cargo door sill of TWA 800

Cracked wiring found in TWA 800 cargo door zone.

Pretend Reality Does Not Exist

Theories with evidence and those without

Another forwarding favor please.

(Re)
Re: TWA smooth port/Email picture test  
  (Normal)      Lyle Streeter  6:08 AM 10/20/98  3  Re:  
Another picture test.  
S  (Normal)  y  Fred Laird  10:51 AM 4/7/05 0  
Smith AAR for Air India Flight 182 attached  
S  (Normal)  y  Fred Laird  10:51 AM 4/7/05 0  Smith  
AAR for Pan American World Airways Flight 103 attach  
S  (Normal)  y  Fred Laird  10:51 AM 4/7/05 0  
NTSB AAR 92/02 United Airlines Flight 811 second report at  
S  (Normal)  y  Fred Laird  10:51 AM 4/7/05 0  
NTSB AAR 90/01 United Airlines Flight 811 first report at  
S  (Normal)  y  Fred Laird  10:51 AM 4/7/05 0  
Canadian and Indian AAR for Air India Flight 182 attached  
S  (Normal)  y  Fred Laird  10:52 AM 4/7/05 0  
AAIB AAR 2/90 for Pan American World Airways Flight 103 a  
S  (Normal)  y  Fred Laird  10:52 AM 4/7/05 0  
Smith China Airlines Flight 611 door story attached  
S  (Normal)  y  Fred Laird  10:52 AM 4/7/05 0  
NTSB AAR 0003 Trans World Airlines Flight 800 attached  
R  (Normal)  y  Fred Laird  12:41 AM 4/8/05 14  Re:  
Read first: China Airlines Flight 611, careful and sens  
S  (Normal)  y  Fred Laird  6:27 AM 4/8/05 2  Re:  
Read first: China Airlines Flight 611, careful and sen  
-  (Normal)  y  Tom.McSweeny@faa.dot.gov  1:38  
PM 6/5/98  57  Inspect cargo door wiring too  
-  (Normal)  y  Tom.McSweeny@faa.dot.gov  7:37 AM  
6/12/98 14  Red Paint Transfer Marks TWA 800 Cargo Door Area  
-  (Normal)  y  Tom.McSweeny@faa.dot.gov  9:43  
AM 6/23/98  9  My errors corrected  
-  (Normal)  y  Tom.McSweeny@faa.dot.gov  2:33 PM  
7/2/98  9  Response to Chairman Hall's letter to Congressman Farr  
-  (Normal)  y  Tom_McSweeny@admin.tc.faa.gov  5:11 AM  
5/29/98 10  Wiring/cargo door evidence from US government  
document
From: John Barry Smith <barry@johnbarrysmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: phil.randall@faa.gov
Cc: peter.wilhelmson@faa.gov
Subject: Re: Wiring/cargo door meeting with FAA safety officials

At 11:46 AM -0400 10/25/06, phil.randall@faa.gov wrote:
Mr. Smith,

I apologize for the delay in replying to your emails, but my time has been
very limited due to special projects that I have to complete involving
implementation of the FAASTeam.

Dear Mr. Randall, Wednesday, October 25, 2006

Thank you for your reply to my alert about wiring in aging Boeing 747s causing cargo doors to open in flight.

>Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert,

What areas are you an expert in? Aerodynamics? Structures? Metallurgy? Acoustics? All of those areas are relevant to the wiring/cargo door explanation.
I discuss your emails with the appropriate people at FAA headquarters.

All right! HQ. Mr. McSweeny?

-  (Normal)  Tom.McSweeny@faa.dot.gov  1:38 PM 6/5/98  57  Inspect cargo door wiring too
-  (Normal)  Tom.McSweeny@faa.dot.gov  7:37 AM 6/12/98  14  Red Paint Transfer Marks TWA 800 Cargo Door Area
-  (Normal)  Tom.McSweeny@faa.dot.gov  2:33 PM 7/2/98  9  Response to Chairman Hall's letter to Congressman Farr
-  (Normal)  Tom_McSweeny@admin.tc.faa.gov  5:11 AM 5/29/98  10  Wiring/cargo door evidence from US government document
-  (Normal)  Tom_McSweeny@admin.tc.faa.gov  2:41 AM 6/5/98  57  Inspect cargo door wiring too.

and they all feel that you need to address your concerns with Aircraft Certification.

The Aircraft Certification Service is responsible for the design and production approval, airworthiness certification, and continued airworthiness programs of all U.S. civil aviation products. Aircraft Certification Offices (ACOs)
ACOs assist with:
¥ Design approval and certificate management
¥ Investigating and reporting aircraft accidents, incidents, and service difficulties

The office nearest to you is listed below.

Thank you for taking the time to find the address and phone and fax, I wish I had an email address in this day and age. LA is a lot farther than SF or SJ, too bad. I shall mail them a big package.

Please contact them and thank you for your concerns.
Los Angeles
ACO
3960 Paramount Boulevard
Lakewood, CA
90712-4137
(562) 627-5200 FAX: (562) 627-5210

Well, I shall certainly follow up and send my concerns to them.

There have been about 44 hull losses of the 1500 or so Boeing 747s constructed over the past 35 years. Five experienced a rare combination of sudden loud sound on the cockpit voice recorder followed by an abrupt power cut, more inflight damage on the starboard side, foddered engine number three and a shattered cargo door. United Airlines Flight 811 was the only one that returned.

I have pursued this since 1990 and immediately recognized the event in 1996 (and informed the authorities) with TWA Flight
800 and China Flight 611 in 2002. When another Boeing 747 is reported to suddenly disappear and a bomb is suspected after the sudden loud sound is identified on the CVR followed by the abrupt power cut to the FDR, then we'll both know that the wiring has struck again.

Here is a curious thing, in all the emails below which consist of thousands of pages of data, photos and evidence, not one of the FAA employess, in safety or otherwise, ever, ever asked a question about the wiring/cargo door explanation.

Curiosity is not a strong suit in the FAA apparently. I am a curious fellow about why airplanes fly and why they don't.

But at least you replied, thank you again for the referral to LA ACO. I shall follow up on your guidance.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnb arry smith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org

Phil
Aircraft Certification Service
Responsibilities
The Aircraft Certification Service is responsible for the design and production approval, airworthiness certification, and continued airworthiness programs of all U.S. civil aviation products. We support that mission with a training program and oversight of Designated Representatives of the Administrator.

Customer Service Initiative
The Customer Service Initiative (CSI) provides a way for you to request reconsideration of a decision made by an Aviation Safety office. The goals of the Initiative are to:

¥ Document Aviation Safety decisions
¥ Make employees accountable for achieving Aviation Safety's mission
¥ Promote earlier resolution of disagreements
¥ Promote more consistency and fairness in applying FAA regulations

Aircraft Certification Offices (ACOs)
Contact the appropriate FAA Field Office that serves your geographic area for guidance on aircraft certification related activities.

ACOs assist with:

¥ Design approval and certificate management
¥ US production approvals
¥ Engineering and analysis questions
¥ Investigating and reporting aircraft accidents, incidents, and service difficulties
¥ Designated Engineering Representatives (DER) oversight

S  (Normal)  WebmasterFAA@mail.hq.faa.gov  3:08 AM 8/11/96 1  The President's Life is in Danger
S  (Normal)  WebmasterFAA@mail.hq.faa.gov  3:36 AM 9/2/96 25  Fiction story about TWA 800
-  (Normal)  WebmasterFAA@mail.hq.faa.gov, newyork@fbi.gov, 2:24 AM 9/3/96 17  More Fiction Stories part 1 "You Won't Believe Me..."
-  (Normal)  WebmasterFAA@mail.hq.faa.gov, cnn.feedback@cnn 2:24 AM 9/3/96 24  More Fiction Stories part 2 "So Now You Will Die..."
-  (Normal)  WebmasterFAA@mail.hq.faa.gov  8:46 AM 9/6/96 14  Airplane crash cause and danger
-  (Normal)  WebmasterFAA@mail.hq.faa.gov  8:20 AM 9/21/96 14  The President, Airplane crash cause and danger
3  Rule: Re: The President's Life is in Danger
  (Normal)  WebmasterFAA  9:28 AM 9/27/96
3  Rule: Re: The President's Life is still in Danger
  (Normal)  WebmasterFAA  9:29 AM 9/27/96
3  Rule: Re: Fiction story about TWA 800
  (Normal)  WebmasterFAA  9:30 AM 9/27/96
3  Rule: Re: More Fiction Stories part 1 "You Won't Believe...
  (Normal)  WebmasterFAA  9:30 AM 9/27/96
3  Rule: Re: More Fiction Stories part 2 "So Now You Will...
3  Rule: Re: Airplane crash cause and danger
   (Normal)  WebmasterFAA  9:31 AM 9/27/96
3  Rule: Re: The President, Airplane crash cause and dan
- (Normal)  WebmasterFAA@mail.hq.faa.gov
3:55 AM 12/18/96 14  Airplane crash cause and danger
   (Normal)  WebmasterFAA  2:39 PM
12/19/96  3  Rule: Re: Airplane crash cause and danger
- (Normal)  WebmasterFAA@mail.hq.faa.gov
2:56 AM 10/29/97  0  For Mr. McSweeney, Aircraft
Certification Service
- (Normal)  webmasterAAI@faa.dot.gov
3:41 AM 11/3/97 11  for Office of Accident Investigation
- (Normal)  FAA  3:08 AM 7/24/98  8  Check
cargo door area wiring too on 747s.
- (Normal)  FAA  7:24 AM 7/30/98 137  I
am not a 'peddler.'
- (Normal)  FAA  7:32 AM 7/30/98 10
WiringCargoDoor CyberReport V.1.0
S  (Normal)  FAA  3:32 AM 8/13/98  36
Pretend Reality Does Not Exist
S (Normal)  FAA  3:34 AM 8/13/98 14  New
TWA 800 photos, new real evidence  http://www.cora
S (Normal)  FAA  6:31 AM 8/25/98  9
Smoking guns for wiring/cargo door for TWA 800
S (Normal)  FAA  7:18 AM 8/28/98  19  Pan
Am 103 matches TWA 800
S  (Normal)  FAA  3:38 AM 9/3/98  5
Swissair 111, Comair, TWA 800
S  (Normal)  FAA  5:13 AM 9/14/98  10
Swissair 111/TWA 800/ UAL 811 connected by wiring
S (Normal)  FAA  4:01 AM 9/22/98 14
Wiring/PA 103/Libya
S (Normal)  FAA  3:09 AM 9/30/98  6  Bare
polyimide wiring found in TWA 800 cargo area
11 Photos of ruptures at midspan latches TWA 800
Chapters 4, 5, 6, no pictures
Close calls
Another close call
221 Wiring/Metrojet 737 match to Bournemouth 737 yaw dampe
Checking MD11, now check 747
wiring in 747 cargo areas
Wiring/moisture
Still time to pursue the wiring/cargo door explanation
New AAIB wiring/cargo door problem
Wiring checks on TWA 800
It's bare wire and
water. Bad combo

S (Normal) FAA:Ronald.Wojnar@faa.dot.gov, John.Dimtroff@F 6:30 AM 10/31/99 2 Please reevaluate the wiring/cargo door explanation for
S (Normal) FAA:Ronald.Wojnar@faa.dot.gov, John.Dimtroff@F 8:14 AM 11/2/99 38
S (Normal) FAA:Ronald.Wojnar@faa.dot.gov, John.Dimtroff@F 8:24 AM 11/17/99 41 Uncommanded inputs to elevators, ailerons, and autopilot
S (Normal) FAA 9:55 AM 6/5/00 3 Photos of ruptures at latches of TWA 800/wiring/cargo
S (Normal) FAA 8:58 AM 7/31/00 9 And Mr. Wildey of NTSB relies on Mr. Schalekamp and Mr
S (Normal) FAA 11:32 PM 8/22/00 6 For the NTSB, thought you might be interested...
S (Normal) FAA 1:52 AM 8/25/00 35 TWA 800 analysis
S (Normal) FAA 11:25 AM 8/26/00 34 Still still trying TWA 800 wiring/cargo door
S (Normal) FAA 5:44 AM 8/28/00 24 Wiring/cargo door explanation for TWA 800
S (Normal) FAA 9:37 AM 8/29/00 14 Wiring/cargo door AD for 747s
S (Normal) FAA 12:30 PM 9/16/00 15 Ha, ha, ha
this stone over
And you know it
Still time for wiring/cargo door to be evaluated
Want it, but can't have it both ways: Inward outward at
Wiring/cargo door explanation

Good solid credentials
Cargo door letter for Mr. Wildey
New sequence
Fwd: NTSB Eyewitness and Cargo door exhibits published
Part 2 of text version of letter

FAA says door may have separated in flight
Fwd: Need to talk to Chief Theoretician for TWA 800
Please resolve contradictions/We are on the same
Three contradictions
Fwd: Inward or Outward

Dear Mr. Wildey,
Senator McCain/cargo door/Mr. John B. Drake

Fwd: Another exhibit with your name on it that doesn't
S (Normal) FAA 1:54 PM 1/24/01 7 Fwd:
FAA/NTSB link to wiring/cargo door cause for TWA
S (Normal) FAA 1:54 PM 1/24/01 7 Fwd:
Cargo doors mixed up by FAA for TWA 800
S (Normal) FAA 1:54 PM 1/24/01 28 Fwd:
TWA 800 cargo door mixup
S (Normal) FAA 1:54 PM 1/24/01 18 Fwd:
Retrieve forward cargo door sill of TWA 800
S (Normal) FAA 1:55 PM 1/24/01 12 Fwd: Retrieve Door!
S (Normal) FAA 1:55 PM 1/24/01 5 Fwd:
Sill confusion
S (Normal) FAA 1:55 PM 1/24/01 22 Fwd:
Locate forward cargo door for TWA 800
S (Normal) FAA 1:55 PM 1/24/01 9 Fwd:
Cracked wiring found in TWA 800 cargo door zone.
S (Normal) FAA 1:55 PM 1/24/01 9 Fwd:
Orange zone/door wiring
S (Normal) FAA 1:55 PM 1/24/01 12 Fwd:
Wiring/cargo door evidence from US government doc
S (Normal) FAA 1:55 PM 1/24/01 66 Fwd:
Inspect cargo door wiring too.
S (Normal) FAA 1:55 PM 1/24/01 17 Fwd:
Red Paint Transfer Marks TWA 800 Cargo Door Area
S (Normal) FAA 1:55 PM 1/24/01 10 Fwd:
My errors corrected
S (Normal) FAA 1:55 PM 1/24/01 11 Fwd:
Fwd: Response to Chairman Hall's letter to Congressman
S (Normal) FAA 1:55 PM 1/24/01 3 Fwd:
RE: Hoop Stresses/Mr. Wildey
John.Dimtroff@FAA.DO 9:43 PM 9/3/02  28   China Airlines Flight 611 cargo door strange areas...
S  (Normal)   y   Brent.Phillips@faa.gov,
richard.jehlen@faa.gov, 10:44 PM 7/4/06 8   TWA Flight 800 Anniversary coming up and Hazard still exis
S  (Normal)   phil.randall@faa.gov  9:06 PM 10/10/06 22   Reporting safety issue to you, the FAA Safety Team
S  (Normal)   peter.wilhelms@faa.gov  2:19 PM 10/13/06 1 contact
S  (Normal)   phil.randall@faa.gov,  
peter.wilhelms@faa.gov  6:35 PM 10/13/06 3 contact
S  (Normal)   phil.randall@faa.gov,  
peter.wilhelms@faa.gov  2:11 PM 10/15/06 16 Wiring/cargo door
S  (Normal)   phil.randall@faa.gov,  
peter.wilhelms@faa.gov  7:54 AM 10/25/06 169 Wiring/cargo door meeting with FAA safety officials
-  (Normal)   John.Dimtroff@FAA.DOT.GOV  1:38 PM 6/5/98  57   Check cargo door wiring too.
-  (Normal)   John.Dimtroff@FAA.DOT.GOV  7:38 AM 6/12/98 14   Red Paint Transfer Marks TWA 800 Cargo Door Area
-  (Normal)   John.Dimtroff@FAA.DOT.GOV  9:45 AM 6/23/98  9   My errors corrected
-  (Normal)   John.Dimtroff@FAA.DOT.GOV  2:34 PM 7/2/98  9   Response to Chairman Hall's letter to Congressman Farr
-  (Normal)   John_Dimtroff@admin.tc.faa.gov  2:41 AM 6/5/98  57   Inspect cargo door wiring too.
Darrell Pederson< FS< darrellpederson@faa.gov< 5:48 AM< 10/15/97< 3< test

John Barry Smith< 10:21 AM< 1/9/03< 30< Re: The FAA lady doth protest too much. Like a dog cov

Joe A. Nakanishi< 5:46 AM< 10/19/05< 3<

Joe A. Nakanishi< 11:04 AM< 10/19/05< 29< Agusta A109A II, registration: N655GS

Joe A. Nakanishi< 10:29 AM< 10/25/05< 15< Another recent Agusta 109 positioning crash.

Joe A. Nakanishi< 12:46 PM< 10/25/05< 2< Re: Another recent Agusta 109 positioning crash.

Joe A. Nakanishi< 3:01 PM< 10/25/05< 1< Re: Another recent Agusta 109 positioning crash.

Joe A. Nakanishi< 2:53 PM< 10/30/05< 4< Something's going on....

Joe A. Nakanishi< 6:22 PM< 1/25/06< 9< NTSB air ambulance flights..

TOPGUNJPD< 9:00 AM< 5/24/98< 1< Re: Answer to your E-mail

TOPGUNJPD< 10:12 PM< 5/26/98< 0< Re: Email tone for wiring.

TOPGUNJPD@aol.com< 10:42 AM< 5/24/98< 8< Wiring/cargo door reasonable line of investigation.

TOPGUNJPD@aol.com< 2:04 AM< 5/26/98< 1< Email tone for wiring.

TOPGUNJPD@aol.com< 2:03 AM< 5/27/98< 3< Prudent
TOPGUNJPD@aol.com 5:34 PM 5/27/98 0  Re: Email tone for wiring.

TOPGUNJPD@aol.com 10:36 PM 5/27/98 1  Re: Prudent

TOPGUNJPD@aol.com 10:41 AM 5/27/98 0  Re: Email tone for wiring.

TOPGUNJPD@aol.com 2:29 AM 5/28/98 5  Email level of comm

TOPGUNJPD@aol.com 3:38 PM 5/28/98 0  Request to correspond officially

TOPGUNJPD@aol.com 5:17 AM 5/29/98 11  Wiring/cargo door

TOPGUNJPD@aol.com 12:45 PM 5/29/98 1  Re: Request to correspond officially

TOPGUNJPD@aol.com 1:22 PM 5/29/98 13  Relax

TOPGUNJPD@aol.com 4:08 AM 5/30/98 25  Young death

TOPGUNJPD@aol.com 8:23 AM 5/30/98 1  Re: Relax

TOPGUNJPD@aol.com 8:43 AM 5/30/98 1  Re: Wiring/cargo door

Neil.Schalekamp@faa.dot.gov 1:39 PM 6/5/98 57  Inspect cargo door wiring too

Neil.Schalekamp@faa.dot.gov 7:37 AM 6/12/98 14  Red Paint Transfer Marks TWA 800 Cargo Door Area

Neil.Schalekamp@faa.dot.gov 9:45 AM 6/23/98 9  My errors corrected

Neil.Schalekamp@faa.dot.gov 2:34 PM 7/2/98 9  Response to Chairman Hall's letter to Congressman Farr

- (Normal)
Wiring/cargo door evidence from US government document

Inspect cargo door wiring too.

Inspect cargo door wiring too.

14 Red Paint Transfer Marks TWA 800 Cargo Door Area

9:45 AM 6/23/98 9 My errors corrected

Response to Chairman Hall's letter to Congressman Farr

Wiring/cargo door evidence from US government document

Inspect cargo door wiring too.

Cargo door rupture amplification explanation

Mr. Streeter for Chairman Hall, part one Chairman

Part three Chairman

Part two Chairman

Letter for Chairman Hall/door rupture destruction sequ
- (Normal) FAAOAI 1:13 AM 11/20/97 11
Aging A/C, Analysis of center tank vs cargo door rupture
- (Normal) FAAOAI 3:27 PM 11/28/97 16
Cargo door rupture/NTSB TWA 800 Hearing
- (Normal) FAAOAI 3:30 PM 11/28/97 16
Cargo door rupture/NTSB TWA 800 Hearing
- (Normal) FAAOAI 3:28 PM 12/18/97 35
All latched/mostly latched
- (Normal) FAAOAI 4:10 AM 12/19/97 36
Sending again/TWA 800 cargo door
- (Normal) FAAOAI 3:50 AM 12/31/97 71
Car go door letter for Mr. Streeter
- (Normal) FAAOAI 12:18 PM 1/7/98 4 Wiring before door, door before center tank
- (Normal) FAAOAI 8:40 AM 1/8/98 4 I'll resend anyway.
- (Normal) FAAOAI 9:44 AM 1/29/98 60 NTSB Eyewitness and Cargo door exhibits published/Part
- (Normal) FAAOAI 9:44 AM 1/29/98 52 Part two of text version of letter
- (Normal) FAAOAI 5:51 AM 2/4/98 4 FAA says door may have separated in flight
- (Normal) FAAOAI 4:34 PM 2/4/98 4 FAA says door may have separated in flight/resend
- (Normal) FAAOAI 10:16 AM 2/13/98 26 Need to talk to Chief Theoretician for TWA 800
- (Normal) FAAOAI 3:48 AM 2/21/98 6 Fluid causes problems for 737
- (Normal) FAAOAI 9:55 AM 2/27/98 51 Inward or Outward
- (Normal) FAAOAI 9:07 AM 3/13/98 35 Dear Mr. Streeter,
- (Normal) FAAOAI 4:06 AM 3/17/98 6
NTSB/cargo door meeting
-  (Normal)  FAAOAI  3:21 PM 3/20/98  4
Something to chew on...
-  (Normal)  FAAOAI  12:32 AM 3/25/98 52
52 Two steps forward, one step back/engine data
-  (Normal)  FAAOAI  10:23 AM 3/28/98 15
15 Ox Gored/Cargo door ADs
-  (Normal)  FAAOAI  7:41 AM 4/1/98  28
FAA/NTSB link to wiring/cargo door cause for TWA 800
-  (Normal)  FAAOAI  10:22 AM 4/2/98 0
Thank you
-  (Normal)  FAAOAI  3:03 AM 4/4/98 15
Work/analysis in progress.
-  (Normal)  FAAOAI  1:43 AM 4/5/98  8
FAAOAI role
-  (Normal)  FAAOAI  2:50 AM 4/8/98  3
FAA inspected wrong cargo door of TWA 800
-  (Normal)  FAAOAI  2:50 AM 4/8/98  3
Wrong door examined in TWA 800
-  (Normal)  FAAOAI  3:14 AM 4/9/98 18
Wrong door/what to do?
-  (Normal)  FAAOAI  12:19 PM 4/9/98 10
Returned email about TWA 800
-  (Normal)  FAAOAI  12:19 PM 4/9/98 10  Part II TWA 800 message
-  (Normal)  FAAOAI  2:18 AM 4/10/98  5
Important message can't get through
-  (Normal)  FAAOAI  3:50 AM 4/13/98 25
TWA 800 cargo door mixup
-  (Normal)  FAAOAI  2:57 AM 4/20/98 14
Retrieve forward cargo door sill of TWA 800
-  (Normal)  FAAOAI  1:45 PM 4/22/98  9
Please ask NTSB to retrieve door.
Door sill confusion
- (Normal) FAAOAI 6:26 AM 4/27/98 4

cargo door sill confusion
- (Normal) FAAOAI 4:08 AM 4/30/98 20

Cracked wiring found in TWA 800 cargo door zone.
- (Normal) FAAOAI 5:38 AM 5/12/98 8

Orange zone/door wiring
- (Normal) FAAOAI 5:12 AM 5/29/98 10

Wiring/cargo door evidence from US government document
- (Normal) FAAOAI 2:41 AM 6/5/98 57

Inspect cargo door wiring too.
- (Normal) FAAOAI 7:41 AM 6/12/98 14

Paint Transfer Marks TWA 800 Cargo Door Area
- (Normal) FAAOAI 9:44 AM 6/23/98 9

My errors corrected
- (Normal) FAAOAI 2:32 PM 7/2/98 9

Response to Chairman Hall's letter to Congressman Farr
S (Normal) FAAOAI 4:33 AM 9/8/98 17

Another forwarding favor please.
S (Normal) FAAOAI 3:16 PM 9/9/98 9

Another picture test.
S (Normal) FAAOAI 2:12 AM 10/16/98

Please check 747 cargo doors
S (Normal) FAAOAI 11:26 AM 10/19/98

TWA smooth port/Email picture test
S (Normal) FAAOAI 2:01 PM 10/19/98

Another picture test.
S (Normal) FAAOAI 11:02 AM 10/20/98

Picture test/uncontained engine failure
S (Normal) FAAOAI 11:36 PM 10/20/98

Great stories and lessons
(Normal) Lyle Streeter 8:27 AM 11/4/97
for Office of Accident Investigation

Re: Cargo door rupture amplification explanation
-  (Normal) Lyle Streeter 3:58 PM 11/6/97

Re: Hinge inspection for overtravel impressions
-  (Normal) Lyle Streeter 7:32 AM 11/7/97

Re: Wiring before door, door before center tank
-  (Normal) Lyle Streeter 2:27 AM 1/9/98

3 Wiring before door, door before center tank, vibration
   (Normal) Lyle Streeter 8:13 PM 3/18/98

Re: NTSB/cargo door meeting
   (Normal) Lyle Streeter 8:06 AM 4/2/98

Re: FAA/NTSB link to wiring/cargo door cause for TWA 8
   (Normal) Lyle Streeter 10:28 AM 4/13/98

5 Re: Wrong door examined in TWA 800
-  (Normal) Lyle Streeter 3:00 PM 4/13/98

22 Re: Wrong door examined in TWA 800
-  (Normal) Lyle Streeter 1:36 AM 4/14/98

0 Re: TWA 800 cargo door mixup
   (Normal) Lyle Streeter 5:43 AM 4/14/98

Re: TWA 800 cargo door mixup
   (Normal) Lyle Streeter 2:10 PM 4/21/98

Re: Retrieve forward cargo door sill of TWA 800
-  (Normal) Lyle Streeter 5:46 AM 4/22/98

16 Re: Retrieve forward cargo door sill of TWA 800
   (Normal) Lyle Streeter 8:03 AM 5/13/98

9 Re: Cracked wiring found in TWA 800 cargo door zone.
   (Normal) Lyle Streeter 5:52 AM 8/14/98

Re: Pretend Reality Does Not Exist
Re: Pretend Reality Does Not Exist
8/17/98  7  Re[2]: Pretend Reality Does Not Exist

Theories with evidence and those without

Re: Another forwarding favor please.
10/19/98  2  Re: TWA smooth port/Email picture test

Re: Another picture test.

Smith AAR for Air India Flight 182 attached

Smith AAR for Pan American World Airways Flight 103 attached

NTSB AAR 92/02 United Airlines Flight 811 second report at

NTSB AAR 90/01 United Airlines Flight 811 first report at

Canadian and Indian AAR for Air India Flight 182 attached

AAIB AAR 2/90 for Pan American World Airways Flight 103 a

Smith China Airlines Flight 611 door story attached

NTSB AAR 0003 Trans World Airlines Flight 800 attached

Re: Read first: China Airlines Flight 611, careful and sens
From: John Barry Smith <barry@johnbarrystmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: phil.randall@faa.gov, peter.wilhelms9e@faa.gov
Subject: Wiring/cargo door meeting with FAA safety officials

Phil Randall
Pete Wilhelmson
FAA Safety Team
FAAST

Dear Mr. Randall and Mr. Wilhelmson, Wednesday, October 25,
2006

I have not heard back from you regarding the alert about Poly X wiring in Boeing 747 cargo door circuits. Did you get my email responding to the telephone call? (enclosed)

An article in the Washington Post (enclosed) states the FAA is still concerned about older planes and loaded with wiring. My shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation shows the danger is clear, present, and much worse than realized.

The FAA is concerned that planes are getting older and are loaded with more wiring -- the source of the majority of the smoke and fires -- as aircraft offer expanded on-board high-tech equipment and in-flight entertainment systems. Last year, the agency proposed new rules to stiffen requirements on the maintenance, installation and care of wiring

I've also included below a recent letter to Canadian officials (enclosed) regarding Air India Flight 182 that lays out the case in particular for Air India Flight 182. I was replying to responses from the office of the Prime Minister and Minister of Transportation.

There are lots of safety issues out there for FAAST; I would say that Poly X wiring should be high up on the list since my research has shown it has killed hundreds not officially recognized.

In all my decades of flying, thousands of flight hours, and tens of incidents/emergencies, I have learned that some problems are
slow in coming and some are fast. I went from flying perfectly normally to being on the ground surrounded by burning debris in literally ten seconds. I also learned that there were many apparent slow problems that became no problems when I checked them out and took corrective action or dismissed them.

Please check out my alert on wiring/cargo door problems with early model Boeing 747s by setting up a meeting with me so I can present my research in detail using charts, documents, and photographs to FAA safety personnel. Salinas, San Jose, or San Francisco are all suitable for me or you can certainly visit me in Carmel Valley.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
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http://www.montereypeninsulaairport.com
http://www.ntsb.org

Fires in the air still a risk for pilots, airlines
'Smoke conditions' called a problem that flight crews can't always get to
Wednesday, October 18, 2006
BY DEL QUENTIN WILBER
WASHINGTON POST
The FAA is concerned that planes are getting older and are loaded with more wiring -- the source of the majority of the
smoke and fires -- as aircraft offer expanded on-board high-tech equipment and in-flight entertainment systems. Last year, the agency proposed new rules to stiffen requirements on the maintenance, installation and care of wiring. It also has worked to reduce the amount of flammable materials on board. Still, in a two-day period late last month, authorities reported several incidents. A Delta Airlines flight was evacuated at Boston's Logan International Airport when the pilot smelled smoke after landing. Another Delta flight from Paris to Atlanta was diverted to Knoxville, Tenn., after passengers reported smelling smoke. And a Chicago-bound American Airlines flight was diverted to a New Hampshire airport after passengers reported a burning smell.
The U.S. aviation world has experienced a particularly safe period in recent years. Only one major commercial jet crash has occurred since late 2001, when 49 people were killed in August in Kentucky after pilots tried to take off on a runway that was too short.
The good safety record is because of the elimination of the most glaring aviation risks, experts say. One of the biggest advances: an on-board computer system that warns pilots when they're approaching mountains, the ground or other terrain -- once a leading cause of aviation fatalities. Safety consultants said the FAA and the aviation industry have made strides in reducing the risk of in-flight fires. In the 1980s, regulators pushed to ensure that aircraft had better smoke detectors and extinguishers in lavatories, and forced airlines to use less-flammable material in aircraft cabins.
Next, they turned to improving aircraft wiring and stripping out flammable insulation and other material that could burn. Airlines have begun to concentrate on removing
debris, such as lint and dirt, that builds up in hidden places and could sustain a blaze. Smoke detectors and automated fire extinguishers were installed in cargo holds. Those efforts followed the crashes in 1996 of a ValuJet plane in the Florida Everglades and of TWA 800, a Boeing 747 that exploded in mid-flight after a spark apparently set off vapors in a center fuel tank. Two years later, a Swissair jet crashed off the coast of Nova Scotia after insulation near the cockpit was ignited by short-circuited wires, investigators say.

Researchers are studying ways to allow flight attendants to reach such inaccessible areas as behind aircraft walls to discharge fire extinguishers, after several incidents in which crews couldn't get to small blazes.

To streamline procedures for pilots -- who are often caught off guard by smoke incidents and must react quickly -- Boeing Co. plans soon to issue new simplified fire checklists for all of its planes. Studies suggest pilots may have no more than 15 to 20 minutes to get a burning aircraft on the ground before a fire leads to catastrophe. Pilots groups have been pushing for such checklists, which are expected to begin with a warning: "A Diversion May Be Required," said H.G. "Boomer" Bombardi, a pilot who has worked on fire safety for the Air Line Pilots Association.

To: pm@pm.gc.ca, barney.brucker@justice.gc.ca, MINTC@tc.gc.ca, communications@tsb.gc.ca, Paulette.Delorme@tsb.gc.ca, Terry.Burtch@tsb.gc.ca, securitas@tsb.gc.ca, mtansey@majorcomm.ca
From: John Barry Smith <barry@johnbarrysmith.com>
Subject: Air India Flight 182 wiring/cargo door explanation1
Cc:
Bcc:
X-Attachments:
Stephen Harper
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Ottawa
K1A 0A2
Salpie Stepanian
Assistant to the Prime Minister
pm@pm.gc.ca

Honourable
Vic Toews, Minister of Justice and Attorney General of Canada,
Mr. Barney Brucker
Attorney General of Canada
Department of Justice
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Toronto, ON
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barney.brucker@justice.gc.ca

Honourable Lawrence Cannon,
Minister of Transport, Infrastructure and Communities,
Richard Stryde
Senior Special Assistant
MINTC@tc.gc.ca

Transportation Safety Board of Canada
Head Office
200 Promenade du Portage
Place du Centre 4th Floor
Dear Honourable Ministers, Commissioner, and Respected
Staff, Sunday, October 22, 2006

All roads lead to Barney. But first...our subject:

Introduction:

An action transferred is an action completed and an action completed is better than no action at all, so let me thank the below staff for their referrals:

1. Salpie Stepanian, Assistant to the Prime Minister for the reply to my email to the Prime Minister; "Please be assured that your comments have been carefully reviewed and are appreciated. I have taken the liberty of forwarding your correspondence directly to the Minister of Justice and Attorney General of Canada, the Honourable Vic Toews, within whose responsibilities this matter falls."

2. Richard Stryde, Senior Special Assistant, to Honourable Lawrence Cannon, Minister of Transport, Infrastructure and Communities for his reply to my email. "The Minister has asked me to reply on his behalf. I have noted your comments with respect to this matter. Although, as you indicate, the Attorney General of Canada is the Government of Canada's representative on the Commission of Inquiry into the investigation of the bombing of Air India Flight 182. This being the case, I have taken the liberty of forwarding a copy of your correspondence to the office of the Honourable Vic Toews, Minister of Justice and Attorney General of Canada, for consideration.

Thank you both, Ms. Stepanian and Mr. Stryde, and I appreciate
the attention at highest political levels that my alert has received of the clear and present danger to the Canadian flying public by the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s, of which Air India Flight 182 was but one. It occurred to me that since my wiring/cargo door explanation received the attention of such high officials, then it must also be considered by others, such as the AG, TSB, and the Commission of Inquiry.

I present myself to you as someone who is not seeking compensation, who is not pursuing a lawsuit, who is not angry and ranting, who does not seek a special tax break, nor one who is pleading for mercy for a criminal conviction. I am someone who is trying to prevent mass deaths in another airplane crash similar to Air India Flight 182. I am qualified to do so through experience and education but not by rank or title. I have proven my good intentions by flying to Ottawa from California and staying in a hotel at my own expense and time. I consider myself one of the good guys and would like to think that everyone involved here is also good. We are to protect and serve the people, you from your official public positions and me from my private and unofficial one. We are on the same side. We have the same goals although different routes. I understand your way. I'm asking that you understand my path; it's down to earth, makes sense, and is clear cut.

There was some surprise that my research and conclusions about an airplane crash were referred to the Attorney General but I still appreciate the referrals, thank you again, Ms. Stepanian and Mr. Stryde. Sooner or later the Transportation Safety Board (Air) will be the ones to evaluate the causes of an airplane crash based on the physical laws of science and not the emotional, irrational
motives of human nature. The other official responses to my alert from the Minister of Justice, the Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182, the TSB (Air), and Securitas (TSB) have been...silence. The Attorney chooses to remain silent, the Spokesperson will not speak, the Inquirer will not inquire, and the security officers will not...do whatever they do. I shall hopefully assume the silences reflect deep contemplation, solemn pondering, if you will.

I must make do with what I have and what I have are two referrals from high authority to the Minister of Justice and Attorney General of Canada...which is actually his representative, Mr. Barney Brucker. My presentation must be appropriate to the audience and will therefore be made using legal terms in a courtroom model with attorney relationships. Mr. Brucker and I are most certainly good sons, wonderful husbands, terrific fathers, loyal to our friends, and competent professionals. However, in the courtroom model we shall be professional adversaries as the British system uses the plaintiff and defendant style to determine findings: I shall be polite and respectful while arguing a common goal to understand what happened and why; in this case, why Air India Flight 182 exploded in midair so many years ago. If everyone knew 'why' for sure, there would not be the many conflicting official opinions about what and where in the aircraft the explosion occurred nor the current Commission of Inquiry or an upcoming perjury trial. The issue is still contentious and will remain so until a conclusive ending is attained.

In the old days, say before June, 1985, the government was the stolid, conservative arbiter of verdicts and justice while the wild eyed conspiracy guys with their erratic connecting the coincidental dots into plots of mass murder by foreign looking
gents were the barely tolerated and scorned rabble. Now the government is the conspiracy bomber terrorist believing guy and a scientific fellow like me is on the outside, trying to reason with the unreasonable. Please be reasonable; respond to reason not emotional hate and a lust for revenge based on horror and grief. There are real terrorists out there wanting to blow up airliners but they were not involved with the destruction of Air India Flight 182.

Let us assume that the Crown believes and has prosecuted several men on the premise that two or three bombs were placed on two Boeing 747s which departed Vancouver BC and later blew up, one on a baggage cart and one in an aircraft, murdering many. Furthermore, those bombs were placed by several revenge seeking turbaned terrorists who conspired with each other over a period of months. Subsequent attempts at prosecution revealed administrative lapses among various agencies which are alleged to have thwarted justice. A witness lied. Victims' families remain irate. Law enforcement is frustrated. Thus an Inquiry and further prosecution of a presumed conspirator continue.

Assume that I claim that there was no bomb on Air India Flight 182 and therefore no bombers, no conspiracy, no crime, and no criminals. The cause was the mechanical one of the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation which is amply supported by facts, data, evidence, recorders, schematics, and a matching precedent of United Airlines Flight 811.

Presentation Outline:
Introduction
Opening Statement
Presenting Case:
Permit me now to make my opening statement to Mr. Barney Brucker, (the judge, jury, and prosecutor of one), then present my case in detail, and sum up to conclusion and await the verdict from Mr. Brucker.

Opening statement:

Mr. Brucker, I am the plaintiff, I have come to you for redress of a grievance, that grief being the loss of a huge airliner and the deaths of 329 men, women, and children and flight crew. I believe the probable cause of that airplane crash to be the same probable cause of about half of all the thousands of airplane crashes, a mechanical fault with the machine. I do not believe the cause of that inflight breakup to have been caused by the rarest of causes for an explosion in a highly pressurized hull; sabotage and specifically a bomb explosion. My explanation is called the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation or wiring/cargo door for short. That electrical cause occurred for Air
India Flight 182 and for several other early model Boeing 747s, in particular United Airlines Flight 811. That wiring problem can occur again and another 329 persons can needlessly die. The problems are mechanical and can be fixed thus preventing another inflight explosion when that cargo door ruptures outward in flight, causing an explosion which mimics a bomb explosion. The hard evidence refutes a bomb explosion because the necessary scientific evidence which would confirm a bomb explosion is missing and the scientific evidence which confirms an explosive decompression due to a ruptured open cargo door is present. A bomb explosion on Air India Flight 182 is scientifically ruled out and an open cargo door is ruled in.

The defence (government) contends it was a bomb explosion in the aft bulk cargo compartment on the left side that caused the inflight breakup of Air India Flight 182. They have offered as proof a complicated conspiracy theory involving a Mr. X, an adulterous affair, jealous lovers, misappropriated funds, shootouts, angry and revengeful savages, army assaults, religious conflicts and a potential breakaway civil war. Fine, that's all very exciting and a movie with those elements would be very entertaining, I'm sure. Air India Flight 182 was first and foremost an airplane crash. It was not a domestic disturbance that escalated into violence or a bank robbery. An airplane has to obey immutable laws of physics to fly and the same laws to breakup in flight and crash. Humans who commit crimes react to their own internal changing moral rules and can not be predicted. Machine behaviour can be predicted. The conspiracy guys will claim that the reason there were no convictions is because one of the conspirators perjured himself during trial and if he had just told the truth, convictions would have followed.

To understand and explain why Air India Flight 182 crashed I
will stick to the facts and leave the intrigue to the newspapers and TV. Please bear with me as I present charts, photographs, text, expert opinions, similar airplane accidents with similar evidence, and closely reasoned conclusions. Swiss Air Flight 111 and TWA Flight 800 have taught the Canadian, UK, and USA government investigators much about the consequences of faulty wiring in widebody airliners.

Both sides, the conspiracy and the mechanical, have a common goal with different routes to get there. We want to protect the trusting flying public and prevent needless deaths. Here are my paths starting from the end and working backwards:

1. The known faulty and aging Poly X type wiring needs to be replaced in early model Boeing 747s.
2. The design flaw of non-plug cargo doors needs to be corrected by making the doors like the plug type passenger doors.
3. The design flaw of absent locking sectors on the two midspan latches of the two cargo doors needs to be corrected by inserting the missing locking sectors.
4. The USA Federal Aviation Administration will issue an Airworthiness Directive (AD) for emergency inspection of the cargo door wiring for chafing and charring based upon the Transportation Safety Board (TSB) updated findings.
5. The TSB (Air) will investigate and issue an updated CASB Aircraft Accident Report (AAR) for Air India Flight 182 based upon hindsight using the knowledge gained from several subsequent similar accidents, specifically United Airlines Flight 811, Swiss Air 111, and TWA Flight 800. I will assist the TSB in their investigation. The new AAR will be based upon the suggestion of the Commissioner of the Inquiry into Air India Flight 182.
6. The Commissioner will request TSB (Air) for their official opinion as to the cause of Air India Flight 182 since the last
official accident report of twenty years ago by the predecessor CASB did not conclude the cause was a bomb and evidence at that time refuted the bomb explosion explanation and suggested a explosive decompression caused by structural failure.

7. I persuade Commissioner Major that it would be prudent to order an updated AAR to fulfill his mandate of a full and thorough inquiry and to satisfy his personal goal that the inquiry was to be very broad in the evidence that it heard, in order to put to rest the various theories, rumours and neglect that have occurred since the explosion in 1985.

8. The Attorney General of Canada will suggest to the Commissioner that I be granted standing as witness since I qualify under a Term of Reference and have submitted the paperwork in a timely manner.

9. I persuade the AG representative to act on my behalf because the evidence I present today warrants the checking out of the reasonable, mechanical, alternative explanation. I persuade the AG representative to solicit Crown expert opinions about Air India Flight 182 from the quasi-judicial and technical fields of the Commission of Inquiry and the TSB (Air) aircraft accident investigators.

Or: Mr. Brucker or Commissioner Major directly asks TSB (Air) to provide to them an opinion as to the probable cause of Air India Flight 182. TSB has never been asked and might very well welcome the chance to express their professional opinion; after all, this crash is the most famous airplane crash in Canadian history and their purpose for existence is to explain airplane crashes to the political leadership and public.

Or: Mr. Brucker suggests to TSB (Air) staff that they meet with me in Vancouver to allow me to present my wiring/cargo door explanation in person to the investigators.
The path of the Crown prosecutors and RCMP Air India Task Force appears to be to try to put several people in prison which will 'send a message' and salve some grief. The Crown has many who agree it was a bomb explosion which include the RCMP, the CSIS, the prosecutors, the accused, the defence counsels, newspapers, books, TV, radio, the manufacturer, the airline, the victim's families, justices, and the man in the street.

The start of my path is here today and I will now present my case for the mechanical explanation, the non bomb explanation, for Air India Flight 182. The only people who agree with me of not concluding it was a bomb explosion in the aft bulk cargo compartment are those who actually know why airplanes fly and why they don't; who know why airplanes mostly land safely and why they occasionally come apart in the air; that is, professional government aircraft accident investigators from four countries, the USA, the UK, India, and Canada. It should be an interesting argument, a pleasing myth believed by millions versus unpleasant science concluded by dozens.

Presenting the wiring/cargo door case. It's detailed, it's complex, it's science, it's logical, it's factual, and it makes sense.

Part I: I call several witnesses by means of quoting their official words in documents.

Speech excerpts - Prime Minister Harper announces inquiry into Air India bombing
"A full public inquiry is required. This inquiry will be launched immediately and led by an outstanding Canadian, retired Supreme Court Justice John Major. He has agreed to serve as Commissioner for this inquiry and I have every confidence that
he will conduct a thorough and compassionate investigation into the events surrounding this tragedy. This inquiry is about analyzing the evidence that has come to light since 1985 and applying it to the world we live in today."

From transcript of 18 July 2006, Hearing on Standing, Commissioner Major:
The Commissioner: "Yes. Well, I will confirm that. The nature of this Commission was to be very broad in the evidence that it heard, in order to put to rest the various theories, rumours and neglect that have occurred since the explosion in 1985."

From transcript again: Mr. Barney Brucker:
Mr. Brucker: I just wanted to indicate to you, Commissioner, that I have provided this morning to Mrs. Cook and to Commission counsel a brief submission that we had prepared just on the general test for standing and issues that we submit you will be taking into account.

The Commissioner: You can’t do much better than get standing, though, can you?
Mr. Brucker: No, we can’t, but we are concerned about the focus of the Inquiry. When I attended here and listened to your Opening Statement I was struck by one comment that you made and I will paraphrase that, perhaps not accurately, but what I took from your comments was that you intended to conduct a thorough but efficient inquiry and that an efficient inquiry does not mean that it has to take a great deal of time. We have, in my submission to you, a very compressed time schedule in which we have to get things done and my submissions simply highlight that in that environment, a matter which is of interest to all Canadians, that there should be some judicious consideration of who will get standing and who won’t or who may be an
intervenor and who won’t, and that to ensure that the process is thorough and efficient I have offered some general principles that I submit might be of assistance to you.

The Commissioner: Thank you. That’s been filed and will be looked at.”

End quotes.

I can not cross examine but I can comment on those statements. The Prime Minister desires a full, thorough, and compassionate public inquiry into the events surrounding Air India Flight 182 by analyzing the evidence that has come to light since 1985. The direction for the Commission is pointed by the two leading authorities, the Prime Minister and the Commissioner to be full, thorough, and broad.

Mr. Brucker recommends an efficient inquiry. Well, kangaroo courts are efficient and lynch mobs are cheap and fast. "Thorough and broad" requires time for the presentation of various theories since the explosion of 1985, one of which is the wiring/cargo door explanation. That alternative explanation should have its time in front of the Commission of Inquiry and that can be done by granting me witness or intervenor standing. It's been twenty one years since the event and several more hours of listening to a 'various theory' is certainly justified in the name of thoroughness. As far as efficiency goes, when the wiring/cargo door explanation is confirmed by Crown aircraft investigators, the Commission of Inquiry can reduce 90% of its workload since the reason for the acquittals by Justice Josephson is obvious, the accused were innocent and the prosecutors, RCMP and CSIS can be exonerated for failing to obtain convictions.
Does the wiring/cargo door explanation have validity? Is it as wild as a mid air with a flying saucer explanation and thus not worthy of consideration? Or is the wiring/cargo door explanation down to earth and real?

Let me present expert witnesses through their quotes:

CASB Aviation Occurrence Report on Air India Flight 182, 1986: "The Canadian Aviation Safety Board respectfully submits as follows:
4.1 Cause-Related Findings
5. There is considerable circumstantial and other evidence to indicate that the initial event was an explosion occurring in the forward cargo compartment."

From Kirpal Report for Air India Flight 182, 1986: "Mr. R.A. Davis, Head, Flight Recorder Section, Accidents Investigation Branch, Farnborough, U.K. 3.4.6.16 In conclusion, Mr. Davis reported as follows: "It is considered that from the CVR and ATC recordings supplied for analysis, there is no evidence of a high explosive device having detonated on AI 182. There is strong evidence to suggest that a sudden explosive decompression occurred but the cause has not been identified. It must be concluded that without positive evidence of an explosive device from either the wreckage or pathological examinations, some other cause has to be established for the accident".

End quotes:

That 'other cause' was established by me in 1996 based on an event in 1989, United Airlines Flight 811, plus other accidents. (And there is good reason why it is called an 'explosive decompression. It is an explosion that mimics a bomb.)
That non bomb concluding finding from CASB is absolutely correct. It does not conclude the destruction of the aircraft was caused by a bomb. It is specific on the location of the mystery explosion as the forward cargo compartment and rules out the rear cargo compartments. There are several alternative explanations for that confirmed explosion, from fire in the cargo hold or hull rupture at a door, or bomb in baggage explodes. I agree there was an explosion in the forward cargo compartment as did all the experts agree on that point in 1986 for solid reasons.

The Canadian and United Kingdom government experts in aircraft accident investigation for Air India Flight 182 did not state the cause was a bomb and in fact, the UK expert stated in 1986 it was not a bomb and gave strong evidence for his conclusion. To claim the Canadian Aviation Safety Board concluded the cause was a bomb is incorrect, prejudicial, and inflammatory.

The Canadian crash experts (CASB) called Air India Flight 182 a 'crash'. It was. The word 'bomb' was never used in relation with Air India Flight 182 in their entire CASB report. 'Bomb' was used only once in reference to a different aircraft and event for comparison purposes and there was no match.

Aircraft accidents are sometimes complicated events and analogies may possibly explain the misunderstandings. Air India Flight 182 is but one tree in a forest of four early model Boeing 747s that experienced an inflight breakup leaving similar evidence.

Part II: An analogy to include the four trees in the forest but I'll call them brothers instead:
Early model Boeing 747s are machines. We say they die when they crash but they were never really alive, now were they? We anthropomorphize. Let me continue with the analogy.

It's as if a person falls down dead. The police, the media, the man's family, the courts, the prosecution, and the defence all agree, yes, it was a shot to the head that killed him but we'll argue about who and where and when he was shot. Several men are arrested, and at the trial the defence states that yes, the victim was shot in the head but their clients did not do it. All the while some physicians who examined the dead person are saying, no, it was not a gunshot to the head but a heart attack, while other physicians say we don't know how he died but we may find out later.

And then another man falls down dead at same spot and it's the brother of the previous dead man. Same thing happens, most non physicians say gunshot to head but the autopsy cause of death determined by government physicians claim natural causes. Several more men are accused and tried. The defence agreed with the prosecution as to cause of death as gunshot but their clients did not pull the trigger.

And then another brother falls down dead under similar circumstances...first guesses were gunshot to head but later proven wrong.

And then another brother falls down dead under similar circumstances...first guesses were gunshot to head but later proven wrong.

All four brothers share the same exact DNA and the evidence
discovered at their deaths is generally the same. Two brothers are conclusively proven to have died of heart attacks and the deaths of the other two remain controversial.

And all the while, the people who know why people fall down dead are saying, not a gunshot to the head but heart attack, probably caused by poor diet.

How does a four time serial killer called faulty wiring get away with it?

1. The deaths happen over a period of years, 1985 through 1996. Memories are short. Personnel change. Documents are thrown away, misplaced, or lost. Witnesses forget.
2. The deaths happen many thousands of miles apart from each other, such as Ireland, New York, Lockerbie, and Hawaii.
3. The deaths involve many agencies; RCMP, Scotland Yard, FBI, CIA, CSIS, TSB, NTSB, CASB, AAIB, Indian Civil Aviation Agency, and all the way to the top political leaders. The agencies do not cooperate or communicate fully, they defend their area of investigation, they are secretive, and they have many administrative senior officials directing them. Each agency looks closely at its lone tree/brother/aircraft in the forest/family of four while ignoring the other three.
4. The deaths involve objects that look different at first glance such as different colors in their livery, different names in their titles, and different nicknames.
5. The deaths involve victims who are not wealthy, important, connected to authority, or famous.
6. The deaths involve different complex legal jurisdictions in faraway places such as India, Canada, UK, and USA.
7. The deaths involve billions of dollars which means people get funny when they get around money.
A. The killer is well loved, well connected, wealthy, powerful, and not a suspect and anybody raising suspicion is scorned.
B. The killer has killed before but is still above suspicion having said to have reformed.
C. The killer's freedom is necessary for the financial well being of thousands of workers.

1. The accused are relatively poor, different color skin and language than the accusers, and have in the past expressed violent thoughts.
2. The accused reinforce the prejudices of the accusers.
3. The accused get the suspicion of the real killer.

Part III: Matchups to determine a pattern.

There are no conspiracies among the agencies, courts, media, or public to hide or protect the real killer or to convict the innocent. All involved really believe the real killer is not guilty and the accused are guilty based upon the public's own self interest. The well meaning accusers all believe in a vast international conspiracy by the accused to commit mass murder and like all conspiracy zealots, refuse to consider down to earth explanations for such mass grief causing events. The hysteria feeds on itself with the stories gaining myth status with constant repeating, embellishment and modifications.

The real killer is faulty wiring, a small failure which brings down huge machines, early model Boeing 747s, by exploiting the design flaws of non plug cargo doors and no locking sectors on the midspan latches. The dead brothers/machines are Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.
The deaths are respectively 329, 270, 9, and 230 for a total of eight hundred thirty eight fatalities. That's a mass killing in four events over eleven years and thousands of miles apart involving the governments of four countries.

The four mechanical victims are virtually identical. They are early model Boeing 747s. There are tens of thousand of airliners out there in hundreds of model and submodels but there are currently about five hundred Boeing 747-100 and 747-200 aircraft still in service of which only four planes have the below similar evidence after inflight breakups.

The similarities in the circumstances and of the wreckage of those events are many: larger version at http://www.montereypeninsulaaairport.com Other details at http://www.ntsb.org

The defence counsel for the four accused of bombing two of those aircraft essentially stipulated to the cause of the crashes as bombs and quibbled over a few feet of where it was in the aircraft and challenged the Crown to prove who planted the bombs.

And the defence followed that strategy all the while knowing (assuming they did their homework) that the actual government experts in aviation crash investigations were saying they did not know the cause, or the cause was an explosive decompression and that one UK crash expert even refuted the bomb cause. The defence knew that similar type aircraft had similar type fatal accidents in 1989 and 1996 and the cause was electrical, not a
bomb explosion. The defence uncritically believed the police story and that of the Crown prosecutors, the media, the public, and the anguished victim's families, while ignoring the one group who knew what they were talking about, the Canadian Aviation Safety Board investigators, the UK Air Accidents Investigation Board investigators, the National Transportation Safety Board investigators, and the Indian accident investigators.

For Air India Flight 182 the location of the explosion was in the forward cargo compartment for fifteen years. That conclusion is amply supported by hard wreckage evidence and yet on the day of the trial the location switched to the aft bulk cargo compartment, a location conclusively ruled out by earlier investigators. The defence never disputed the move of the explosion from forward to aft compartments.

For Pan Am Flight 103 the AAIB investigator of the wreckage observed that the cause of the soot in the container alleged to have held a powerful, spherical and loud bomb was actually: "Where these panels formed the boundary of the shatter zone, the metal in the immediate locality was ragged, heavily distorted, and the inner surfaces were pitted and sooted - rather as if a very large shotgun had been fired at the inner surface of the fuselage at close range." The defence never objected to the premise of a bomb explosion which was shown by evidence to be mild, directed, and silent, three physical impossibilities for a bomb but natural for a 'very large shotgun' in the luggage which was safe unless a huge explosive decompression were to occur nearby were a cargo door to rupture open in flight.

Emotion trumped science. Wishful revenge thinking ruled the day. Pleasant explanations based on grief salving emotions were believed while unpleasant explanations supported by hard
evidence that could be touched, seen, and listened to was rejected without consideration.

Part IV: Best Evidence:

Speaking legally as an amateur, I understand there are several types of evidence; circumstantial, indirect, hearsay, and direct. All can be very persuasive. The best evidence is direct evidence. For Air India Flight 182, Pan Am Flight 103, and TWA Flight 800 there is much circumstantial evidence such as airspeed, altitude and time of day. There is indirect evidence such as wreckage debris pattern and twisted metal. Hearsay is for the conspiracy guys believing quarreling lovers and taped political ramblings.

The one source for the best evidence which is direct and irrefutable is the cockpit voice recorder and the flight data recorder. They were there at event time. Those recorders were put there to do precisely what they did, record for later evaluation events which took place in the cockpit and in the aircraft at large. They tell us directly what went on in the final minutes.

And what does the best and indisputable direct evidence show as to what the cause of Air India Flight 182 and Pan Am Flight 103 and two others?

Chart 12 above from NTSB public docket for TWA Flight 800 showing the sudden loud sound from the CVRs in graphical format. Air India is Air India Flight 182, PanAm is Pan Am Flight 103, and United is United Airlines Flight 811. (Philippine
Air was a Boeing 737 that had a fuel tank explode on the ground and not a Boeing 747 exploding in the air as the others.)

The graph shows a sudden loud sound followed by an abrupt power cut to the flight data recorders, a rare event separately, and extremely rare to have both together.

The sudden loud sound was analyzed very carefully by the government analysts for frequency, duration, limiting, and rise and fall time.

The conclusion reached by all the analysts in the UK, USA, Canada and India is that the sudden loud sound is not a bomb explosion sound, nor a missile exploding sound, but that of an explosive decompression sound. The bomb sound was ruled out because necessary low frequencies were not present and the rise time was too slow. There was no bomb sound in the cockpit at the initial event time for Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

If not a bomb sound, then what was the cause of the sudden loud sound?

Air India Flight 182
"Mr. R.A. Davis, Head, Flight Recorder Section, Accidents Investigation Branch, Farnborough, U.K. 3.4.6.16 In conclusion, Mr. Davis reported as follows :- "It is considered that from the CVR and ATC recordings supplied for analysis, there is no evidence of a high explosive device having detonated on AI 182. There is strong evidence to suggest that a sudden explosive decompression occurred but the cause has not been identified. It must be concluded that without positive evidence of an explosive device from either the wreckage or pathological examinations,
some other cause has to be established for the accident."

2.10.2 Analysis by Accidents Investigation Branch (AIB), United Kingdom
The AIB analysis was restricted to the CVR and the Shannon ATC tape. An analysis of the CVR audio found no significant very low frequency content which would be expected from the sound created by the detonation of a high explosive device. A comparison with CVRs recording an explosive decompression* on a DC-10, a bomb in the cargo hold of a B737, and a gun shot on the flight deck of a B737 was made. Considering the different acoustic characteristics between a DC-10 and a B747, the AIB analysis indicates that there were distinct similarities between the sound of the explosive decompression on the DC-10 and the sound recorded on the AI 182 CVR. *Explosive decompression is an aviation term used to mean a sudden and rapid loss of cabin pressurization.

(Please note the DC-10 explosive decompression above referenced in the Air India Flight 182 CVR analysis was probably the Turkish Airlines DC-10 fatal event when the aft cargo door blew open causing an explosive decompression which destroyed the flight controls leading to the crash.)

Pan Am Flight 103
"It is not clear if the sound at the end of the recording is the result of the explosion or is from the break-up of the aircraft structure. The short period between the beginning of the event and the loss of electrical power suggests that the latter is more likely to be the case."

United Airlines Flight 811
"The Safety Board believes that the approximate 1.5 to 2.0
seconds between the first sound (a thump) and the second very loud noise recorded on the CVR at the time of the door separation was probably the time difference between the initial failure of the latches at the bottom of the door, and the subsequent separation of the door, explosive decompression, and destruction of the cabin floor and fuselage structure. The door did not fail and separate instantaneously; rather, it first opened at the bottom and then flew open violently. As the door separated, it tore away the hinge and surrounding structure as the pressure in the cabin forced the floor beams downward in the area of the door to equalize with the loss of pressure in the cargo compartment."

TWA Flight 800
"The TWA flight 800 CVR recorded noise characteristics that were most similar to those recorded by the CVRs on board the United flight 811 and Philippine Airlines airplanes."

The Pan Am Flight 103 sudden loud sound is 'more likely' to be the case for the break-up of the aircraft structure, not a bomb sound.

The United Airlines Flight 811 sudden loud sound is indisputably and irrefutably the explosive decompression sound when the forward cargo door burst open because that aircraft barely landed safely at Honolulu.

The TWA Flight 800 sudden loud sound is most similar to United Airlines Flight 811 as both were early model Boeing 747s.

United Airlines Flight 811 is the model that fits the other three, it is the victim of the killer wiring that was able to make it back to Honolulu to eventually identify the culprit, the electrical system
of wiring or a switch. Just as it was only after United Airlines Flight 811 that the cause of the sound on Air India Flight 182 was identified, it was only after Swiss Air Flight 111 and TWA Flight 800 that the true extent of the pervasive and dangerous Poly X wiring in all early model Boeing 747s was made known.

(United Airlines Flight 811 is the case law analogy; it was a similar case that was tried and proven beyond doubt to be a certain cause and that cause may be applied to other similar cases.)

The best evidence for these similar events in similar aircraft is the direct evidence which is the cockpit voice recorder which recorded the sudden loud sound which when analyzed indicated an explosive decompression from a ruptured open forward cargo door and not a bomb explosion sound. That's science, that's real, that's confirmable, and it's corroborated by government sound analysts.

Part V: Human Nature Conjecture:

Why has the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for Air India Flight 182, Pan Am Flight 103, and TWA Flight 800 not been advanced before in the public's mind?

I would hope I would not, but I might very well have reacted as others have if my job, my reputation, my income, and my freedom depended upon the bomb explosion explanation being the accepted one and the wiring/cargo door explanation rejected. There is no conspiracy, just people acting in their own perceived best interests. Who and what are they?
1. The manufacturer wants the blame for the loss of the aircraft and life to be placed upon factors out of its control and not on its design errors of non plug cargo doors and absent locking sectors in the midspan latches. The manufacturer does not want to have to spend millions to correct the manufacturing faults in the wiring nor modify the cargo doors.

2. The airline wants the blame placed on others such as airport screening personnel and not on itself for not finding the frayed wires to the cargo door unlatch motor. The aircrews want to believe the event was a rare occurrence and do not want to believe that every minute they fly in early model Boeing 747s the aircraft can come apart in flight in seconds when the cargo door blows open as it did in United Airlines Flight 811.

3. The police, the RCMP, the FBI, Scotland Yard and prosecutors all welcome the inclusion of the high profile catastrophes into their jurisdiction so they can solve the crime and increase their budgets and staff to counter the threats. They would reject the mechanical cause as their general involvement would end.

4. The court system welcomes the chance to establish justice by punishing the criminals asserted by the law enforcement agencies. Vast amounts of bailiffs, new court facilities, numerous attorneys, and much tax money goes into trials while a mechanical cause is relegated to settlement meetings between insurance attorneys.

5. The victims' families have turned their grief to anger to hate and want someone to vent their emotion of revenge against. They would prefer to believe their loved ones died in some vast international conspiracy which is part of a worldwide larger force instead of a trivial event such as bare wire shorting to metal and turning on a motor which is supposed to remain off while in flight.

6. The media such as TV, radio, and newspapers much prefer an emotional human tragedy interesting story to tell rather than a
scientific story which requires education into basic laws of nature such as gravity, lift, thrust, drag, and pressure differential. Emotional stories require feelings which everyone has while science stories require education which is absent in many viewers, listeners, and readers. The media tells people what they want to hear and that is exciting, illogical, conspiracy stories, not boring mechanical proofs.

7. The government oversight agencies want to shift the blame of the crashes to foreign terrorists slipping through lax airport security and not their own failures as regulators and monitors of safety issues. The wiring/cargo door explanation reveals their failure to order the airlines and manufacturer to fix the documented problem of faulty wiring causing cargo doors to open in early model Boeing 747s such as Pan Am Flight 125 in 1987, United Airlines preflight in 1991, and United Airlines Flight 811 in 1989.

8. The public demands revenge for a great loss of human life which was preventable. Dying in a bombed airplane crash offends two basic instincts of all humans at birth, a startle reflex shown by arms stretched wide and the falling reflex shown by grasping hands. The public pays money to hear what it wants and rejects that which is unpleasant. The bombing explanation reinforces their prejudices of xenophobia and racism; it implies the event was a one off affair and not likely to reappear if only security were tighter. The bombing story gives an opportunity for revenge; it gives an exciting tale of intrigue, spying, shootouts, and chase scenes. The wiring/cargo door explanation is dry, has lots of charts and statistics, and implies the faulty wiring and dangerous non plug cargo doors are industry wide, not fixed, and the problems could reappear the next time they fly as a passenger.

I say again, there are no conspiracies among the principals, only
people acting in their own perceived best interests which is essentially, "It's not my fault, nor my company's fault, nor my government's, nor the police, nor the airline, nor the media, nor the courts' fault; it's the fault of those revenge seeking turbaned terrorists over there."

To support that blame shifting exculpatory bomb explosion explanation, vast illogical and science defying fantasies had to be devised and repeated until the myth of the Lockerbie bombing and the bombing of Air India Flight 182 was implanted into the public psyche. Debunking will be very difficult as myths are generated and believed by a people needing them. Debunking is important because the genuine cause of faulty wiring remains at large, waiting for the right circumstances to strike again.

However......conspiracy zealots defeat their cause eventually. The continued controversies with Air India Flight 182 and Pan Am Flight 103 are evidence that something is not right and thus the trials, the appeals, and the inquiries continue.

Part VI: Photograph evidence:

More logical conclusions supported by photographic evidence:

1. When a bomb is detonated on the port side of pressurized early model Boeing 747s, that port side will be shattered and the starboard opposite side remains smooth, like the Bruntingthorpe staged bombing of a real Boeing 747. (Port side is left side facing forward and starboard side is right side.)

2. When the faulty wiring causes the forward cargo door to blow out on the starboard side, that starboard side is shattered into characteristic pattern of rectangle and longitudinally split cargo
door, as is Air India Flight 182, Pan Am Flight 103, Pan Am Flight 103, and United Airlines Flight 811, while the port side remains relatively smooth.

Which of the above choices fits the Air India Flight 182 and Pan Am Flight 103 actual evidence? Let's look at the photographs and wreckage reconstruction sketches by the authorities.

A Boeing 747 had a real bomb go off in the aft cargo compartment in a real Boeing 747 during a staged event. (Bruntingthorpe photos below)

Results:
1. Port side blown to bits
2. Starboard side opposite the blast has the aft cargo door and bulk cargo door latched, intact, and smooth skin all around.

Now to Pan Am Flight 103, (thought by many to be bomb explosion of same type and size as Bruntingthorpe.)

Below is wreckage reconstruction sketch from UK AAIB AAR: Port side, a small blue rectangle (from alleged bomb explosion) with relatively smooth non exploded skin around. Other bent skin is from aero dynamics not explosion. Starboard side at same initial time is shattered and large area with door split longitudinally, stringers exposed and large
rectangle destruction area.

Port side above for Pan Am Flight 103, nose to left.

Starboard side forward cargo door for Pan Am Flight 103, nose to right.

United Airlines Flight 811

Port side is very smooth and undamaged.

Starboard side is shattered with large rectangle destruction area, split longitudinal door, and stringers exposed.

1.3 Damage to the Airplane
The primary damage to the airplane consisted of a hole on the right side in the area of the forward lower lobe cargo door, approximately 10 by 15 feet large.

TWA Flight 800
Port smooth side below opposite cargo door and forward of center fuel tank, nose to left.

Starboard side below, with cargo door shattered area to right. Center fuel tank explosion as initial event would be bilateral, not unilateral.

TWA Flight 800 starboard side, nose to right.

TWA Flight 800 forward cargo door area to right.

Air India Flight 182 below:

Air India Flight 182 wreckage reconstruction from CASB and Kirpal Report. Of the small amount of wreckage recovered, only the pieces of wreckage that showed damage was reported. There is no reports of inflight or other damage to the port side opposite either cargo door so the assumption can be that there was none and thus smooth. The forward cargo door was damaged and split in two longitudinally which matches Pan Am Flight 103 and United Airlines Flight 811.

CASB report: "All cargo doors were found intact and attached to the fuselage structure except for the forward cargo door which had some fuselage and cargo floor attached. This door, located on the forward right side of the aircraft, was broken horizontally about one-quarter of the distance above the lower frame. The
damage to the door and the fuselage skin near the door appeared to have been caused by an outward force. The fractured surface of the cargo door appeared to have been badly frayed. Because the damage appeared to be different than that seen on other wreckage pieces, an attempt to recover the door was made by CCGS John Cabot. Shortly after the wreckage broke clear of the water, the area of the door to which the lift cable was attached broke free from the cargo door, and the wreckage settled back onto the sea bed. An attempt to relocate the door was unsuccessful." "This damage was different from that seen on other wreckage pieces. A failure of this door in flight would explain the impact damage to the right wing areas. The door failing as an initial event would cause an explosive decompression leading to a downward force on the cabin floor as a result of the difference in pressure between the upper and lower portions of the aircraft." 2.11.6.5 Target 47 - Aft Cargo Compartment This portion of the aft cargo compartment roller floor was located between BS 1600 and BS 1760. Based on the direction of cleat rotation on the skin panel (target 7) and the crossbeam displacement on this structure, target 47 moved aft in relation to the lower skin panel when it was detached from the lower skin. No other significant observation was noted. There was no evidence to indicate characteristics of an explosion emanating from the aft cargo compartment. Target 47, which is a portion of the aft cargo compartment roller floor, shows no indications characteristic of an explosion emanating from the aft cargo compartment."  

The above quotes from the accident investigators indicate the explosion was not on the port side but on the starboard side and in the forward cargo compartment. The implications are that the inflight damage was on the starboard side and the port side was undamaged. The rear cargo compartment had no explosion from
a bomb or otherwise.

Below is a layout of the staged bombs for the Bruntingthorpe experiment with standard container with bomb inside exploding on port side, shattering it but leaving the starboard side smooth and door intact and latched.

Deductions:

When the port side is smooth and starboard side opposite and near the cargo door is shattered, that means cargo door opened in flight and no bomb. That description fits Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800. That evidence rules in ruptured open cargo door as initial event.

When port side is shattered and starboard side opposite and near cargo door is smooth, that means bomb and no open cargo door. That description fits none. That evidence rules out bomb explosion.

The conclusions to be made from the above photographs is that for Air India Flight 182, Pan Am Flight 103, Pan Am Flight 103, and United Airlines Flight 811, the damage occurred on the starboard side near the forward cargo door leaving the port side smooth. That actually did happen and rules in the wiring/cargo door explanation. A bomb explosion on the port side, as in the Bruntingthorpe experiment and alleged for Air India Flight 182 and Pan Am Flight 103 would have shattered the port side and left the starboard side smooth. That did not happen, but the reverse did, thus ruling out the bomb explosion explanation and
confirming the wiring/cargo door explanation.

Part VII: Layperson Explanation

One excuse I am given by those unwilling to evaluate the hard evidence that supports the shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup explanation for Air India Flight 182 is that it is 'too technical'.

Well, it's not too technical; below is the explanation for laypersons who have a basic education in science. If a person knows why lightning strikes, why balloons pop, the power of wind, and why gravity pulls, then that person can understand what happened to Air India Flight 182.

Lightning Strikes
Balloon Pops
Wind Power
Gravity Pulls

Lightning strikes because of an imbalance between the negative electrically charged particles and the further away positively charged particles. When sufficient negative and positive charges gather, and when the electric field becomes sufficiently strong, an electrical discharge (the bolt of lightning) occurs within clouds or between clouds and the ground. Lightning occurs because the bottom of a thundercloud becomes negatively charged. The ground becomes positively charged. Simple physics says that opposite charges attract, so boom, the lightning takes a one way trip to the closest positively charged item- usually a tree, phone pole, or other high object.
In a Boeing 747 the opening and closing of the cargo doors is done by an electric current through a latching or unlatching motor controlled by a switch. When the switch is open/off, there is no current to turn the motor which would turn the latching cams around the latching pins. When the switch is closed/on the circuit between the negatively charged particles and the positively charged is closed and current flows through the resistive motor which turns torque tubes which turn cams to surround pins which closes and holds the door tight against the fuselage.

When the aircraft is airborne a switch is opened/off which prevents any current from inadvertently turning on the cargo door unlatch motor. There is no way to turn on the unlatch motor to open the cargo door from inside the cockpit.

However, when faulty wiring such as Poly X type, which was used in Air India Flight 182, chafes and cracks to bare wire to short on the metal fuselage, the voltage has a path to complete the circuit and the lightning strikes; that is, the safety feature of a switch is bypassed and the now flowing current turns on the cargo door unlatch motor. The imbalance between the charged electrons which was held steady by the safety switch is now allowed to discharge/equalize through the shorted wire through the resistive motor which turns on as it is supposed to do when receiving current. The latching cams now turn around the latching pins into the unlock/unlatch direction thus releasing their hold on the closed cargo door. The faulty wire which allowed the motor to turn on when it was supposed to stay off was installed during manufacture of the aircraft. The defective wiring is a manufacturing error.
The bare wire shorted on the cargo door unlatch motor which turned the cams to the unlatch position. Lightning struck and the unlatch motor turned on and started to allow the cargo door to open in flight.

Balloon pops:

Air tends to move in a straight line from a high-pressure area to a low pressure area. As balloons reach maximum expansion they get to a point where the latex runs out of stretch and gets stiff and resists further stretching. This is obvious in a fresh, over inflated balloon. It will become stiffer and get very rigid as all the latex molecules all become oriented in the tensile stress directions. This increase in stiffness will cause balloons, unlike soap bubbles, to increase in internal air pressure just before bursting.

Even small balloons like nine inch rounds can produce a very big bang if they are strong high quality balloons and are blown up to the limit. They can develop fantastically high tensions. Of course a larger balloon blown up to a similar extreme tension all over would make an even bigger bang.

The hull of a Boeing 747 such as Air India Flight 182 can be considered a huge balloon when pressurized. As the aircraft climbs the air molecules outside are further apart and have less pressure than those that were inside the aircraft at takeoff. If the aircraft is not pressurized, the air molecules inside and outside the aircraft are the same and there is no differential. The hull is not inflated and there would be no inside high pressure trying to equalize with the outside lower pressure.

But the hull of the Boeing 747 in flight with crew and passengers
aboard can not remain unpressurized as the air would be too thin to sustain life so oxygenated air is pumped into the hull and the balloon/hull inflates. There now exists a distance difference between the air molecules inside the aircraft to those outside of the airplane. There is an imbalance. There is now pressure to equalize the air molecules but the sealed metal fuselage skin prevents the equalization. The hull stays inflated.

As the plane climbs higher, the pressure inside is kept constant at a comfortable level for the passengers while the pressure outside continues to decline the higher the aircraft goes. When the aircraft is about 20000 feet, the pressure on the inside of the fuselage is about 3.5 PSI or pounds per square inch. At cruise altitude of about 31000 feet, the pressure on each square inch on the inside of the inflated balloon called the hull is 8.9 PSI.

The Boeing 747 has two cargo doors 110 by 99 inches in size. The pressure on the cargo doors of Air India Flight 182 when cruising at 31000, when the initial event occurred, was 96921 pounds pressing on each of the nine foot by eight foot doors held in place only by a long hinge, eight rotating lower latching cams around latching pins and two midspan rotating latching cams around latching pins.

An analogy: Imagine a large under inflated balloon with no holes in it. Then cut six small holes in the balloon and two large square holes. Then, if you could, put patches over the six small holes from the inside of the balloon so that when the balloon is inflated, the inside high pressure would press the patch tighter into the balloon and seal the hole tighter. That is called a 'plug
type' patch. But....then put patches over the two large square cut holes on the outside of the balloon so that when the balloon is inflated, the high air pressure inside the balloon presses against the outside patch to push it outward. That is called a 'non plug type' patch.

Another analogy for the patch is a band aid wound dressing on an arm. The arm has the cut hole/wound and the patch is the band aid to stop the bleeding wound. A band aid on the inside of the arm would be more effective but impractical so band aids are put on the outside of the arm and often are pulled off inadvertently.

Air India Flight 182 has those several small holes cut into the pressurized hull and then patched from the inside. They are called plug type passenger doors. When airborne and at altitude, those passenger entry and exit doors can not be opened in flight because the inside air pressure presses them tight against the metal fuselage. Only if the pilot depressurizes the inside of the hull can those doors be opened, such as on the ground. The wounds are small and the band aid is sufficient to stop the bleeding since the patch is in the inside and the blood pressure actually prevents bleeding.

However, the two huge cargo doors which were cut from the metal fuselage and then patched back are non-plug type. It's as if they are patched from the outside so that as the inside pressure grows higher and the outside pressure goes lower, the pressure differential increases and about 97000 pounds of air presses on the eight by nine foot door to burst it open. The door does not press on the inside of the fuselage tighter because it is not a plug type. The only things holding the door closed are the hinge and the ten latches around the ten latch pins. The latch cams are not
told to unlatch in flight because there is no current to the unlatch motor. The non plug cargo doors are a design error; they should be plug type. The wounds are large and the band aid is not sticky enough to stop the bleeding as the blood pressure pushes outward.

A hull rupture in flight can be a catastrophic event so safety efforts are made to prevent its occurrence. As the cams are turned around the pins, a locking sector is then manually placed against the latch pin to prevent the inadvertent unlatching should electrical current turn the unlatch motor on. The locking sector would stop the cam from turning to the open position and the unlatch motor would burn itself out trying.

However, while the lower eight latches have eight locking sectors as a safety measure, the two midspan latches have no locking sectors at all. That is another design error; the midspan latches need locking sectors similar to the eight lower ones. The band aid over the wound was too small.

(As it turns out, years after Air India Flight 182 crashed, it was shown that the eight locking sectors themselves were too weak to stop the cams from unlatching when the unlatch motor did in fact inadvertently receive power and the door unlatched in flight; United Airlines Flight 811. The eight locking sectors were then strengthened but the midspan latches had no locking sectors to strengthen.)

For Air India Flight 182, the faulty bare wire shorted on the power for the cargo door unlatch motor which turned the cams to the unlatch position after bypassing the safety switch. The eight lower latching cams overrode the weak lower eight locking sectors. Just past dead center of the pins the 97000 pounds of
internal pressure finally popped the balloon of a pressurized hull at the forward cargo door. The result was an explosive decompression which occurred in an instant. Explosive decompression is an aviation term used to mean a sudden and rapid loss of cabin pressurization.

The sudden and powerful rushing out of the higher pressure air inside the pressurized hull of Air India Flight 182 mimicked a bomb in sound and fury. The sound of the explosion was so loud it was picked up on the cockpit voice recorder. The forward cargo door split into two parts and burst apart as it tore out and up taking further fuselage skin with it. The contents of the forward cargo hold were blown out and into the nearby starboard engines number three and four causing foreign object damage to the nacelles and turbine blades inside the engines. The ensuing hole in the starboard side of the fuselage forward of the wing centered around the forward cargo door of Air India Flight 182 in the wreckage reconstruction below was now about thirty feet tall and twenty feet wide, target 204 and cross hatch skin above it.

The manufacturing flaw of installing defective wiring had exploited the design flaw of a non plug door coupled with the design flaw of no locking sectors on the mid span latches allowing the door to inadvertently open in flight causing a massive explosive decompression which created a huge hole in the nose of Air India Flight 182.

Lightning struck and the unlatch motor turned on. The balloon popped when the forward cargo door unlatched and ruptured open.
Wind Power:

From the CVR and DFDR, AI 182 was proceeding normally en route from Montreal to London at an altitude of 31,000 feet and an indicated airspeed of 296 knots when the cockpit area microphone detected a sudden loud sound: 296 knots is 341 miles per hour or 549 km/h.

If the newly created huge hole in the nose of Air India Flight 182 had occurred while the aircraft were motionless in the calm air, the nose would have stayed on and the aircraft would not have broken up in flight. However, the wind force on the now compromised formerly streamlined hull was higher than any natural wind on earth.

Category V Hurricane, Catastrophic>155 mph
Shrubs and trees blown down and uprooted; considerable damage to roofs of all buildings; all signs down. Very severe and extensive damage to windows and doors. Complete failure of roofs on several residences and industrial buildings. Extensive shattering of glass from pressure variation and blown debris. Some complete building failures. Smaller buildings are overturned or destroyed. Complete destruction of mobile homes.

F3 Tornado, Fujita Scale 3 158-206 mph, strongly built schools, homes, and businesses have outside walls blown away; weaker homes completely swept away,

F4 Tornado, Fujita Scale 4 207-260 mph, strongly built homes have all interior and exterior walls blown apart; cars thrown 300 yards or more in the air

F5 Tornado, Fujita Scale 5 261-318 mph, strongly built homes are completely blown away

An intact egg is strong when pressed on its small end but after
the shell is cracked, the strength is gone and it crumbles. So it was with Air India Flight 182.

The wind force of 341 miles per hour tore the gashed nose off which fell first in the debris pattern on the ocean floor. The wind force tore into the rest of the tubular, now unpressurized hull, and ruptured open the rest of the fuselage and other compartments. The debris was blown aft and hit the starboard wing and stabilizer causing inflight damage. The engines and wings came off and mixed with the rest of the disintegrating aircraft.

Lightning struck and the unlatch motor turned on. The balloon popped when the forward cargo door unlatched and ruptured open. The enormous wind power tore the nose off and disintegrated the rest of the aircraft.

Gravity grabs.

Gravity is one of four known fundamental forces of nature. Gravity is by far the weakest of the four, yet it dominates on the scale of large space objects. Gravity cannot be shielded in any way. Intervening objects, whatever their make-up, have no effect whatsoever on the attraction between two separated objects.

If Air India Flight 182 were in far outer space the thousands of broken parts would just float around but those debris pieces were affected by the gravity of Earth and caused the aircraft parts to flutter down to the sea and further down to the ocean floor 6500 feet under the water surface.

Lightning struck and the unlatch motor turned on. The balloon popped when the forward cargo door unlatched and ruptured open. The enormous wind tore the nose off and disintegrated the
rest. Gravity pulled the pieces downward to the bottom of the ocean.

Lightning Struck
Balloon Popped
Wind Powered
Gravity Pulled

Part VIII: Template:

If the DNA can be used as an analogy for specific evidence discovered for one event and that specific evidence is matched in another event, it can be said the DNA matches.

United Airlines Flight 811 below:

"Executive Summary from USA NTSB AAR 92/02 of March 1992:
On February 24, 1989, United Airlines flight 811, a Boeing 747-122, experienced an explosive decompression as it was climbing between 22,000 and 23,000 feet after taking off from Honolulu, Hawaii, en route to Sydney, Australia with 3 flightcrew, 15 flight attendants, and 337 passengers aboard.

The airplane made a successful emergency landing at Honolulu and the occupants evacuated the airplane. Examination of the airplane revealed that the forward lower lobe cargo door had separated in flight and had caused extensive damage to the fuselage and cabin structure adjacent to the door. Nine of the
passengers had been ejected from the airplane and lost at sea.

A year after the accident, the Safety Board was uncertain that the cargo door would be located and recovered from the Pacific Ocean. The Safety Board decided to proceed with a final report based on the available evidence without the benefit of an actual examination of the door mechanism. The original report was adopted by the Safety Board on April 16, 1990, as NTSB/AAR-90/01.

Subsequently, on July 22, 1990, a search and recovery operation was begun by the U.S. Navy with the cost shared by the Safety Board, the Federal Aviation Administration, Boeing Aircraft Company, and United Airlines. The search and recovery effort was supported by Navy radar data on the separated cargo door, underwater sonar equipment, and a manned submersible vehicle. The effort was successful, and the cargo door was recovered in two pieces from the ocean floor at a depth of 14,200 feet on September 26 and October 1, 1990.

Before the recovery of the cargo door, the Safety Board believed that the door locking mechanisms had sustained damage in service prior to the accident flight to the extent that the door could have been closed and appeared to have been locked, when in fact the door was not fully latched. This belief was expressed in the report and was supported by the evidence available at the time. However, upon examination of the door, the damage to the locking mechanism did not support this hypothesis. Rather, the evidence indicated that the latch cams had been backdriven from the closed position into a nearly open position after the door had been closed and locked. The latch cams had been driven into the lock sectors that deformed so that they failed to prevent the back-driving.
Thus, as a result of the recovery and examination of the cargo door, the Safety Board's original analysis and probable cause have been modified. This report incorporates these changes and supersedes NTSB/AAR-90/01.

The issues in this investigation centered around the design and certification of the B-747 cargo doors, the operation and maintenance to assure the continuing airworthiness of the doors, cabin safety, and emergency response. The National Transportation Safety Board determines that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door in flight and the subsequent explosive decompression. The door opening was attributed to a faulty switch or wiring in the door control system which permitted electrical actuation of the door latches toward the unlatched position after initial door closure and before takeoff. Contributing to the cause of the accident was a deficiency in the design of the cargo door locking mechanisms, which made them susceptible to deformation, allowing the door to become unlatched after being properly latched and locked. Also contributing to the accident was a lack of timely corrective actions by Boeing and the FAA following a 1987 cargo door opening incident on a Pan Am B-747. As a result of this investigation, the Safety Board issued safety recommendations concerning cargo doors and other nonplug doors on pressurized transport category airplanes, cabin safety, and emergency response.

The first probable cause was incorrect so the NTSB issued another AAR based upon new evidence. The same can be done by TSB Air for Air India Flight 182 based upon the subsequent new evidence. I have had the benefit of hindsight to research all Boeing 747 hull losses for matches to the evidence retrieved
regarding Air India Flight 182. There have been five matches, including Air India Flight 182. All are controversial while United Airlines Flight 811 is the only aircraft that was able to land after the shorted switch or wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup occurred. The DNA evidence and probable cause for United Airlines Flight 811 is irrefutable.

In none of the five official investigations for Air India Flight 182 was United Airlines Flight 811 considered. For four of those investigations, United Airlines Flight 811 had not occurred yet; for the fifth, the attorneys and law enforcement agencies chose not to refer to it.

What happened to Air India Flight 182 happened to United Airlines Flight 811 and others. The cause of United Airlines Flight 811 is the same cause for Air India Flight 182. The sequence is the shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup explanation.

The linchpin DNA match to all five Boeing 747 accidents is the sudden loud sound on the Cockpit Voice Recorder followed by the abrupt power cut to the Flight Data Recorder. The CVR and FDR data is the only direct evidence available and it is the best.

NTSB AAR, United Airlines Flight 811:
"The CVR revealed normal communication before the decompression. At 0209:09:2 HST, a loud bang could be heard on the CVR. The loud bang was about 1.5 seconds after a "thump" was heard on the CVR for which one of the flightcrew made a comment. The electrical power to the CVR was lost for approximately 21.4 seconds following the loud bang. NTSB Accident Report 92-02 Page 25
CASB AOR, Air India Flight 182:
"From the CVR and DFDR, AI 182 was proceeding normally en route from Montreal to London at an altitude of 31,000 feet and an indicated airspeed of 296 knots when the cockpit area microphone detected a sudden loud sound. The sound continued for about 0.6 seconds, and then almost immediately, the line from the cockpit area microphone to the cockpit voice recorder at the rear of the pressure cabin was most probably broken. This was followed by a loss of electrical power to the recorder." Canadian Aviation Safety Board Air India 23 June 1985, page 21

Kirpal Report: "Mr. R.A. Davis, Head, Flight Recorder Section, Accidents Investigation Branch, Farnborough, U.K. 3.4.6.16 In conclusion, Mr. Davis reported as follows :- "It is considered that from the CVR and ATC recordings supplied for analysis, there is no evidence of a high explosive device having detonated on AI 182. There is strong evidence to suggest that a sudden explosive decompression occurred but the cause has not been identified. It must be concluded that without positive evidence of an explosive device from either the wreckage or pathological examinations, some other cause has to be established for the accident"

Premise Explanation for Air India Flight 182: Explosion in the forward cargo compartment caused by explosive decompression caused by structural failure of ruptured open forward cargo door at one or both of the midspan latches caused by faulty electrical wiring:

Analysis: There is close agreement with the opinions of the two aviation authorities (CASB and AAIB), the judicial finding of Judge Kirpal, and this independent aircraft accident investigator in the specific location in the aircraft and consequences of the
explosion with the only difference being the cause of the explosion on the starboard side of the forward cargo compartment of Air India Flight 182:

A. CASB: There was an explosion, which could have been a bomb explosion, on the starboard side of the forward cargo compartment near the forward cargo door which caused the inflight breakup of Air India Flight 182.

B. AAIB: There was an explosion, cause not identified but not a bomb explosion, which caused the inflight breakup of Air India Flight 182.

C. Justice Kirpal: There was an explosion, a bomb explosion, on the starboard side of the forward cargo compartment near the forward cargo door which caused the inflight breakup of Air India Flight 182.

D. Justice Josephson: There was an explosion, a bomb explosion, on the port side of the aft cargo compartment opposite the aft cargo door which caused the inflight breakup of Air India Flight 182.

E. John Barry Smith: There was an explosion, an explosive decompression when faulty wiring shorted on the forward cargo door unlatch motor which allowed one or both of the midspan latches to rupture open in the forward cargo door on the starboard side of the forward cargo compartment, which caused the inflight breakup of Air India Flight 182.

F. Transportation Safety Board of Canada (Air): Yet to be asked for opinion.

To determine the pattern in early model Boeing 747 accidents that suffered breakups in flight, it was necessary to evaluate carefully all the official accident reports concerning them. A pattern was detected of similar significant evidence among only five of the over forty hull damages or losses, two of which are
Air India Flight 182 and United Airlines Flight 811.

Summary of specific matching evidence between Air India Flight 182 and United Airlines Flight 811: (The DNA evidence listed below applies to both aircraft)

A. Boeing 747
B. Early model
C. Polyimide wiring (Poly X type)
D. Sudden airframe breakup in flight
E. Breakup occurs forward of the wing
F. Section 41 retrofit not done
G. At least medium flight time
H. At least medium aged airframe
I. Previous maintenance problems with forward cargo door
J. Initial event at about 300 knots while proceeding normally in all parameters
K. Initial event involves hull rupture in or near forward cargo door area
L. Initial event starts with sudden sound
M. Initial event sound is loud
N. Initial event sound is audible to humans
O. Initial event followed immediately by abrupt power cut to data recorders
P. Initial event sound not matched to explosion of bomb sound
Q. Initial event sound is matched to explosive decompression sound in wide body airliner
R. Torn off skin on fuselage above forward cargo door area
S. Evidence of explosion in forward cargo compartment
T. Foreign object damage to engine or cowling of engine number three
U. Foreign object damage to engine or cowling of engine number four
V. Right wing leading edge damaged in flight
W. Vertical stabilizer damaged in flight
X. Right horizontal stabilizer damaged in flight
Y. More severe inflight damage on starboard side than port side
Z. Port side relatively undamaged by inflight debris
AA. Vertical fuselage tear lines just aft and forward of the forward cargo door
AB. Fracture/tear/rupture at a midspan latch of forward cargo door
AC. Midspan latching status of forward cargo door not reported as latched
AD. Airworthiness Directive 88-12-04 not implemented (stronger lock sectors)
AE. Outwardly peeled skin on upper forward fuselage
AF. Rectangular shape of shattered area around forward cargo door
AG. Forward cargo door fractured in two longitudinally
AH. Status of aft cargo door as latched
AI. Passengers suffered decompression type injuries
AJ. At least nine missing and never recovered passenger bodies
AK. Initial official determination of probable cause as bomb explosion.
AL. Initial official determination modified from bomb explosion
AM. Structural failure considered for probable cause
AN. Inadvertently opened forward cargo door considered for probable cause
AO. Takeoff after sunset on fatal flight
AP. Takeoff after scheduled takeoff time on fatal flight

A few of the above matches may be common, trivial, or irrelevant but most are rare and critical.
The important DNA matches that determine the certainty that both aircraft:

1. Were similar model and type of early model Boeing 747s.
2. Had the same appearance for each longitudinally fractured forward cargo doors
3. Had sudden loud sounds which were an explosive decompression sound and not a bomb explosion sound.
4. Had an abrupt power cut to the flight data recorders after the sudden loud sound.
5. Had the same damaged areas around the forward cargo door.
6. Had relatively smooth fuselage skin on port side opposite the shattered starboard cargo door side.
7. Had similar inflight damage to the starboard engines and flight surfaces.
8. Had at least nine never recovered bodies.
9. Had explosions in the forward cargo compartment which were initially thought to have been bombs but the opinions were later somewhat modified.

There are many reasonable possible explanations for an explosion or explosive decompression near the forward cargo door of an early model Boeing 747, only one of which is a rare bomb explosion:

A. Bomb explosion. (Considered for both, ruled out in one, should be ruled out for both.)
B. Crew or passenger error. (Ruled out for both flights.)
C. Electrical fault in switch or wiring. (Ruled in for one.)
D. Pneumatic overpressure. (Ruled out for both flights.)
E. Cargo shift. (Ruled out for both flights.)
F. Compressed air tank explosion. (Ruled out for both flights.)
G. Fire. (Ruled out for both flights.)
H. Missile strike. (Ruled out for both flights.)
I. Midair collision. (Ruled out for both flights.)
J. Fuel tank explosion. (Ruled out for both flights.)
K. Stowaway. (Ruled out for both flights.)
L. Electromagnetic interference. (Ruled out for both flights.)
M. Comet or meteor. (Ruled out for both flights.)
N. Space debris. (Ruled out for both flights.)
O. Turbulence. (Ruled out for both flights.)
P. Out of rig door. (Ruled out for both flights.)
Q. Lightning. (Ruled out for both flights.)
R. Metal fatigue. (Ruled out for both flights.)
S. Improperly latched. (Initially accepted for one flight, then ruled out for both flights.)
T. Design error. (Accepted for one flight)
U. Repair error. (Ruled out for both flights.)
V. Maintenance error. (Ruled out for both flights.)

General Conclusion: Based upon the indisputable probable cause of electrical fault for United Airlines Flight 811 and the many matches of evidence to Air India Flight 182, the discovered common cause for United Airlines Flight 811 and Air India Flight 182 is the shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup explanation which is a mechanical explanation for an explosion on the starboard side in the forward cargo compartment of explosive decompression when the forward cargo door ruptured open in flight, probably at one or both of the midspan latches and probably caused by faulty wiring inadvertently turning on the door unlatch motor.

Specific Conclusions for Air India Flight 182:

These conclusions are based on evidence available after
A. While proceeding normally, an inflight breakup of Air India Flight 182 occurred suddenly and catastrophically at 0714Z at 31000 feet at 300 knots TAS about 110 miles west of Cork, Ireland on 23 June, 1985. There were no survivors.

B. The breakup was caused by an explosion in the forward cargo compartment.

C. The explosion was a severe and sudden explosive decompression.

D. The explosive decompression was caused by the suddenly ruptured open forward cargo door probably at one or both of the midspan latches.

E. The ruptured open forward cargo door was probably caused by faulty wiring which turned on the door unlatch motor which unlatched the latching cams from around the latching pins in flight.

F. The wiring fault was probably the Poly X wiring with inferior insulation which easily cracked to bare wire especially in the presence of moisture.

G. There was no bomb explosion in any cargo compartment, crew cabin, passenger cabin, or anywhere else on the aircraft.

H. There was no explosion from any source in the aft cargo compartment.

I. The sudden loud sound on the cockpit voice recorder was the sound of the air rushing out during the explosive decompression in the forward cargo compartment.

J. The abrupt power cut to the recorders was caused by the explosive effects of the decompression affecting the power cables in the adjacent main equipment compartment to the forward cargo compartment.

Contributing causes:

A. Water or moisture in the forward cargo compartment.
B. Weak locking sectors on the bottom eight latches of the cargo doors.

C. Poor design of one midspan latch per each eight foot side of the cargo doors.

D. Poor design of no locking sector for each midspan latch of the cargo doors.

E. Poor design of outward opening, nonplug type, large, square cargo doors in a highly pressurized hull.

There were no bombs on Air India Flight 182. There were no crimes and no criminals and no conspiracies. There was and is a mechanical problem which exists to this day, aging and failing Poly X wiring which exploits design errors of non plug cargo doors and omitted midspan locking sectors allowing an explosive decompression when the forward cargo door ruptures open in flight.

To know the cause of Air India Flight 182 and Pan Am Flight 103, one must know the details of United Airlines Flight 811, the model and irrefutably explained event. All of those official AARs are available at http://ntsb.org.

Part IX: The Unifying Official Version

There is one scenario that unites the five official versions: Bombs in baggage explode.

1. The first official determination is the Narita Event is from the Japanese police point of view.

"At 0541 GMT, 23 June 1985, CP Air Flight 003 arrived at Narita Airport, Tokyo, Japan, from Vancouver. At 0619 GMT a bag from this flight exploded on a baggage cart in the transit area
of the airport within an hour of the Air India occurrence. Two persons were killed and four were injured... Baggage cart explodes in transit area... The explosion of a bag from CP 003 at Narita Airport, Tokyo, took place 55 minutes before the AI 182 accident...the site where the blast had taken place was inspected which gave some, though very vague, idea of the detonating power of the blast."

To sum up: "A bag from a Vancouver flight exploded on a baggage cart in a transit area from a vague power of a blast." The Narita Event is officially determined by the police to be a bomb which caused the blast of vague power in a bag as part of the baggage on a baggage cart in a transit area of a major airport hub. The first official bomb in the baggage explodes.

2. The next official determination of the Air India Flight 182 Event is from an Indian judge's point of view. Kirpal Report: "4.10 After going through the entire record we find that there is circumstantial as well as direct evidence which directly points to the cause of the accident as being that of an explosion of a bomb in the forward cargo hold of the aircraft."

"All cargo doors were found intact and attached to the fuselage structure, except for the forward cargo door which had some fuselage and cargo floor attached. This door, located on the forward right side of the aircraft, was broken horizontally about one-quarter of the distance above the lower frame. The damage to the door and the fuselage skin near the door appeared to have been caused by an outward force. The fractured surface of the cargo door appeared to have been badly frayed. Because the damage appeared to be different from that seen on other wreckage pieces,..."
The Air India Flight 182 Event is officially determined by an Indian judge to be caused by a bomb in the baggage in the forward cargo hold possibly on the right side. (No physical connection between the forward and aft cargo holds which are several hundred feet apart.) That is the second official bomb in the baggage to explode.

3. The next official determination of the Air India Flight 182 Event is from a Canadian judge's point of view. Below from "Reasons for Judgment" by Justice Josephson regarding Malik and Bagri.
I. Overview [1] In the early morning hours of June 23, 1985, Air India Flight 182, carrying 329 people[1], was destroyed mid-flight by a bomb located in its rear cargo hold.
H. Conclusion [190] It is agreed amongst the experts that the Kanishka was destroyed by the detonation of an explosive device within its left aft fuselage.
The Air India Flight 182 Event is officially determined by a Canadian judge to be a bomb in the baggage in the rear cargo hold on the left side. That is the third official bomb in the baggage to explode.

4. The next official determination of the Air India Flight 182 Event is from the Canadian aviation accident investigators point of view:

The Canadian Aviation Safety Board respectfully submits as follows:
Ô4.1 Cause-Related Findings
5. There is considerable circumstantial and other evidence to indicate that the initial event was an explosion occurring in the forward cargo compartment."
"The forward cargo door which had some fuselage and cargo floor attached was located on the sea bed. The door was broken horizontally about one-quarter of the distance above the lower frame. The damage to the door and the fuselage skin near the door appeared to have been caused by an outward force and the fracture surfaces of the door appeared to be badly frayed. This damage was different from that seen on other wreckage pieces. A failure of this door in flight would explain the impact damage to the right wing areas. The door failing as an initial event would cause an explosive decompression leading to a downward force on the cabin floor as a result of the difference in pressure between the upper and lower portions of the aircraft."

The Air India Flight 182 Event is officially determined by Canadian aviation accident investigators to be an explosion of unknown cause in the forward cargo compartment probably on the right side. An explosion in the forward cargo compartment occurs from undetermined cause.

5. The next official determination for Air India Flight 182 is from the United Kingdom aircraft accident investigator point of view. "Mr. R.A. Davis, Head, Flight Recorder Section, Accidents Investigation Branch, Farnborough, U.K. 3.4.6.16 In conclusion, Mr. Davis reported as follows :- "It is considered that from the CVR and ATC recordings supplied for analysis, there is no evidence of a high explosive device having detonated on AI 182. There is strong evidence to suggest that a sudden explosive decompression occurred but the cause has not been identified. It must be concluded that without positive evidence of an explosive device from either the wreckage or pathological examinations, some other cause has to be established for the accident".

The Air India Flight 182 Event is officially determined by a British aviation accident investigator to be something, not a
bomb, somewhere, causes an explosive decompression. That is
the fifth explanation for an explosion.

Those are the five official determinations of explosions related to
Air India Flight 182 by five official investigations in three
countries over two decades.

1. A vaguely powerful explosion of a bag on a baggage cart with
bags in a major transit area hub airport determined by the
2. A very powerful explosion of a bomb in a bag in the baggage
in the forward cargo hold, possibly on the right side, of Air India
3. A very powerful explosion of a bomb in a bag in the baggage
in the rear cargo hold on the left side of Air India Flight 182
determined by the Canadian Justice Josephson, in 2005.
4. An explosion of unknown cause in the forward cargo
compartment, probably on the right side, of Air India Flight 182
determined by the Canadian aircraft accident investigators of the
Canadian Aviation Safety Board, CASB in 1986.
5. A very powerful explosive decompression, not a bomb,
someplace in Air India Flight 182, determined by the British
aircraft accident investigator R. A. Davis of U.K. Accidents
Investigations Branch in 1986.

There is no consensus on any significant issue by any officials
other than explosive events occurred on a baggage cart and on an
airplane thousands of miles apart and within the hour.

There is official disagreement in the determinations of whether it
was a bomb or something else, how many bombs were involved,
where the bombs were loaded, how powerful the bombs were,
what container the bomb was in, which major section of the
aircraft the bomb was placed, on what side of the aircraft the bomb was located, or what caused an explosive decompression that was not a bomb. (Not counted are the disagreements of who put the bombs there and why.)

There was no official hard evidence determined for bombs such as three fuses, three bomb casings, three bomb residues, shrapnel wounds, or three timers in any of the three locations stated as having bombs detonated which are the Narita airport, the rear cargo, and the forward cargo compartments of Air India Flight 182. (The rear and forward cargo compartments are hundreds of feet apart with no physical connection.)

There is one official cause to unite them all: Three bombs by assuming that an explosion means only one thing and that is bomb explosion and assuming that official determinations after official investigations are correct.

The one scenario that unites the five official determinations is that bomb, bomb, bomb, in the baggage, baggage, baggage go boom, boom, boom.

Two of the bombs were surreptitiously placed on two Boeing 747s at Vancouver airport on 22 June 1985, the day before they blew up. The third bomb was placed into one of the Boeing 747s at the Montreal airport later that same day.

The official versions united:

Bomb 1: One bomb was loaded on CP 003 which flew to Tokyo with no detonation of the bomb during the long flight across the Pacific. This bomb was then unloaded in a busy airport, put on a baggage cart which was wheeled through a 'transit' area with many other bags from many other flights, and only then did the
vaguely powerful bomb detonate at 0619Z, not from an altimeter fuze but from a timing fuze which went off when it was not supposed to for an aircraft terrorist bombing. No fuze or parts of any bomb or the suitcase were reported to have been discovered. No match of any debris parts of this bomb were made to other bombs by same terrorist group. No claims of responsibility or confessions were obtained. (The Japanese police determined bomb.)

Bomb 2: At the same time the Narita bomb was loaded at Vancouver onto CP 003 on the afternoon of 22 June 1985, another bomb was loaded onto CP 060, also in Vancouver, and successfully slipped past the extensive security of men, dogs, and machines. CP 060 then flew to Toronto without the bomb going off by timer or altimeter fuse. At Toronto, the bomb was then off loaded from CP 060 and sent, along with some passengers, to a different aircraft, a Boeing 747 which was Flight 181 which, after another flight to Montreal, would change to Flight 182. At Toronto, all the baggage from Vancouver on CP 060, including the bomb, was placed in the aft cargo hold of the Boeing 747. This aircraft, called Flight 181, took off and flew to Montreal with the bomb still not detonating by altimeter or timing fuze. The timer was set to go off at 0714Z. (The Judge Josephson determined bomb.)

Bomb 3: After the Boeing 747 called Flight 181 landed in Montreal with the bomb from Vancouver still in the aft cargo hold, the flight number of the same Boeing 747 changed to Air India Flight 182, and more passengers and baggage were put on board. All their baggage was placed into the forward cargo hold. A new aircraft bomb was thus loaded into the forward cargo compartment with the timer set to go off at 0714Z. (The Judge Kirpal determined bomb.)
There were many delays involved with loading parts of a large engine into the aft cargo compartment which did not set off the bomb in that compartment. Finally, the aft and forward cargo compartment bomb laden Boeing 747 now called Air India Flight 182 took off from Montreal for its third flight in many hours, flew for five hours across the Atlantic and then a fuze for the Montreal loaded bomb activated and exploded in the forward cargo compartment, not by an altimeter fuze because the aircraft was level at 31000 feet and had been so for hours, but by a timer fuze. The Vancouver bomb, first loaded in Vancouver and transferred to the aft cargo compartment of the doomed aircraft in Toronto, detonated at exactly the same time, 0714Z. The two bombs blew holes in the pressurized hull causing an explosive decompression.

Thus explains and unites the Japanese police bomb, the Justice Kirpal bomb, the Justice Josephson bomb, the CASB explosion, and the UK AIB explosive decompression events.

The official determinations assume inefficient ticketing agents, dull-witted security forces, and malfunctioning X ray machines in four large metropolitan airports in two industrialized nations. It assumes incompetent terrorists who can't set a bomb to go off on time. It assumes quiet bombs in an aircraft that leave no sound when they go off. It assumes three stealthy bombs that managed to slip through sniffing dogs, portable metal detectors, X-Ray machines, private security teams, and yet leave no trace of their fuzes, timers, explosive material, or containers. Officially the terrorists were of two groups; one group in Vancouver to check the bomb in the baggage which was placed in the aft cargo compartment of Air India Flight 182 to explode according to the Canadian judge. Another terrorist group in
Montreal checked their bomb in baggage which was placed in the forward cargo compartment of Air India Flight 182 to explode there according to the Indian judge. The Vancouver terrorist group also checked in another bomb in the baggage of another aircraft to explode later on a baggage cart at Narita airport, according to the Indian judge.

The terrorists were stupid because:
1. The bombs did not go off when a real aircraft bomb usually goes off, shortly after takeoff climb on the initially loaded flight.
2. The fuzes were three timers set to go off at odd times such as 0619, 0714, and 0714 many hours later after being set.
3. They did not claim responsibility to advertise their cause.

The terrorists were smart because:
1. They were able to construct bombs which left no fuse, no casings, no timer evidence and were silent.
2. They were able to smuggle three bombs through tight security at four large airports in two countries.
3. They coordinated two bomb explosions on the same aircraft loaded in different locations at two airports to ensure destruction.

The terrorists were lucky because:
1. The four takeoffs and landings and turbulence did not detonate the amateur improvised bombs.
2. The changing of two planes and movement of baggage from plane to transit area did not detonate the bombs.
3. Their bomb laden baggage was not misplaced or misdirected by the airline.
4. The many unexpected schedule delays and aircraft changes still allowed the bombs to go off to kill innocent people instead of in an unoccupied hangar or baggage storage area.

This is the official unified motive to explain the Narita airport
transit area and Air India Flight 182 bombings: Revenge seeking terrorist groups managed to place three stealthy bombs in three aircraft and on one baggage cart through four airports in one day.

Part X: Sequence of Destruction

Below is the scientific explanation for Air India Flight 182 in narrative form based on direct, circumstantial, tangible, deduced, historical, and inferred evidence obtained through government aircraft accident reports and testimony under oath, 1953-2006. All statements of fact can be corroborated as having occurred in Air India Flight 182 or other similar Boeing 747s under similar circumstances.

Pressurized hulls of jet airliners have been blowing up since 1953 with the Comet.

03/03/1953
location: Karachi, Pakistan
carrier: Canadian Pacific
flight: aircraft: comet
registry: aboard: fatal: 11
ground: details: First fatal crash of a commercial jet aircraft

05/02/1953
location: near Jagalogori West Bengal, India
carrier: British Overseas Airlines
flight: 783/057
aircraft: De Havilland comet 1
registry: g-alyv
aboard: 43
fatal: 43
ground: details: broke up in flight during a violent thunderstorm. Metal fatigue due to design flaw.

01/10/1954
location: Elba, Italy  
carrier: British Overseas Airlines  
flight:  
aircraft: De Havilland comet 1  
registry:  
aboard: fatal: 35  
ground:  
details: broke up in flight. Metal fatigue due to design flaw.

04/08/1954  
location: Stromboli, Italy  
carrier: South African Airways  
flight:  
aircraft: De Havilland comet 1  
registry:  
aboard: fatal: 21  
ground:  
details: broke up in flight. Metal fatigue due to design flaw.

The Wiring/Cargo Door Explanation

Hull ruptures in flight leading to sudden explosive decompressions have occurred in over fifty airliners over the years. The causes can be bombs, metal fatigue, cargo shifts, inadvertent door openings from improperly latched to electrical faults, cockpit windows being broken by bird strikes, fuel tank explosion, missile hits, corrosion, faulty repair of damaged bulkhead, midair collisions, thunderstorms, and improperly fitted pressure relief valves.

Air India Flight 182 fits into one of those categories, the shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup one.

There are literally hundreds of pressurization problems that occur in airliners that are not sudden explosions but slow failures. These events rarely lead to fatalities while the sudden loud events usually do.
In an historical and statistical sense Air India Flight 182 was a normal aircraft accident: The cause was mechanical and not unusual. There have been several subsequent explosive decompressions in Boeing 747s similar to Air India Flight 182 that left similar evidence.

The forward cargo door of Air India Flight 182 opened inadvertently in flight for certain, the cause of that opening was probably faulty wiring.

Background:
On 18 July, 1984 a high lift vehicle damaged the fuselage skin near the forward cargo door of a Boeing 747-237B, Air India Flight 182, construction number 330, operated by Air India airlines. The fuselage skin had wiring routed on the inside which became bent from the impact and subsequently cracked to bare wire, a characteristic of the polyimide type insulated Poly X wiring installed in the aircraft. The forward cargo door had non-steel locking sectors to keep the bottom eight latching cams from being back driven which would allow the door to open in flight causing explosive decompression which would be a catastrophic event well known to aircraft designers.

In June of 1986 several passengers changed their flight plans and their baggage routing for various flights through Canada to overseas destinations probably from Vancouver.

On 22 June, 1986, two aircraft had baggage loaded aboard them at the Vancouver B. C. airport; one flight was called CP 003 and the other CP 060. Flight 003 took off and flew uneventfully to the extremely busy Narita airport near Tokyo, Japan. After the baggage was unloaded from the flight, it was put on a baggage cart which was wheeled through a transit area of many other
baggage carts containing many other bags from many other flights. An explosion of unspecified cause, unknown fuzing, unknown container, and unknown material occurred on the baggage cart which killed two people and injured others. The airport had high security because of previous terrorist attacks on it resulting in fatalities over the years.

The other flight, CP 060, flew uneventfully to Toronto Airport. The baggage was unloaded from CP 060 and those bags continuing on to London on Air India Flight 181/182 were loaded into the aft cargo compartment of the Boeing 747-237B, construction number 330. The flight, now called Air India Flight 181, then flew uneventfully to Mirabel Airport in Montreal. After landing, some baggage of the departing passengers was unloaded from the aft compartment. Parts of a broken engine were placed in the aft cargo compartment for ferry back to India. New passengers and new baggage from Montreal for the next flight of the same aircraft, construction number 330 and now called Air India Flight 182, were loaded with all the new baggage going into the forward baggage compartment. The baggage from Vancouver on CP 060 and reloaded at Toronto remained in the aft cargo compartment of the Boeing 747-237B now called Air India Flight 182.

The forward cargo compartment was filled with summer night air, warm and moist. When flying at altitude the air would be cooled by the air conditioning and the very cold outside air would cool the fuselage skin thus condensing out moisture along the inside of the compartment which would run through the wiring bundles and down into the cargo door bilge.

Air India Flight 182 took off from Montreal for London at 0218 Z on 23 June 1985 and flew uneventfully for about five hours and while at 31000 feet at 296 knots and about 115 miles
west of Ireland a tragic sequence of events began at 0714 Z. The pressure differential between outside and inside air was at its maximum design limit, 8.9 pounds per square inch.

Water may have met the cracked insulated wire which may have been previously damaged by the high lift accident to the cargo door area. The now exposed and bare wire shorted against the metal fuselage. The electricity then flowed around safety cutout switches and powered on the cargo door actuator un latch electric motor which attempted to rotate all ten cam sectors to unlocked positions around their ten latching pins. The eight lower cam sectors may have been prevented from unlatching around the latching pins because of the bottom eight locking sectors. However, the two midspan latches had no locking sectors to prevent the inadvertent rotation of the midspan latching cams around the midspan latching pins.

The lower eight cams probably overcame the weaker locking sectors to just turn past center and allow the door to unlatch in flight, a defect known years later in two other Boeing 747 flights, Pan Am Flight 125 and United Airlines Flight 811. The midspan cams turned just past center with no locking sectors to prevent the backdriving of the cams, an operation only supposed to be allowed on the ground. Possibly other factors such as an out of rig cargo door, a poor repair job on the door area, the slack in bellcranks, torque tubes, and worn latch pins may have contributed to have allowed the two midspan latches to rotate just past center permitting the almost 100,000 pounds of internal pressure on the 99 inch by 110 inch door to rupture outward inflight relieving the maximum pressure differential on the internal fuselage.

The nine foot by eight foot squarish forward cargo door
would have instantly burst open at the midspan and bottom latches sending the latches, door material, and large pieces of fuselage skin spinning away. The forward cargo compartment would have spewed its contents outward onto the starboard side of the fuselage. It was as if a huge mylar balloon had popped. The severe explosion of explosive decompression caused the forward cargo door to be fractured and shattered into a few large pieces and many small pieces which gave a frayed appearance from an outward force. Many small bits of metal from the explosion were embedded into the cargo door area metal fuselage structure.

The top part of the door swung outward and upward on its hinge and then separated taking large vertical pieces of fuselage skin with it, exposing stringers and bulkheads. The very lower part of the door sill with its eight bottom latches may have stuck to fuselage skin. The resulting damage zone appeared as a huge rectangle of shattered door, skin, and stringers. Some pieces of the door and fuselage skin flew directly aft and impacted the leading edge of the right wing, the vertical stabilizer and the right horizontal stabilizer in flight.

This explosion of explosive decompression blew out a large hole about thirty feet wide and forty feet high on the starboard side of the nose forward of the wing. It looked as if a bomb had gone off inside the forward cargo hold. Fuselage skin was peeled outward at various places on the starboard side of the nose.

The forward cargo door had some fuselage and cargo floor attached. This door, located on the forward starboard side of the aircraft, was broken horizontally about one-quarter of the distance above the lower frame. The damage to the door and the fuselage skin near the door appeared to have been caused by an
outward force. The fractured surface of the cargo door appeared to have been badly frayed. The cargo door pieces and the adjacent skin had holes, flaps, fractures, inward concavity, tears, deformities, outward bent petals, curls, missing pieces, cracks, separations, curved fragments, spikes, and folds. The fast and powerful explosion of the explosive decompression would have caused a metallurgical effect called "twinning" on a few fragments of pieces of wreckage.

The now uncompressed air molecules rushed out of the huge hole equalizing the high pressure inside the fuselage to the low pressure outside the aircraft while making a sudden very loud audible sound. This sudden rushing outward air was recorded on the Cockpit Voice Recorder as a sudden loud sound. The sound did not accurately match any bomb explosion sounds on other aircraft but did match the explosive decompression sound on another wide body airliner, a DC-10 cargo door open event.

The tremendous explosive force in the forward cargo hold severely disrupted the adjacent main equipment compartment which housed power cables and abruptly shut off power to the Flight Data Recorders. The resulting data tapes showed a sudden loud audible sound followed by an abrupt power cut to the flight data recorder, the cockpit voice recorder and transponder.

The number three engine and cowling, closest to the forward cargo compartment, were damaged by inflight debris from material ejected from the now exposed compartment and cabin above, debris which also damaged the number four engine cowling by a displaced turbine blade from number three engine. The resulting vibration from the internal damage to engine number three caused the nacelle and engine to fall away from the wing, as designed, and land apart from the other three engines.
The floor beams above the forward cargo hold were sucked downward, and were fractured and broken from the sudden decompression. The floor panels were stationary but gave the appearance of separating upward by the suddenly moving downward floor beams.

The flight attitude of the aircraft was askew to the left from reaction of explosive decompression from the right. Air rushed into the large hole and weakened other skin and frames thus peeling skin further outward and rupturing the aft part of the aircraft to include the aft cargo compartment and the aft pressure bulkhead. There was no evidence of an explosion of any source in the aft cargo compartment.

The 296 knots of wind force pressed upon the weakened airframe and broke it in half amidships. This wind force was larger than any wind force the surface of the earth had ever experienced. The nose portion and wings tore off and landed in a dense debris heap apart from the debris field of the aft part.

The rest of the plane without the forward section suddenly decelerated from 296 knots and caused whiplash injuries to passengers. After the breakup, the passengers who were not wearing their seatbelts were scattered to far distances. They suffered explosion type injuries such as pieces of metal embedded in them from flying debris in the cabin. They were not burned because there was no fire nor explosion from a bomb explosion. The passengers had no other bomb explosion evidence. The passengers and crew were ejected from the disintegrating aircraft to tumble to the water and suffer upward impact physical damage to their bodies. Some remained in their seats and were trapped in the fuselage underwater. Some had decompression type injuries of hypoxia from the high altitude
aircraft breakup.

The passengers fell to the sea and some floated and some sank. The baggage from Vancouver passengers and loaded into the aft cargo compartment fell to the sea and some floated and some sank. The baggage from Montreal passengers and loaded into the forward cargo compartment fell to the sea and some floated and some sank. The aircraft fell in pieces and some pieces floated and some sank.

The pilots may have been conscious for a few seconds and adjusted the trim controls out of habit. The communications radio may have been activated by the disturbances in the cockpit and transmitted for a few seconds to air traffic control.

The port side forward of the wing was relatively smooth and undamaged from inflight debris while the starboard side forward of the wing was shattered, torn, and frayed at the ruptured cargo door area.

A few local fires appeared on the surface of the ocean from the jet kerosene fuel and singed some seat cushions and floating passengers.

All was quiet as the ground controllers tried to contact Air India Flight 182 as the flight crew did not respond to radio calls. Rescue teams were sent. Authorities became aware of the tragedy of 329 men, women, and children dying in a sudden plane crash.

Aftermath:

Explanations were sought as to what happened. Immediately the suggestion was made by authorities that a bomb explosion had caused the accident because of the sudden and catastrophic
nature of the immediate evidence.

The Canadian aviation accident investigation authorities became involved since the aircraft had taken off from Canada and had many Canadian citizens aboard. Indian authorities became involved since the airline, Air India, has government ties. The Indian authorities quickly dismissed their aviation experts and assigned a Judge of the Court to oversee the investigation.

After a period of investigation, much of which was conducted to confirm the bomb explosion explanation and identify the culprits, the Indian judge made a finding in 1986 that a bomb in the forward cargo compartment had caused the inflight breakup of Air India Flight 182 and ruled out any type of explosion in the aft cargo compartment.

After a period of investigation, during which the opinion of the UK Air Accidents Investigation Branch representative of an explosive decompression not caused by a bomb but a cause as yet to be determined was given, the Canadian Aviation Safety Board made a conclusion in 1986 that an explosion of unstated cause in the forward cargo compartment had caused the inflight breakup of Air India Flight 182 while also ruling out any explosion of any type in the aft cargo compartment.

The immediate finding by the Indians of a bomb explosion in the forward cargo compartment was accepted and remained the probable cause for Air India Flight 182 twenty one years later although subsequent accidents of a similar type aircraft in similar circumstances leaving similar evidence now resolutely contradicted that finding although confirming the Indian finding of an explosion on the starboard side of the forward cargo compartment and no explosion in the aft.
The Canadian probable cause of an explosion in the forward cargo compartment of an undetermined cause has been proven to be correct by subsequent accidents of a similar type aircraft in similar circumstances leaving similar evidence which do reveal the cause of the explosion: faulty wiring causing the forward cargo door to rupture open in flight at the latches leading to a tremendous explosion of explosive decompression causing Air India Flight 182 to totally breakup in flight.

In 2001 three men were arrested for involvement in the unproved bombing. One pled guilty on a bomb making charge and went to prison while denying any involvement with Air India Flight 182.

In 2005 two of the accused were found not guilty by a Canadian judge in British Columbia. The other man remains in prison and charged with perjury in that trial. The Canadian judge determined that an explosion occurred in the rear cargo compartment on the left side and the cause was a bomb. No explanations were offered to rebut the original findings of explosion in the forward cargo compartment on the right side and no explosion of any source in the aft cargo compartment.

In 2006 a Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182 was appointed. The shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup explanation was presented to the Commissioner at an open hearing on 19 July, 2006. Excerpts below:

Application for Standing presented by Mr. Smith: Mr. Smith: Thank you, Commissioner Major, for allowing me to supplement my written application for standing...I have an
alternate explanation for Air India 182. It's a mechanical explanation. I'll go into some detail during my presentation and my detail will not be to persuade you that my explanation is correct but to persuade you that my research has depth and is worthy of being granted standing.

The Commissioner: Well, I don't think, Mr. Smith, that you need 15 minutes to persuade me of that. Here's the difficulty...You have an alternate theory. The alternate theory may over time prove to be correct. I don't know...but the Terms of Reference preclude our considering whether or not there was any cause for that explosion other than the bomb that is found by the Supreme Court of British Columbia.

Hindsight:

In 1985, when Air India Flight 182 suffered an inflight breakup from an explosion, it was believed that an explosive decompression in an early model Boeing 747 could not cause an abrupt power cut to the data flight recorders. That belief was cited by the Indian Kirpal Report as a reason to reject the explosive decompression explanation because, in fact, Air India Flight 182 had suffered an abrupt power cut to the data recorders. The Indian Kirpal Reports states: "It was not possible that any rapid decompression caused by a structural failure could have disrupted the entire electrical power supply from the MEC compartment." The later event of United Airlines Flight 811 showed that it was possible, and indeed, did happen, that an explosive decompression caused by a structural failure could and did cause an abrupt electrical cutoff to the recorders.

The reason for the Indians in 1986 to rule out explosive decompression by structural failure was negated by the reality of United Airlines Flight 811 in 1989. If the Indians had the foreknowledge of United Airlines Flight 811 and the explosive
decompression which cut off abruptly the power to the recorders, it is most probable they would have sustained the findings of the Canadians and the British who said that a explosion in the forward cargo compartment occurred and all would have then known the solution to the mystery posed by the AAIB investigator: "...but the cause has not been identified." The cause was identified in 1989 and demonstrated by United Airlines Flight 811 in NTSB AAR 92/02: The National Transportation Safety Board determines that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door in flight and the subsequent explosive decompression.'

The evidence that was unavailable to the Air India Flight 182 CASB, AAIB, and Indian accident investigators in 1985 that became available in the ensuing 16 years that would have been invaluable in assisting them in determining the probable cause was:

A. Evidence that an explosive decompression could cause an abrupt power cut to the data recorders.
B. Evidence that floor panels can appear to separate upwards when in fact the floor beneath were pulled down.
C. Testimony that twinning can occur in explosions other than bombs, such as an aviation fuel explosion, or explosive decompression.
D. Evidence that the type of wiring installed, Poly-X, was defective in that it cracked to bare wire easily, especially in the presence of moisture.
E. Visible ruptures in flight in forward cargo doors of other early model Boeing 747s that suffered the same events in flight.
F. Several Airworthiness Directives for defects in and around the forward cargo doors of Boeing 747s that if
uncorrected could lead to inadvertent opening of the cargo door in flight leading to catastrophic explosive decompression.

The evidence that was available to the Air India Flight 182 CASB, AAIB, and Indian accident investigators in 1985 was such to lead them to conclude that an explosion had taken place on the starboard side in the forward cargo compartment which was picked up by the cockpit voice recorder and cut off the electrical power in the adjacent main electrical equipment compartment. The cause of the explosion was given as either unknown, structural failure of explosive decompression, or a bomb explosion. Since the event in 1989 with United Airlines Flight 811 had not happened yet, the understandable decision of the Indians, based on three assumptions later proven unreliable, was to state the cause of the explosion in the forward cargo compartment a bomb whilst the cautious Canadian CASB and the British AAIB left the cause unstated or unidentified.

Part XI: Political Implications

Mr. Brucker, if and when the substantiated mechanical explanation for Air India Flight 182 is confirmed by Crown experts in aircraft crashes (TSB Air investigators), the political consequences are very positive: (Assuming I'm a political amateur optimist)

1. The caution and prudence of the Canadian Aviation Safety Board of 1986 will be revealed; their findings were correct, there was an explosion in the forward cargo compartment of Air India Flight 182 with an electrical cause only apparent four years later with United Airlines Flight 811.
2. The RCMP and CSIS will be exonerated for their failure to catch their men because there were no men to catch. There was no bomb, there were no bombers, there was no conspiracy, there was no crime, there were no criminals; the small cause was
faulty Poly-X wiring destroying a large machine, an early model Boeing 747.
3. The security of Canadian airports was intact and not penetrated because there was no bomb placed in a CP aircraft leaving Vancouver, BC, which then passed through Montreal and Toronto airports.
4. The wisdom of the Canadian judicial system will be reaffirmed as represented by Justice Josephson who found the two accused not guilty because they were.
5. The tenacity and bravery of the Prime Minister to order an Inquiry that eventually would reveal the probable cause for the two decade old tragedy whilst knowing that official Inquiries sometimes answer key questions that remain unsolved, can help prevent future aircraft accidents, but can cause turbulent changes in attitude amongst the public.
6. A grand reduction in the amount of fear, suspicion, and hate among Canadian citizens against themselves, a religion, an airline, and law enforcement.
7. Closure for the families.

A pessimist might opine that acceptance of a mechanical explanation and rejection of the bomb conspiracy story would create disturbance in the minds of the citizens and cause unrest among the families and my reply would be, "That's why politicians and high officials get the respect, because they explain clearly and smooth upsets over to maintain the peace and prosperity of the state."

Part XII: Standing as witness before the Commission of Inquiry

I have fulfilled a Term of Reference and thus worthy of being granted standing because:
1. I have flown in Boeing 747s and about twenty other types of military and civilian aircraft during forty five years of aviation experience accumulating thousands of hours of flight time.
2. My crew duties have included pilot in command, co-pilot, navigator, bombardier, flight crew, mechanic, and owner.
3. I am a qualified nuclear weapon loading officer/bombardier which means I know how to create, load, arm, deliver, and detonate nuclear weapons as well as conventional bombs.
4. I have dropped bombs.
5. I have investigated in depth the bombing of Air India Flight 182 and other explanations for the inflight breakup and have written a three hundred page aircraft accident report and built a thousand page website demonstrating a substantial interest. (Smith AAR for Air India Flight 182 and Exhibit S-18 in the Commission files)
6. I have been investigated by the RCMP, the Air India Task Force, and the security branch of Transport Canada during their investigation of the bombing of Air India Flight 182.
7. I am personally aware of a conflict between the RCMP and Transportation Safety Board of Canada which resulted in problems of effective cooperation which I believe adversely affected the investigation into the bombing of Air India Flight 182.
8. I have been in a sudden fiery fatal jet airplane crash and suffered lifelong injuries.
9. I have seen the fatal victim in that crash.
10. I have visited and discussed the crash with the surviving family members of the victim.
11. I have discovered a clear and present hazard to the security and safety of Canadian passengers flying in early model Boeing 747s such as Air India Flight 182. (The shorted wiring/ruptured open/forward cargo door/explosive decompression/inflight breakup hazard)
Summation

There were no bombs on Air India Flight 182. There were no crimes and no criminals and no conspiracies. There was and is a mechanical problem which exists to this day, aging and failing Poly X wiring which exploits design errors of non plug cargo doors and omitted midspan locking sectors allowing an explosive decompression when the forward cargo door ruptures open in flight.

Mr. Brucker, please check out this alternate explanation for the current bomb explosion one for Air India Flight 182. The alternative mechanical explanation with precedent warrants requests to Crown experts in technical matters (TSB (Air) investigators), and the Crown expert in inquiry (Commissioner Major of the Commission of Inquiry), for their opinions to assist you on a course of action to follow after their inquiries are complete. I can also help those agencies by being available to present the wiring/cargo door explanation to them in detail. Can you ask TSB (Air) for their professional opinions?

Can you set up a meeting with TSB (Air) investigators and me in Vancouver? I will go there to meet them.

Can you suggest to Commissioner Major that I be granted standing as a witness before him? It is in the best interest of the Commission of Inquiry to inquire into the wiring/cargo door explanation to fulfill the guidance given by the Prime Minister to conduct a full and thorough inquiry and also fulfill the Commissioner's stated goal of being very broad in the evidence that it heard, in order to put to rest the various theories, rumours and neglect that have occurred since the explosion in 1985.
On a personal note, I have read the law somewhat in my forty five years of adulthood. In my opinion, my readings of military law, federal law, local law, and aviation law have revealed one thing that is always apparent: Fairness. The law as written always allows the other side the same advantages or concessions as the other. If one side has time, the other does too. If one side makes a statement, the other side has an opportunity to rebut, and the original side can rebut the rebuttal and then the other side gets to rebut that rebuttal. The bombing explanation has had twenty one years to present its case, please allow the wiring/cargo door a few hours in front of TSB (Air) or the Commission of Inquiry. Please turn those fair words of the written law and the idealistic words of the Prime Minister and the Commissioner into reality.

Respectfully,

John Barry Smith
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http://www.montereypeninsulaaairport.com
http://www.ntsb.org

Mr. John Barry Smith
barry@johnbarrystmith.com

Dear Mr. Smith:
On behalf of the Prime Minister, I would like to thank you for your e-mail of October 2 regarding the Commission of Inquiry
into the Bombing of Air India Flight 182. Please be assured that your comments have been carefully reviewed and are appreciated.

I have taken the liberty of forwarding your correspondence directly to the Minister of Justice and Attorney General of Canada, the Honourable Vic Toews, within whose responsibilities this matter falls.

Once again, thank you for taking the time to write.
Sincerely,

Salpie Stepanian
Assistant to the Prime Minister

cc: Hon. Vic Toews, P.C., M.P., Minister of Justice and Attorney General of Canada

Mr. John Barry Smith
barry@johnbarrysmith.com

Dear Mr. Smith:
Thank you for your correspondence of August 20, 2006, to the Honourable Lawrence Cannon, Minister of Transport, Infrastructure and Communities, regarding Air India Flight 182. The Minister has asked me to reply on his behalf.
I have noted your comments with respect to this matter.
Although, as you indicate, the Attorney General of Canada is the Government of Canada's representative on the Commission of Inquiry into the investigation of the bombing of Air India Flight 182. This being the case, I have taken the liberty of forwarding a copy of your correspondence to the office of the Honourable Vic
Toews, Minister of Justice and Attorney General of Canada, for consideration.

I trust that this action will prove satisfactory. Again, thank you for writing.

Yours truly,
Richard Stryde
Senior Special Assistant

c.c. Office of the Honourable Vic Toews, P.C. M.P.

Dear John Barry Smith,

Thank you for your interest in Transportation Safety Board.

Your comments are important to us and we will address them as quickly as possible.

We have lots of information already available on-line which may be exactly what you need. Our e-mail service is now available. The subscription page lets you choose the documents for which you would like to receive a notification. When a type of document you have requested is posted on our Web site, an e-mail that includes a short summary and a link to the document on our Web site will be sent to you. Please use the following link to subscribe to our e-mail service (http://listserv.tsb.gc.ca/en/subscribe/).
We invite you to start by reading:

About the TSB (http://www.tsb.gc.ca/en/common/about.asp);

FAQ (http://www.tsb.gc.ca/en/common/faq.asp) where many of your questions may already have been addressed;

The Site Map (http://www.tsb.gc.ca/en/common/site_map.asp); and

Search (http://www.tsb.gc.ca/en/search/query.asp) pages are valuable tools to find specific information.

If you wish to contact a TSB employee, please use the GEDS Employee Directory at http://direct.srv.gc.ca/cgi-bin/direct500/BE.

Please note that personal information collected by TSB is protected.

Thank you for taking the time to provide us with your comments.

Communications Group
Transportation Safety Board
E-mail: communications@tsb.gc.ca

Good afternoon,

The Transportation Safety Board (TSB) has implemented
SECURITAS, a confidential program through which you can report potentially unsafe acts or conditions relating to the Canadian transportation system that would not normally be reported through other channels.

For more information, please follow this link: http://www.tsb.gc.ca/en/securitas/index.asp

Thank you for your interest in the Transportation Safety Board of Canada.

Best regards,

Christian Plouffe
Communications Advisor
Transportation Safety Board of Canada

Dear Mr. Smith:

Thank you for your recent inquiry regarding the last correspondence you had with Mr. Bill Tucker on the Air India file. Mr. Tucker's replacement is Mr. Terry Burtch, who joined us last October. I have forwarded your request to Mr. Burtch, who is pursuing it at present. You may also be interested to know that just before we received your request, both the Director of Investigations - Air and the Director, Engineering, retired from the Transportation Safety Board. Mr. Burtch is presently following up with other staff in those respective organizations, and will communicate directly with you at the earliest opportunity. We regret the delay in responding, but trust that this approach will be satisfactory.
Mr. Randall, permit me to address you directly, sir. From press release: "To take aviation safety one step further, Flight Standards Service created the FAASTeam. The FAASTeam is devoted to reducing aircraft accidents by promoting a cultural change in the aviation community toward a higher level of safety."

About time!

Normally I leave the political considerations out of my
discussion of a probable cause for an accident but I now realize politics oversees everything and in this case may be very important. My political opinions may be wrong about the reasons for the creation of FAAST but my scientific conclusions about the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s are correct.

Why was FAAST created? In my amateur opinion the team was created because it became apparent to FAA that the NTSB had become politicized, slow, and argumentative while producing delayed, incomplete, and flawed AARs. NTSB was not giving timely objective probable causes. The FAA has stepped in to fill the vacuum with FAAST.

From the editor of Air Data Research: "There are a lot of excellent investigators working for the NTSB. However, their efforts are directed by managers who may have other priorities than aviation safety. We've long been critical of the NTSB's delay in publishing the reports of their investigations. But they just don't seem to get it - their priorities seem to be determined by blood, bent metal and media attention. Fewer and quicker reports are not necessarily better reports."

The NTSB has pressed the FAA to inert fuel tanks based upon TWA Flight 800 and the FAA has rightly resisted by indicating the data does not justify the effort. Fuel tanks may or many not need to be inerted but TWA Flight 800 is irrelevant. The center fuel tank of that aircraft did have a fire/explosion but it was not the initial event by an unknown ignition source as the NTSB states. The wiring/cargo door explanation gives an ignition source for that fireball and it's the fodded on fire engine number three. The wiring/cargo door explanation for TWA Flight 800
also explains the streak, the strange radar returns, the red paint smears, the embedded turbine blades, and the sudden loud sound on the CVR followed by the abrupt power cut to the FDR, all important evidence clues which are ignored by the center fuel tank explosion explanation.

Spontaneously exploding aircraft fuel tanks with a mysterious ignition source may be a problem on a Boeing 737 sitting on a ramp but the faulty Poly X wiring in early model Boeing 747s is a much higher priority since my research has shown it has caused at least four fatal accidents, Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

I know two of the accidents are controversial and have other official explanations which are explanations from law enforcement, not aircraft accident investigators. The hard evidence from United Airlines Flight 811 is what connects the other three to each other not zany conspiracy stories based on fear of terrorists.

At this time, sir, I do not expect you to believe that frayed Poly X wiring is shorting on a cargo door unlatch motor allowing the forward cargo door to rupture open in flight at the midspan latches which leads to explosive decompression and inflight breakup of four early model Boeing 747s, but please, Mr. Randall, believe that I believe it. In my thousands of flight hours as crew and pilot, I have made life and death decisions based on less certainty that the cause of those four accidents was a ruptured open forward cargo door inflight probably caused by a failure in the electrical system (same as United Airlines Flight 811) and refined by subsequent accidents to be shorted Poly X wiring with the initial rupture occurring at the midspan latches.
A face to face meeting is inevitable. It will allow you to ascertain my credibility and evaluate my wiring/cargo door explanation. This messenger is in fact a 62 year old retired US military officer who survived a fatal US Navy carrier jet crash and has flown many hours over a forty five year career in aviation. The wiring/cargo door explanation can be explained with charts, data, sketches, photographs, and text. Let's call it data mining/analysis and it works.

From press release: "To further reduce accidents the FAASTTeam will use a coordinated effort to focus resources on particularly elusive accident causes. This will be accomplished by data mining/analysis, team work, instruction in the use of safety management systems/risk management tools, and development/distribution of educational materials. There's plenty of data available on aircraft accidents, but it's often difficult to determine exactly what should be done to reduce accidents from the data."

So very true! And wiring is a particularly elusive accident cause since the symptoms are often treated but not the underlying cause of frayed wiring.

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The wiring/cargo door explanation is simply a manufacturing flaw of defective Poly X wire exploiting design flaws of non plug cargo doors which don't have locking sectors on the two midspan latches. It's as simple as that.
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We are safety men who respond to facts and data, so let me give some at this time: To reveal officially the dangers of wiring which require immediate action, I suggest the first accident to delve into deeply is TWA Flight 800. That updated accident investigation requires complete knowledge of United Airlines Flight 811. The two are closely linked by the sudden loud sound on the CVR which is not a bomb but an explosive decompression sound.

Chart 12 above from NTSB public docket for TWA Flight 800 showing the sudden loud sound from the CVRs in graphical format. Air India is Air India Flight 182, PanAm is Pan Am Flight 103, and United is United Airlines Flight 811. (Philippine Air was a Boeing 737 that had a fuel tank explode on the ground and not a Boeing 747 exploding in the air as the others.)

United Airlines Flight 811
"The Safety Board believes that the approximate 1.5 to 2.0 seconds between the first sound (a thump) and the second very loud noise recorded on the CVR at the time of the door separation was probably the time difference between the initial
failure of the latches at the bottom of the door, and the subsequent separation of the door, explosive decompression, and destruction of the cabin floor and fuselage structure. The door did not fail and separate instantaneously; rather, it first opened at the bottom and then flew open violently. As the door separated, it tore away the hinge and surrounding structure as the pressure in the cabin forced the floor beams downward in the area of the door to equalize with the loss of pressure in the cargo compartment."

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"The TWA flight 800 CVR recorded noise characteristics that were most similar to those recorded by the CVRs on board the United flight 811 and Philippine Airlines airplanes."

Mr. Randall, in a meeting, permit me to show you beyond doubt that the forward cargo door ruptured open at the midspan latches at event time for TWA Flight 800 and that the center fuel tank exploded many seconds later, and the cause for the shattered door was probably faulty Poly X wiring in the unlatch door circuit.

To quickly rebut the center fuel tank explosion as the initial event:

A center fuel tank explosion would give bilateral damage in that area while a ruptured forward cargo door would give unilateral damage on the starboard side in the door area. Note the actual damage from the wreckage:

Smooth port side above nose to left, green leading edge of wing
under the "R" of "World".

Above: Shattered forward cargo door starboard side nose to right, leading edge of wing is green area.

One more picture above: (from NTSB AAR for United Airlines Flight 811)

Well, enough of the pictures and charts for now. Your safety experts should be able to quickly rule in or rule out the wiring/cargo door explanation with a few pointed questions to me. I have written three lengthy AARs, one each for Air India Flight 182, Pan Am Flight 103, and TWA Flight 800. They are available for download at http://www.ntsb.org or upon request. The NTSB, AAIB, and CASB official AARs are also available (plus United Airlines Flight 811 AAR) at that ntsb.org website. (Not affiliated with NTSB and stated on home page) Part IV of my AAR for TWA Flight 800 explains my differences with the NTSB conclusions.

To sum up:

1. Let us set up a face to face meeting, you with questions, me with answers.
2. Please download and review my AARs.
3. If the wiring/cargo door explanation is ruled in by your evaluation, then corrective action can be justified and another accident may have been averted.
4. If the wiring/cargo door explanation is ruled out by your evaluation, then I apologize for your expended time and expense.
The accidents under question may have happened a long time ago, but then, data mining and analysis need time. The internet has allowed me to identify the four trees in the forest of electrically caused inflight breakups of early model Boeing 747s and to deduce another tree may fall again.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
safety@ntsb.org
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

From Air Data Research: "Since the federal government is beginning a new fiscal year, it seems appropriate to take a look at the number and type of investigations conducted by the NTSB over the past few years.

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characters 4 and 5 of the NTSB file number designate the fiscal year of the occurrence. And you may have wondered about the significance of characters 6 and 7 in the file number, which designate the type of investigation.

The code FA designates a field investigation - the most detailed type of investigation. Limited investigations, usually delegated to the FAA, are designated by LA in the file number. The CA code indicates a Data Collection investigation. Incident investigations are IA; GA or TA indicate a public use aircraft; and RA or WA are foreign investigations to which the NTSB is a party. It is not uncommon for a single occurrence to generate multiple reports as an occurrence is up or downgraded.

As a general rule, and as the Chairman stated, the NTSB field investigations involve fatal injuries. Non-fatals, homebuilt and agricultural aircraft investigations are delegated to the FAA or simply a data collection report based on information submitted by the operator regardless of the safety implications of the mishap.

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You’ll notice that the percentage of field investigations stayed at 15% or 16% for FY 01, FY 02, and FY 03. In FY 04 the percentage dropped to 12% where it has stayed since. In FY 01, limited investigations comprised 73% of the total. By FY 04, data collection investigations had climbed from zero in FY 01 to 24% and continued to climb to 35% in FY 05 and 42% in FY 06.
This, with a corresponding decrease in limited investigations. Essentially these investigations were delegated to the operator rather than the FAA.

But you'll notice that throughout this period, incident investigations have stayed steady at 2% or 3%. Incident reports are often found to be much more valuable by analysts than full-fledged accident reports. (If nothing else, they had a live pilot to interview.) Apparently the NTSB doesn't share the FAA's curiosity.

The FAA and NTSB have quite different missions, but just to give a little context to the number of incidents, since 2001 the reports in the FAA database have been 49% accidents, 51% incidents.

So while the total number of NTSB investigations has stayed relatively constant over the past few years, the number of field investigations is down by roughly one-fourth. And there has been no corresponding increase in investigation of other types except the data collection non-investigations.

There are a lot of excellent investigators working for the NTSB. However, their efforts are directed by managers who may have other priorities than aviation safety. We've long been critical of the NTSB's delay in publishing the reports of their investigations. But they just don't seem to get it - their priorities seem to be determined by blood, bent metal and media attention. Fewer and quicker reports are not necessarily better reports.

Editor
From: John Barry Smith <barry@johnbarrysmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: phil.randall@faa.gov, peter.wilhelmson@faa.gov
Subject: Wiring/cargo door

Phil Randall
Pete Wilhelmson
FAA Safety Team
FAAST

Dear Mr. Randall and Mr. Wilhelmson, Sunday, October 15, 2006

Mr. Randall, permit me to address you directly, sir. From press release: "To take aviation safety one step further, Flight Standards Service created the FAASTeam. The FAASTeam is devoted to reducing aircraft accidents by promoting a cultural change in the aviation community toward a higher level of safety."

About time!

Normally I leave the political considerations out of my discussion of a probable cause for an accident but I now realize politics oversees everything and in this case may be very important. My political opinions may be wrong about the reasons for the creation of FAAST but my scientific conclusions about the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s are correct.

Why was FAAST created? In my amateur opinion the team was created because it became apparent to FAA that the NTSB had
become politicized, slow, and argumentative while producing delayed, incomplete, and flawed AARs. NTSB was not giving timely objective probable causes. The FAA has stepped in to fill the vacuum with FAAST.

From the editor of Air Data Research: "There are a lot of excellent investigators working for the NTSB. However, their efforts are directed by managers who may have other priorities than aviation safety. We've long been critical of the NTSB's delay in publishing the reports of their investigations. But they just don't seem to get it - their priorities seem to be determined by blood, bent metal and media attention. Fewer and quicker reports are not necessarily better reports."

The NTSB has pressed the FAA to inert fuel tanks based upon TWA Flight 800 and the FAA has rightly resisted by indicating the data does not justify the effort. Fuel tanks may or many not need to be inerted but TWA Flight 800 is irrelevant. The center fuel tank of that aircraft did have a fire/explosion but it was not the initial event by an unknown ignition source as the NTSB states. The wiring/cargo door explanation gives an ignition source for that fireball and it's the foddled on fire engine number three. The wiring/cargo door explanation for TWA Flight 800 also explains the streak, the strange radar returns, the red paint smears, the embedded turbine blades, and the sudden loud sound on the CVR followed by the abrupt power cut to the FDR, all important evidence clues which are ignored by the center fuel tank explosion explanation.

Spontaneously exploding aircraft fuel tanks with a mysterious ignition source may be a problem on a Boeing 737 sitting on a ramp but the faulty Poly X wiring in early model Boeing 747s is a much higher priority since my research has shown it has caused
at least four fatal accidents, Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.

I know two of the accidents are controversial and have other official explanations which are explanations from law enforcement, not aircraft accident investigators. The hard evidence from United Airlines Flight 811 is what connects the other three to each other not zany conspiracy stories based on fear of terrorists.

At this time, sir, I do not expect you to believe that frayed Poly X wiring is shorting on a cargo door unlatch motor allowing the forward cargo door to rupture open in flight at the midspan latches which leads to explosive decompression and inflight breakup of four early model Boeing 747s, but please, Mr. Randall, believe that I believe it. In my thousands of flight hours as crew and pilot, I have made life and death decisions based on less certainty that the cause of those four accidents was a ruptured open forward cargo door inflight probably caused by a failure in the electrical system (same as United Airlines Flight 811) and refined by subsequent accidents to be shorted Poly X wiring with the initial rupture occurring at the midspan latches.

A face to face meeting is inevitable. It will allow you to ascertain my credibility and evaluate my wiring/cargo door explanation. This messenger is in fact a 62 year old retired US military officer who survived a fatal US Navy carrier jet crash and has flown many hours over a forty five year career in aviation. The wiring/cargo door explanation can be explained with charts, data, sketches, photographs, and text. Let's call it data mining/analysis and it works.

From press release: "To further reduce accidents the FAASTeam
will use a coordinated effort to focus resources on particularly elusive accident causes. This will be accomplished by data mining/analysis, team work, instruction in the use of safety management systems/risk management tools, and development/distribution of educational materials. There's plenty of data available on aircraft accidents, but it's often difficult to determine exactly what should be done to reduce accidents from the data."

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To reduce accidents based upon my data, the wiring in the cargo door unlatch circuit needs to be replaced or inspected regularly for cracks, chafing, and exposed bare wire. Next, non plug cargo doors need to be exposed for the accident waiting to happen they are and then turned into plug type.

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Editor"

From: John Barry Smith <barry@johnbarrysmith.com>
Date: September 6, 2009 12:03:10 AM PDT
To: phil.randall@faa.gov
Subject: Reporting safety issue to you, the FAA Safety Team

Dear Mr. Randall, Tuesday, October 10, 2006

I am reporting a rare but clear and present danger to the flying public: frayed Poly X wiring is causing non plug cargo doors to rupture open in flight leading to fatalities.
The shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation is responsible for Air India Flight 182, Pan Am Flight 103, United Airlines Flight 811, and TWA Flight 800.


The FAA has been downloading my files from those websites for over a year, details below. Please follow up this safety alert by contacting me. The accidents listed above may have happened a long time ago but faulty Poly X wiring is still installed in about five hundred early model Boeing 747s still in service worldwide.

I urge you to check out the mechanical explanation based on NTSB, CASB, AAIB AARs and discount conspiracy nonsense of bombs.

Emergency ADs should be issued to all carriers to inspect the Poly X wiring in Boeing 747-100 and Boeing 747-200 in the cargo door un latch motor circuits. NTSB AAR 92/02 for United Airlines Flight 811 gives locations of the suspect wiring.

Regards,

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Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Boeing 747
Shorted wiring/unlatch motor on/ruptured open forward cargo
door/explosive decompression/inflight breakup explanation for
Air India Flight 182, Pan Am Flight 103, United Airlines Flight
811, and TWA Flight 800.

A Plea to those government officials who have the responsibility
to protect the lives of passengers and crew of airliners by
oversight of the airlines, the manufacturer, and the parts
suppliers: FAA and NTSB of the United States:

207.76.142.9
US
UNITED STATES
MARYLAND
OXON HILL
NATIONAL TRANSPORTATION SAFETY BOARD
1160 files downloaded.

204.108.8.5
US
UNITED STATES
MARYLAND
You have visited ntsb.org and/or montereypeninsulaaairport.com and read my shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for several early model Boeing 747s; you have downloaded four thousand eight hundred fifty eight of the supporting files; you understand the science behind the logic, you can see the reasoning based on precedent, you remember the history of other aviation accidents, you have learned how to evaluate probable causes, thus you know that the explanation makes sense. The wiring/cargo door explanation warrants further investigation by you and your specialized agencies. Please inquire and ask questions to rule in or rule out the wiring/cargo door explanation.

A Plea to the manufacturer of the early model Boeing 747s that suffer inflight breakups: Boeing with facilities in Long Beach, Seattle, and Chicago.
You have read my shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for several early model Boeing 747s; you have downloaded two thousand ninety four of the supporting files; you created the aircraft; you know the design errors of no locking sectors for the midspan latches, you realize the risk of non plug doors, you are aware of the aging wiring problems, you understand the science behind the logic of explosive decompression, you can see the reasoning based on precedent, you remember the history of other aviation accidents, you have learned how to evaluate risk/reward issues, thus you know that the explanation makes sense. The wiring/cargo door explanation
warrants further investigation by you and subsequent replacing
the faulty wiring and changing the non plug doors to plug type.
Please inquire and ask questions to rule in or rule out the wiring/
cargo door explanation.

A Plea to the parts suppliers to the manufacturer of the aircraft:

199.64.0.252
US
UNITED STATES
ARIZONA
PHOENIX
ALLIEDSIGNAL INC
1102 files downloaded

192.249.47.8
US
UNITED STATES
CONNECTICUT
MANCHESTER
UNITED TECHNOLOGIES RESEARCH CENTER
944 files downloaded

You have read my shorted wiring/unlatch motor on/ruptured
open forward cargo door/explosive decompression/inflight
breakup explanation for several early model Boeing 747s; you
have downloaded two thousand forty six of the supporting files;
you created the engines and structure; you realize the risk of non
plug doors, you are aware of the aging wiring problems, you
understand the science behind the logic of explosive
decompression, you can see the reasoning based on precedent,
you remember the history of other aviation accidents, you have
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the explanation makes sense. The wiring/cargo door explanation warrants further investigation by you and your staff. Please inquire and ask questions to rule in or rule out the wiring/cargo door explanation.

A Plea to the airlines that fly aircraft with aging wiring and nonplug cargo doors, in particular those airlines that fly early model Boeing 747s.

207.250.30.3
US
UNITED STATES
INDIANA
INDIANAPOLIS
REPUBLIC HOLDINGS
972 files downloaded

205.174.22.27
US
UNITED STATES
GEORGIA
ATLANTA
DELTA AIR LINES
978 files downloaded

205.174.22.26
US
UNITED STATES
GEORGIA
ATLANTA
DELTA AIR LINES
1020 files downloaded
199.82.243.73
US
UNITED STATES
TENNESSEE
MEMPHIS
FEDERAL EXPRESS CORPORATION
796 files downloaded

171.21.80.126
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NETHERLANDS
NOORD-HOLLAND
AMSTERDAM
KLM ROYAL DUTCH AIRLINES
1590 files downloaded

161.215.18.51
US
UNITED STATES
ILLINOIS
SCHAUMBURG
UNITED AIRLINES
1361 files downloaded

159.49.254.2
US
UNITED STATES
WASHINGTON
SEATTLE
ALASKA AIRLINE INC
1778 files downloaded

144.9.8.21
You have read my shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight
breakup explanation for several early model Boeing 747s; you have downloaded twelve thousand six hundred fifty one of the supporting files; you fly the aircraft; you risk the lives of your staff and passengers every day, you are aware of the aging wiring problems, you understand the science behind the logic of explosive decompression, you can see the reasoning based on precedent, you remember the history of other aviation accidents, you have learned how to evaluate risk/reward issues, thus you know that the explanation makes sense. The wiring/cargo door explanation warrants further investigation by you.

NTSB.org statistics host report 11 sep 06 detailing the host computers who visit the website and how many files they downloaded over a one year time span. Ninety percent of the host computers were unlisted and not reported below.

213.56.63.128
FR
FRANCE
RAEI-AGENCE-FRANCAISE-DE-DEVELOPPEM-LB_INTERNET 784 files downloaded

208.8.57.2
US
UNITED STATES
TEXAS
FT. WORTH
SPRINT 1335

207.250.30.3
US
UNITED STATES
INDIANA
INDIANAPOLIS
REPUBLIC HOLDINGS 972

207.76.142.9
US
UNITED STATES
MARYLAND
OXON HILL
NATIONAL TRANSPORTATION SAFETY BOARD 1160

205.174.22.27
US
UNITED STATES
GEORGIA
ATLANTA
DELTA AIR LINES 978

205.174.22.26
US
UNITED STATES
GEORGIA
ATLANTA
DELTA AIR LINES 1020

204.108.8.5
US
UNITED STATES
MARYLAND
CURTIS BAY
FEDERAL AVIATION ADMINISTRATION 1287

202.156.6.68
SG
SINGAPORE
SINGAPORE
SINGAPORE
SINGAPORE
STARHUB CABLE VISION LTD
  1498

200.225.90.10
BR
BRAZIL
S—O PAULO
S—O PAULO
COMITE GESTOR DA INTERNET NO BRASIL 1058

199.82.243.73
US
UNITED STATES
TENNESSEE
MEMPHIS
FEDERAL EXPRESS CORPORATION
  796

199.64.0.252
US
UNITED STATES
ARIZONA
PHOENIX
ALLIEDSIGNAL INC
  1102

192.249.47.8
US
UNITED STATES
CONNECTICUT
MANCHESTER
UNITED TECHNOLOGIES RESEARCH CENTER 944

171.21.80.126
NL
NETHERLANDS
NOORD-HOLLAND
AMSTERDAM
KLM ROYAL DUTCH AIRLINES 1590

162.58.82.244
US
UNITED STATES
OKLAHOMA
OKLAHOMA CITY
FEDERAL AVIATION ADMINISTRATION 2411

161.215.18.51
US
UNITED STATES
ILLINOIS
SCHAUMBURG
UNITED AIRLINES 1361

159.49.254.2
US
UNITED STATES
WASHINGTON
SEATTLE
ALASKA AIRLINE INC 1778

155.109.5.21
US
UNITED STATES
FLORIDA
MIAMI
FLORIDA POWER & LIGHT CO
874

144.9.8.21
US
UNITED STATES
CALIFORNIA
RIVERSIDE
AMERICAN AIRLINES INCORPORATED
1583

130.76.64.15
US
UNITED STATES
CALIFORNIA
LONG BEACH
THE BOEING COMPANY 990

130.76.32.15
US
UNITED STATES
WASHINGTON
SEATTLE
THE BOEING COMPANY
822

129.123.156.28
US
UNITED STATES
UTAH
LOGAN
UTAH STATE UNIVERSITY 875

87.203.185.122
GR
GREECE
ATTIKI
ATHENS
MULTIPROTOCOL SERVICE PROVIDER TO OTHER ISP'S AND END USERS
1037

81.174.155.59
UK
UNITED KINGDOM
ENGLAND
LONDON
DIAL-UP AND ADSL POOL 1463

80.127.78.110
NL
NETHERLANDS
ZUID-HOLLAND
ROTTERDAM
XS4ALL INTERNET BV
1005

71.202.36.138
US
UNITED STATES
CALIFORNIA
MONTEREY
COMCAST CABLE COMMUNICATIONS IP SERVICES 2512
71.51.1.33
US
UNITED STATES
VIRGINIA
MONTPELIER
SPRINT DSL NETWORK
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69.181.122.95
US
UNITED STATES
CALIFORNIA
MONTEREY
COMCAST CABLE COMMUNICATIONS HOLDINGS INC
8139

68.195.84.128
US
UNITED STATES
NEW YORK
WEST BABYLON
OPTIMUM ONLINE (CABLEVISION SYSTEMS)
1036

68.83.238.97
US
UNITED STATES
PENNSYLVANIA
MARCUS HOOK
COMCAST CABLE COMMUNICATIONS INC
926
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UNITED STATES
GEORGIA
ATLANTA
BELLSOUTH.NET INC
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66.249.72.225
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NEW YORK
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GOOGLE INC
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65.118.216.209
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QWEST COMMUNICATIONS CORPORATION
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64.233.173.67
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CALIFORNIA
MOUNTAIN VIEW
GOOGLE INC
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64.143.220.132
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SBC INTERNET SERVICES 888

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24.4.191.82
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UNITED STATES
CALIFORNIA
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COMCAST CABLE COMMUNICATIONS
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12.171.224.124
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COLUMBUS
EXECUTIVE JET AVAIATION
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12.22.196.75
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PHOENIX
MESA AIR GROUP
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http://www.montereypeninsulaairport.com/stats/

208.66.195.8
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Introducing the FAA Safety Team
The FAA Safety Team (FAASTeam) will be launched on Oct. 1, 2006 coinciding with the sunset of the
FAA's Aviation Safety Program (ASP). The ASP's shotgun approach of educating airmen on all types of safety subjects has been successful at reducing accidents in the past. However, the easy to fix accident causes have all been addressed. In other words, the "low hanging fruit" has been harvested. To take aviation safety one step further, Flight Standards Service created the FAASTeam. The FAASTeam is devoted to reducing aircraft accidents by promoting a cultural change in the aviation community toward a higher level of safety.

To Further Reduce Accidents
To further reduce accidents the FAASTeam will use a coordinated effort to focus resources on particularly elusive accident causes. This will be accomplished by data mining/analysis, team work, instruction in the use of safety management systems/risk management tools, and development/distribution of educational materials. There's plenty of data available on aircraft accidents, but it's often difficult to determine exactly what should be done to reduce accidents from the data. The FAASTeam is developing a web-based Data Mart specifically designed to bring each FAASTeam program manager (FPM) the correct data for his/her geographic area. This will include accident data for airmen who live in the area, but actually had an accident in another area. This is an important new concept. In the past, accident data was summarized by where the accidents occurred. Programs to address those accident causes were developed and delivered in that area. But, the airmen who had the problem and others like them
are not there to receive it. The FAASTeam will reach these airmen in their home areas. We're not likely to catch them hanging around the accident site. FPMs will be trained to analyze the data and extract systemic and human factors problems that need to be addressed. The problems identified will be combined with information from local FAA inspectors who certify and perform surveillance on airmen and air operators. Together this data and information becomes the FPM's source data. The source data will be used to develop topics and tasks that the FPMs will weave into an annual business plan of actions. Regional FAASTeam managers (RFM) will coordinate and prioritize the actions of their FPMs into a cohesive and efficient regional plan. All of this effort is designed to ensure that resources are devoted to activities that will have the biggest effect on the safety culture and accident rate.

Team work will allow us to multiply our efforts beyond what the FPMs can do alone. The FAASTeam will develop symbiotic relationships with individuals and industry groups that have a vested interest in aviation safety. These individuals, FAASTeam representatives, will work closely with the FPMs to "touch" airmen with our safety message on a local level. The FAASTeam will "team" with the aviation industry to bring aviation safety to airmen on a broader scale. The coordinated effort of all these FAASTeam members is what will cause the safety culture to "tip" in the right direction. The FAASTeam will bring system safety to many segments of the aviation community that have not experienced it
before. Aviation operators such as flight/mechanic schools and repair stations identified to have higher risk levels will be provided with training on how to develop their own safety management systems including the tools necessary to set up their own system. Individual airmen will be provided risk management training and tools via live seminars conducted by FAASTeam members and the web application at www.FAASafety.gov.

New products for airmen and air groups are being developed. Although they cover many aviation topics, they focus on showing airmen how they can change their behavior to be consistent with the new safety culture.

**Many Products Will Be Developed**

Many products will be developed by working with our industry. FAASTeam members and others will come from our National Resource Center (NRC). The NRC is collocated with the FAA Production Studios in Lakeland, Florida. This facility has the ability to take new product ideas from any of our FAASTeam Members and turn them into safety products in a variety of media. Then, they are duplicated, stored, and shipped (or beamed via satellite) wherever they are needed.

The Flight Standards Service has always been a world leader in aviation safety. Launching the FAASTeam is one more strategic step in supporting the FAA Administrator's goal of having the safest aviation system in the world. Go to www.FAASafety.gov for more information about the FAASTeam and sign up to receive important
aviation safety information via e-mail. It's the first step to becoming part of the FAASTeam.

From Phil Randall
As the Deputy National FAASTeam Manager I am responsible for the Airworthiness portion of the FAASTeam Program, thus it is my responsibility along with yours to reduce accidents and incidents that are caused by AMTs. A review of accidents that have occurred over the past 10 years revealed that in accidents where maintenance was found to be the causal factor, the two leading findings were, improper installation of a component or part, and improper inspection following maintenance. The initial project the FAASTeam Airworthiness program managers will be that of developing training programs to address these two issues. But, to do so we need your help! IÕm asking you to join the FAASTeam in your local area as either a lead representative or representative and work alongside your Airworthiness FAASTeam program manager to address these issues. Your ideas and comments on how this new program might be most effective in addressing safety issues that affect you the AMT will be appreciated. Please email these to me at phil.randall@faa.gov or via regular mail at:
Phil Randall
Deputy National FAASTeam Manager
6433 Bryan Blvd., Greensboro, NC 27409

From: John Barry Smith <fly@montereypeninsulaaairport.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Brent.Phillips@faa.gov, richard.jehlen@faa.gov, emily.a.white@faa.gov, grossid@ntsb.org, lynn.a.boniface@faa.gov, Gregg.Anderson@faa.gov, Richard.Powell@faa.gov, Kevin.Browne@faa.gov, richard.jehlen@faa.gov, kathy.abbott@faa.gov, Lance.Nuckolls@faa.gov, Richard.Heuwinkel@faa.gov, paul.krois@faa.gov, jeff.williams@faa.gov, james.p.hansen@faa.gov, darcy.d.reed@faa.gov, C.Tere.Franceschi@faa.gov, Pat.Bruce@faa.gov, rolland.nelsen@faa.dot.gov, 9-awa-asu-web-admin@faa.gov, Bob.Breneman@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Lyle.Streeter@faa.dot.gov, Neil.Schalekamp@faa.dot.gov, Ronald.Wojnar@faa.dot.gov, jeff.williams@faa.gov, WebmasterFAA@mail.hq.faa.gov
Cc: anh.bolles@ntsb.gov, Bill.Bolles@dot.gov, casanoh@ntsb.gov, robert.swaim@ntsb.gov, lopatkt@ntsb.gov, academy@ntsb.gov, wilsornr@ntsb.gov, Michael.Graves@NTSB.gov, murphyb@ntsb.gov, keega@ntsb.gov, QUINLAK@ntsb.gov, roeberd@ntsb.gov, weinste@ntsb.gov, paul@ntsb.gov, michelebeckjord@ntsb.gov, michele.beckjord@ntsb.gov, david.lampe@ntsb.gov, coxp@ntsb.gov, executedirector@ntsb.gov, paul.sledzik@ntsb.gov, sedorj@ntsb.gov, jose.obregon@ntsb.gov, horganc@ntsb.gov, lopatt@ntsb.gov, narvelr@ntsb.gov, elizabeth@ntsb.gov, drakeb@ntsb.gov, reminej@ntsb.gov, johng@ntsb.gov, emily@ntsb.gov, moyem@ntsb.gov, dburney@ntsb.gov, lawrence@ntsb.gov, sullivp@ntsb.gov, jeffrey.cavanaugh@ntsb.gov, ellen.Engleman@ntsb.gov, smahoe@ntsb.gov, blackis@ntsb.gov, suydamk@ntsb.gov, jan@ntsb.gov, mcgillf@ntsb.gov, Kelly@ntsb.gov, assistance@ntsb.gov, smithc@ntsb.gov, carrole@ntsb.gov, Alex.lemishko@ntsb.gov, jonathan@ntsb.gov, john.brannen@ntsb.gov, pettusdc@ntsb.gov, kelleyt@ntsb.gov, jayme@ntsb.gov, throwera@ntsb.gov, BENZONR@ntsb.gov, wilsonr@ntsb.gov, alleyne@ntsb.gov, paul.sledzik@ntsb.gov, SAGERE@ntsb.gov, spej@ntsb.gov, lawrence@ntsb.gov,
Subject: TWA Flight 800 Anniversary coming up and Hazard still exists.

Dear FAA and NTSB officials: Tuesday, July 4, 2006

Happy July 4th! Ah, but old news.

And another anniversary is soon upon us in the aviation safety field, July 17th for TWA Flight 800: But not old news where safety is involved.

Mystery presented and explained:

The FAA is not implementing the NTSB recommendations for inerting fuel tanks. Why? It's because the evidence is not there that fuel tanks such as those in Boeing 747s are a hazard. NTSB says they are a hazard based on the probable cause of the initial event for TWA Flight 800 being a center fuel tank explosion; however, the NTSB has no ignition source for the explosion which is like asking a three legged stool to stand upright with only the legs of oxygen and fuel present. So what did happen?

There was a center fuel tank explosion but it was not the initial event and the ignition source was not shorted wiring somewhere.

There was shorted wiring but it was not in the fuel tank circuitry.

There is an explanation which resolves those mysteries and it's
the shorted wiring/ruptured open forward cargo door/explosive decompression/inflight breakup explanation.

The center wing fuel tank exploded after the nose came off and the aircraft was falling and disintegrating spewing fuel and vapor everywhere. That fuel, inside and outside the tank, was ignited by the on-fire flaming number three engine which had been fodded by the debris ejected from the ruptured open forward cargo door which had burst open when the unlatch motor had shorted on by the faulty Poly X wiring.

United Airlines Flight 811 is the model for the wiring/cargo door explanation for TWA Flight 800. The evidence matches:

UAL 811 matches TWA 800:
aged
high flight time
poly x wired
early model Boeing 747
and shortly after takeoff
experienced hull rupture forward of the wing
foreign object damage to starboard engines #3
fire in number three engine
more severe inflight damage on starboard side,
at least nine never recovered bodies,
torn off skin in forward cargo door area on starboard side,
post side smooth forward of the wing.
rupture at forward cargo door at aft midspan latch,
outward peeled skin on upper forward fuselage,
downward bent floor beams in cargo door area,
bare wire found in cargo door area.
vertical fuselage tear lines forward of the wing
parts initially shed from just forward of the wing.
first pieces of structure to leave aircraft in flight from forward cargo bay.
forward cargo door frayed
hoop stress found in cargo door area
door skin shattered outward.
sudden sound on CVR
loud sound on the CVR
short duration sound on the CVR
abrupt data loss to FDR
inadvertent opening of forward cargo door in flight considered initially thought to be a bomb but later ruled out.

United Airlines Flight 811

Rupture at aft midspan latch of shattered forward cargo door of TWA Flight 800

Smooth port skin on opposite side of forward cargo door. Unilateral damage occurred, not central.

Rupture at forward midspan latch of forward cargo door of TWA Flight 800
NTSB Chart of CVR of sudden loud sound of Boeing 747s which suffered inflight explosive decompressions. (Except Philippine Air)

The "S" of NTSB stands for safety and the "A" of FAA is for Aviation. Aviation Safety has highest priority for us so I would assume that when government officials, such as yourselves, involved with aviation safety are informed by an experienced aviation professional of a current safety hazard (faulty wiring exploiting a design flaw of non plug cargo doors in airliners) which is documented by photographs and explanations which resolve ten year old mysteries, those government officials will take action; actions such as checking out the explanation, asking questions, and reevaluating the original probable cause, as was done with United Airlines Flight 811.

The hazard is out there and it is not spontaneous fuel tank explosions by a mystery ignition source. The hazard is Poly X wiring shorting and causing cargo doors in early model Boeing 747s to rupture open at the midspan latches (which have no locking sectors).

Details and further presentation of facts, data, and evidence at http://www.montereypeninsulaairport.com

SmithAAR for TWA Flight 800 is attached: page 141 of 190 is of particular interest: Part IV: Anomalies within the NTSB investigation, the public docket, and NTSB AAR 00/03 for Trans World Airlines Flight 800.
It's never too late for learning why airplanes crash and taking action to prevent the reoccurrence.

Regards,

John Barry Smith
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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

From: John Barry Smith <barry@qp6.com>
Date: September 6, 2009 12:03:10 AM PDT
To: barry@qp6.com

anh.bolles@ntsb.gov, Bill.Bolles@dot.gov, casanoh@ntsb.gov, robert.swaim@ntsb.gov, lopatkt@ntsb.gov, academy@ntsb.gov, wilsonr@ntsb.gov, Michael.Graves@NTSB.gov, murphyb@ntsb.gov, keega@ntsb.gov, QUINLAK@ntsb.gov, roeberd@ntsb.gov, weinste@ntsb.gov, paul@ntsb.gov, michelebeckjord@ntsb.gov, michele.beckjord@ntsb.gov, david.lampe@ntsb.gov, coxp@ntsb.gov, executivedirector@ntsb.gov, paul.sledzik@ntsb.gov,
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov, Lyle.Streeter@faa.dot.gov
Subject: China Airlines Flight 611 cargo door strange areas...

Dear FAA: 3 Sep 02

All the ADs in the world trying to make Trans World Airlines Flight 800 a center tank explosion as the initial event will not make that stator blade in the right horizontal stabilizer go away which shows engine 3 uncontainment and therefore makes the
shorted wiring/forward cargo door rupture/explosive decompression/inflight breakup explanation a plausible, reasonable explanation with precedent of United Airlines Flight 811.

'Ron Wojnar, the FAA's deputy director of aircraft certification services, explained that submersion would prevent any sparks from igniting fuel vapors.'

"The Paris-bound Boeing 747 exploded in a fireball at 13,700 feet, minutes after leaving John F. Kennedy International Airport. All 230 people on board were killed. "All of our pumps that were on Flight 800 were recovered and not found to be contributors to the crash," Ward said."

Let's see, the NTSB says center tank exploded as initial event with undetermined ignition source, FAA says check wiring around center tank and wiring for fuel pumps: but Trans World Airlines Flight 800 fuel pumps were OK. And FAA and NTSB never suggested checking wiring to cargo door although the photographs show shattered and torn door with precedent of United Airlines Flight 811.

Now it appears another cargo door in an early model Boeing 747 has ruptured in flight, China Airlines Flight 611.

It appears that Kay Yong of ASC, Neil Schalekamp of FAA, and Ken Smart of AAIB were open to apparently admit that the cargo door ruptured open inflight and the reasons may be a repair doubler failure, or a bomb, or a center tank explosion. I offer the United Airlines Flight 811 reason, wiring.
Trans World Airlines Flight 800

China Airlines Flight 611

China Airlines Flight 611

CAL Cargo Door Under Study

MICHAEL A. DORNHEIM

MD>Investigators have recovered the upper and lower parts of the aft cargo door of China Airlines Flight 611 still connected to the surrounding fuselage. A middle portion of the door hasn't been recovered yet.

JBS>That is assuming the missing piece(s) are only one; the middle may be in more than one piece.

MD>Aft cargo door is located on the lower right fuselage behind the wing, and was recovered in several pieces. The upper part (top photo) is still hinged to the fuselage, and the lower part (green structure, below) is latched in place next to cargo rollers.

JBS>Conjecture: can't be sure about 'latched in place' until see it latched in place.

MD>Even though both pieces are attached, Taiwan's Aviation Safety Council (ASC) has not ruled out the door as a cause, and in fact "we are paying more attention to it now than before," said
Kay Yong, ASC managing director.

JBS> The cat is out of the bag. If and when they follow the evidence of what ruptured open cargo doors in flight do to Boeing 747s, it will become apparent it has happened at least four times before. Not ruling out the cargo door as a cause is to imply it could be the cause; such an obvious deduction but many are loathe to admit it.

MD> "There are some strange areas that we can't explain right now; we need more evidence." ASC officials believe the aft fuselage of the Boeing 747-200, also known as Section 46, was the first area to come apart, and the aft cargo door is on the aft fuselage (AW&ST Aug. 5, p. 41).

JBS> Yes, strange areas. Yes, need more evidence.

MD> The main thrust of the investigation is still a 21.7 X 16.7-ft. segment of Section 46 that includes the bulk cargo door, which is to the rear of the aft cargo door. Laboratory analysis has confirmed there are fatigue cracks up to 9 in. long around a doubler. The doubler was used to repair tail-strike damage in 1980. The preliminary lab report needs further discussion before it is released, Yong said.

JBS> LetsÔ see: The cracks did not crack, the doubler did not fail: The cargo door is shattered...and the main thrust is the.....doubler? Of course. Note that it is Mike Dornhiem saying main thrust, not the actual thruster: ASC.

MD> Recovery efforts are focusing on trying to find the right side of Section 46, including the aftmost passenger doors 4R and 5R. The aircraft did not have a passenger deck cargo door. Most of
the left side has already been recovered. The ASC has started moving wreckage from the Penghu Islands to Tao Yuan AFB near Taipei, and plans to make a two-dimensional reconstruction of the rear fuselage and perhaps part of the forward fuselage. A 3D reconstruction may then be made to better explain findings to the public, Yong said.

JBS>Looking for the right side, the starboard side, the aft cargo door side, the shattered side, the side with precedent. They are on the right track. At least a 2D and maybe a 3D, that's very good.

Now, to the examination of the aft cargo door of China Airlines Flight 611:

Items identified:
Top hinge.
Outline of pressure relief doors.
Jagged metal at tear area about one third down.
Door actuator motor.
Pull in hook mechanism.
Bottom sill.
Cargo floor ball mats.
Torque tubes.
Thin fiberglass internal skin of door.
Non parallel lines of bottom of door and sill.
Some wiring inside door.
Cargo rollers.

Top: Vertical tear lines at aft and forward leading edge of the cargo door.
Missing pressure relief doors.
Longitudinal split about one third down from top.
Intact hinge and door attached to top fuselage skin.
Bottom:
Straight torque tubes apparently
Leading edge of door missing.
Edge of door and edge of fuselage sill not parallel.
Latches not seen in photo.
Some internal door cover missing and bent.

Analysis:
Top of aft cargo door matches other ruptured open cargo doors in flight, such as United Airlines Flight 811 and Pan Am Flight 103, in having vertical tear lines at aft and forward leading edge of the cargo door, missing pressure relief doors, longitudinal split about one third down from top and intact hinge and door attached to top fuselage skin.

Bottom of door with its attachment to sill and locked latches (if confirmed) matches Trans World Airlines Flight 800.

Conclusion: Can not yet rule in or rule out the shorted wiring/aft cargo door rupture/rapid decompression/inflight breakup explanation explanation for China Airlines Flight 611. Need more evidence, such as the actual middle parts with its latching hardware, before determination can be made.

JBS>For Trans World Airlines Flight 800:
Exhibit 8A, Page 11, paragraph 3, discussing results of engine 3 disassembly, "Of the 46 fan blades in the fan rotor, 21 blades with complete or partial airfoils and 6 root sections were recovered. All of the fan blades had sooting on the convex airfoil surfaces. Most of the full length airfoils were bent rearward and the tips outboard of the outer midspan shroud were bent forward slightly. About half of the fan blades had impact damage to the
leading and trailing edges. Almost all of the impact damage to the airfoils could be matched to contact with the midspan shroud on an adjacent blade. One full length blade had four soft body impacts along the leading edge and a partial airfoil had a soft body impact, which had some streaking extending rearward.

Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

From AAR 00/03 for Trans World Airlines Flight 800: 1.12.4 Engines ÔNo evidence of uncontainment, case rupture, fire, penetration of an object from outside into the engine, or preimpact damage was found in any of the engines.Ô

JBS> The engine obviously came apart in the air throwing the broken from FOD blades everywhere including the right horizontal stabilizer just aft of number three, there is nothing ÔsoftÕ inside the engine so the Ôsoft body impactsÕ came from without, and sooting means abnormal fire inside the engine.

To say ÔNo evidence of uncontainment, case rupture, fire, penetration of an object from outside into the engine, or preimpact damage was found in any of the engines.Ô is as close to a lie as NTSB can come and still not be laughed out of the room.

But then, having one engine have FOD and the others not would conflict with the center tank as initial event explanation. Because,
how could engine three have FOD and the others not? They were four huge vacuum cleaners up three nearby a mystery explosion. To say they had nothing negates the whole explosion explanation, especially a center tank explosion while engines at full climb power.

That stator blade in the right horizontal stabilizer of Trans World Airlines Flight 800 will always be there and it will always mean uncontainment of engine three and that will always mean ruptured open nearby cargo door inflight.

And all the opinions of Loeb and Wildey will not change the location or discovery of that stator blade directly aft of engine three.

Regardless, an explanation is needed for the two rupture holes at the midspans of the forward cargo door of Trans World Airlines Flight 800. An honest person would say the center fuel tank explosion blew it open. But they never do. Except one guy, Neil Schalekamp of FAA who quickly recanted and stated the NTSB point of view:

Manager in the Transport Airplane Directorate, Aircraft Certification Service, dated 30 January 98. Neil Schalekamp:

"While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be
due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

JBS>Shortly thereafter, nine days later, he changed his tune after I emailed his response to NTSB: Note his suddenly changed attitude.

NS>"It appears that you are determined to impose your theory about the events that led to this unfortunate accident upon the official investigators."

"Please take note that this office will no longer be responding to your further inquiries about these same concerns, including your February 6 and February 9 letters that I just received."

"The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean."

JBS>Well, an honest man even if only for a few days.

Ken Smart, the current head of AAIB, has said about Pan Am Flight 103,

X-From_: ksmart@aaib.gov.uk Thu Apr 18 09:41:49 2002
Date: Thu, 18 Apr 2002 17:41:27 +0100
To: John Barry Smith <barry@corazon.com>
From: Ken Smart <ksmart@aaib.gov.uk>
Subject: Mr. Bill Tucker/wiring/cargo door for PA 103 message!
Cc: "Tucker, Bill" <Bill.Tucker@tsb.gc.ca>

Dear Mr Smith
Thank you for your hypothesis on the immediate cause of the PanAm 103.

During the first five days of the investigation into PanAm 103 the AAIB were pursuing two general lines of inquiry. The first was that the aircraft had suffered a structural failure in-flight as a result of a defect or induced structural overload, the second was that an improvised explosive devise was responsible.

When the evidence of an improvised explosive device was found, the investigation nevertheless concentrated on discovering whether there was any evidence that a structural weakness had been exploited. In that respect the fwd. cargo door was the subject of very detailed examination. All the specialists involved were satisfied that the fwd. cargo door was correctly latched when the device detonated and that the subsequent structural failures where secondary events.

All structures by nature of their design have paths of least resistance when subjected to abnormal loading. The structure in the vacinity of large strengthened apertures such as the fwd. cargo door provide very good examples of this. The window belt on pressurised aircraft provides another and similar example. You should not be surprised to find similar patterns of breakup in structural failures that emanate from very different causes. The important differences lie in the detailed examination rather than the macro features.

I'm sorry to be the one to pour cold water on your hypothesis, but the scenario that you suggest was the subject of very considerable examination in the early stages of the Lockerbie investigation.
Ken Smart  
Chief Inspector of Air Accidents

JBS>I evaluated this letter at length and responded to him pointing out that essentially he said the cargo door structural failure occurred in flight but was secondary. I then argued that the only difference of opinion we had was “when” it occurred. I pointed out the at initial event time the large hole where the forward cargo door used to be appeared as well as the 20 inch shatter hole on the port side (According to AAIB report itself). So, by the evidence, holes on both side of nose occurred at the same time. He never replied, most bomb guys never do when confronted with the evidence. Note how quick the AAIB rushed to judgment, five days. The NTSB narrative has the “go” team thinking bomb before they took off from Andrews AFB that same night of the event.

KS>'All the specialists involved were satisfied that the fwd. cargo door was correctly latched when the device detonated and that the subsequent structural failures were secondary events.' JBS>Another assumption that once assumed, it's bomb forever. 'When the device detonated...' It's like assuming from day one that JFK was killed by two or more people and then all the conspiracy 'facts' make sense. It's a false initial premise.

Dear FAA , it's never too late to pursue safety related items when presented to you with evidence: shorted wiring/forward cargo door rupture/explosive decompression/inflight breakup explanation for early model Boeing 747s.

Cheers,
The Federal Aviation Administration (news - web sites)'s emergency order stressed that no serious incidents have been linked to problems with the pumps, which are made by Hydro-Aire Inc. of Burbank, Calif., and were installed in January and April on Boeing 737s, 747s and 757s.

The airlines were given four days to inspect their fleets. The FAA estimated 1,250 pumps could have a problem with wires that were placed too close to a rotor and can chafe. Since one plane can have several pumps, it was not immediately clear how many aircraft might have the flaw.

Ron Wojnar, the FAA's deputy director of aircraft certification services, said any airlines that installed Hydro-Aire's pumps in the Boeing models since January are being ordered to keep enough fuel in the tanks to cover the devices even when the planes bank or encounter turbulence in flight.

"This is not an unsafe condition," he said, explaining that the submersion would prevent any sparks from igniting fuel vapors.

The FAA's inspection order affects 515 of the 737s, 247 of the
747s, and 678 of the 757s operated by U.S. carriers.

Foreign airlines operate about 2,100 of the jets. The FAA is sending advisories about the pumps to its counterpart agencies in those countries.

The FAA will issue a follow-up directive in a few weeks, instructing carriers to repair or replace any faulty pumps, Wojnar said.

The pumps are located in the center fuel tank under the fuselage. Some planes may also have pumps in wing tanks.

Boeing spokeswoman Liz Veridier said her company sent the airlines a bulletin Wednesday ordering the pumps replaced on 116 new planes that had been put into use this year.

Greg Ward, president of Hydro-Aire, said the problem appears to have occurred while the pumps were being assembled. Hydro-Aire, meanwhile, has X-rayed all of the pumps that had not yet been shipped to Boeing, about 150 pumps, and found about 3 percent contained the wiring problem, Ward said.

He said one pump that the company took apart after it was returned by an airline contained a wire that had been rubbed by a nearby rotor, creating concern of a potential spark.

"When you have fuel covering the pump there's no oxygen, so there can be no fire," he said.

Other 737s, 747s and 757s were ordered to fly only with their tanks full enough to cover the pumps until further inspections could be carried out, said Boeing's Veridier.
The problem was detected on three planes that had pumps short out and stop working, giving the crew an indication of low pressure in the tank, said FAA spokesman Les Dorr.

The British carrier easyJet sent the pump back to Hydro-Aire on Aug. 12 after the crew of one of its Boeing 737s detected low pressure, Dorr said. A week later, a Northwest Airlines 747-400 reported a low pressure indication and found the same problem, he said. A China Southern Airlines 747-400 experienced the same trouble.

The National Transportation Safety Board (news - web sites) ruled that an explosion in the center fuel tank of TWA Flight 800 caused it to crash off the coast of Long Island in 1996. It said vapors in the partly empty tank probably were ignited by a spark in wiring.

The Paris-bound Boeing 747 exploded in a fireball at 13,700 feet, minutes after leaving John F. Kennedy International Airport. All 230 people on board were killed. "All of our pumps that were on Flight 800 were recovered and not found to be contributors to the crash," Ward said.

Q & A: Faulty fuel pumps

Airlines around the world are examining about 3,000 Boeing planes after being told of a potentially dangerous fault in a batch of fuel pumps.

Jane's Defence aviation security expert Chris Yates explains the problem.

Q: How frequently are safety warnings like this issued?
A: Fairly regularly.

Q: Then is this problem with the fuel pumps particularly significant?

A: It is potentially a major problem, because it affects the fuel tank.

Q: What is wrong with the fuel pumps?

A: The problem is that in the manufacture of these pumps the wiring has been placed too close to moving parts.

Q: What could happen?

A: The fear is those moving parts will in some way chap the wiring, which could cause an explosion.

Q: What is being done to protect passengers?

A: The Federal Aviation Administration (FAA) wants to find out in the next four days where these devices are, if they are on aircraft and if so, how many they are on.

Q: How widespread could it be?

A: It looks very much as though we are going to have a global issue here.

Q: Are all Boeings at risk?

A: Right across the board - Boeing 737s, 747s and 757s.
Q: How many are in the United States?

A: The FAA has called for 1,400 or so aircraft to be inspected in the United States.

Q: Is that the majority?

A: I have seen suggestions that there are slightly more than that flying elsewhere in the world. There are an awful lot of operators out there.

Q: What will happen if the faulty fuel pumps are located?

A: They will eventually be removed - but it will not be possible to do it immediately.

Q: What will happen while they are awaiting removal?

A: Every pilot needs to be told that if they have that particular part they must maintain sufficient fuel in the tanks to keep the pumps submerged.

Q: How will that help?
A: If the wiring does become frayed and chapped and there is a short-circuit, it would not cause an explosion because it would be immersed in liquid.

Carriers inspecting 1,440 Boeing jets for faulty fuel pumps
WASHINGTON (AP) - U.S.-based airlines are inspecting 1,400 Boeing jets to determine if they have a potentially faulty fuel pump that could cause an explosion.

In an emergency order issued Friday, the Federal Aviation Administration stressed that no serious incidents have been linked to problems with the pumps, which are made by Hydro-Aire Inc. of Burbank, Calif., and installed since January on Boeing 737s, 747s and 757s.

The government gave the airlines four days to inspect their fleets and was advising its counterpart agencies in other countries of the potential flaw.

The FAA estimated that 1,250 pumps could have a problem with wires that were placed too close to a rotor and can chafe. Since one plane can have several pumps, it was not immediately clear how many aircraft might have the flaw.

Ron Wojnar, the FAA's deputy director of aircraft certification services, said any airlines that installed Hydro-Aire's pumps in the Boeing models since January are being ordered to keep enough fuel in the tanks to cover the devices even when the planes bank or encounter turbulence in flight.

"This is not an unsafe condition," he said, explaining that the submersion would prevent any sparks from igniting fuel vapors.

The FAA's inspection order affects 515 of the 737s, 247 of the 747s, and 678 of the 757s operated by U.S. carriers.

Foreign airlines operate about 2,100 of the jets.

The FAA will issue a follow-up directive in a few weeks, instructing carriers to repair or replace any faulty pumps, Wojnar said.

The pumps are located in the center fuel tank under the fuselage. Some planes may also have pumps in wing tanks.

Boeing spokeswoman Liz Veridier said the company sent the
airlines a bulletin Wednesday ordering the pumps replaced on 116 new planes that had been put into use this year.
Greg Ward, president of Hydro-Aire, said the problem appears to have occurred while the pumps were being assembled. The company, meanwhile, has X-rayed the approximately 150 pumps that had not yet been shipped to Boeing and found about 3 percent contained the wiring problem, Ward said. He said one pump that the company took apart after it was returned by an airline contained a wire that had been rubbed by a nearby rotor, creating concern of a potential spark. "When you have fuel covering the pump there's no oxygen, so there can be no fire," he said. Other 737s, 747s and 757s were ordered flown only with their tanks full enough to cover the pumps until further inspections could be carried out, said Boeing's Veridier. The problem was detected on three planes that had pumps short out and stop working, giving the crew an indication of low pressure in the tank, said FAA spokesman Les Dorr. The British carrier easyJet sent the pump back to Hydro-Aire on Aug. 12 after the crew of one of its Boeing 737s detected low pressure, Dorr said. A week later, a Northwest Airlines 747-400 reported a low pressure indication and found the same problem, he said. A China Southern Airlines 747-400 experienced the same trouble. The National Transportation Safety Board ruled that an explosion in the center fuel tank of TWA Flight 800 caused it to crash off the coast of Long Island, N.Y., in 1996. It said vapors in the partly empty tank probably were ignited by a spark in wiring.

Sep 1, 9:11 AM (ET)  
By The Associated Press
A day after the government called for 1,400 Boeing jets to be inspected for possibly faulty fuel pumps, major U.S. carriers said Saturday they had few planes in which the pumps have been installed.

The directive from the Federal Aviation Administration said the pumps could cause an explosion because wires were placed too close to a rotor and could chafe.

American Airlines, the nation's No. 1 carrier, said Saturday it was replacing pumps on three aircraft. United and Delta, the nation's second- and third-largest airliners, said none of their planes was affected by the FAA order.

"We've checked our aircraft and spare parts inventory and we have none of the parts with the manufacturer or model number listed in the airworthiness directive," Delta spokeswoman Christi Tucker said.

Among smaller carriers, Northwest Airlines said about a half-dozen of its planes were affected by the order.

FAA spokesman William Shumann said it was not surprising airlines are finding few of the pumps in their planes. "These suspect pumps were only manufactured this year" and many probably are in airline inventories as spare parts, he said.

"Presumably airlines would just remove them from inventory, put them aside," he said. "An airline is not going to take a suspect pump from spare parts and put it on a plane."

The FAA stressed that no serious incidents have been linked to the pumps, which are supplied by Hydro-Aire Inc. of Burbank,
Calif., and have been installed since January on Boeing 737s, 747s and 757s.

Boeing spokeswoman Liz Verdier said Saturday that the company delivered 118 jets this year with 1,300 of the possibly faulty pumps. The pumps are located in the center fuel tank under the fuselage. Some planes may also have pumps in wing tanks.

The FAA's order did not require airlines to immediately remove the pumps. Rather, airlines were ordered to keep enough fuel in the tanks to cover the devices even when the planes bank or encounter turbulence in flight.
Ron Wojnar, the FAA's deputy director of aircraft certification services, explained that submersion would prevent any sparks from igniting fuel vapors.

"This will enable carriers to continue flying as normal until the pumps are replaced," Verdier added.

Airlines were given four days to complete inspections.

---

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:10 AM PDT
To: Lyle.Streeter@faa.dot.gov
Subject: 103 defense team.
Dear Mr. Streeter:
Hi, I sent this to 103 defense team. It's related to TWA 800.

Cheers,
Barry

To: adlaw@callnetuk.com
From: John Barry Smith <barry@corazon.com>
Subject: Your guys didn't do it.
Cc:
Bcc:
X-Attachments:

Dear Members of the Defense Team:

Your clients did not put a bomb on PA 103, nobody did. The cause of the accident was a mechanical event which has happened before. Historical and forensic evidence supports the explanation of wiring shorting on the forward cargo door unlatch motor resulting in explosive decompression and subsequent nose coming off.

Yes, the explanation goes against the conspiracy beliefs of the countries involved, but unfortunately for them, the cause is probably known bad wiring, Poly-X polyimide insulation, chafing through allowing the forward cargo door to open in flight. It's not as exciting as secret agents working in Malta, Germany and putting bombs in planes, but the wiring/cargo door explanation is true and supported by government documents.
All support for the explanation is a www.corazon.com.

This messenger and discoverer of the explanation is a survivor of a night fiery fatal jet airplane crash and a commercial civilian pilot and former military navigator. I have been researching high time Boeing 747s crashes for 11 years and have discovered four events with similar clues, AI 182, PA 103, TWA 800, and UAL 811. UAL 811 is the mechanical model for all four.

Regarding PA 103, did you know that the one piece of plastic circuit board that was supposed to come from the Toshiba tape recorder was found in the baggage compartment in which it was supposed to have been placed by your clients....found on the outside? Yes, the outside, not the inside. AAIB AAR 2/90: Appendix F paragraph 5:

While this work was in progress a buckled section of skin from container 4041 was found by an AAIB Inspector to contain, trapped within its folds, an item which was subsequently identified by forensic scientists at the Royal Armaments Research and Development Establishment (RARDE) as belonging to a specific type of radio-cassette player and that this had been fitted with an improvised explosive device.

And yet, Figure F-5, paragraph c of AAIB report states: Container manufacturer's data plate containing burnt piece of material which itself contained a fragment of circuit board.

Well, gentlemen, that manufacturer's data plate is on the outside of the container. A bomb within a 'boom' box would blow circuit board into the inside of the container, not the outside.
There was no bomb; there was a discharge of something 'rather like a large shotgun', as the AAR states, but no bomb. The actual damage was 'relatively mild, as the AAR states, directed, and sooty. A bomb would be powerful, spherical, and non-sooty.

There is one way for the defense team to blow the case wide open, and quickly. Obtain access to the Farnborough hangar in which the wreckage debris resides. Match up all ten of the forward cargo door latches to UAL 811; they will be unlatched, scored and bent. For sure the cargo door opened in flight, probably by wiring or switch fault since that was the cause of UAL 811.

Yes, yes, I know the complete weirdness of saying PA 103 was not a bomb, I've been facing that for 11 years; but the historical and forensic evidence matches UAL 811, a non-bomb event and a wiring/cargo door mechanical problem. And yet, the sane, backed by facts, explanation is considered unbelievable. It's a strange world we live in. Well, all I can do is present the facts, data, evidence to you for your consideration. You are the only ones in authority on the planet who have an interest in the innocence of your clients. I know they didn't do it. Nobody did it. It was an accident.

I invite you to check out my analysis as www.corazon.com; I have used official government documents for reference and support. I do not believe in all the conspiracies supported with flimsy evidence, but I do believe mechanical problems which have happened before and have actual evidence.

http://www.corazon.com/reconstructmatches.html

PA 103 below and UAL 811 below it. UAL 811 cargo door was
found in two pieces exactly like the PA 103 door in reconstruction drawing for AAIB AAR 2/90

http://www.corazon.com/mountain.html

How Could Pan Am 103 Not Be a Bomb?

Pan Am Flight 103 not brought down by bomb explanation.
-----------------------------------------------------------------------
The official UK AAIB report never says the word 'bomb' in the entire report; it calls the blast source an 'improvised explosive device'. The English writing in English about an English accident would have said 'bomb' if they wanted to mean bomb. They meant and said 'improvised explosive device'. They could have said 'plastic high explosive bomb' but they didn't. They didn't because the evidence is not there. There is evidence of an improvised explosive device, so they said it, leaving many choices but still unnamed specifically.

There was a blast in the forward cargo hold of Pan Am 103. It was not a bomb and the blast force was not enough to destroy the structural integrity of the nose and the relatively mild blast happened after the forward cargo door opened. It is also difficult to disprove a negative.

The conclusion that an improvised explosive device detonated inside the forward cargo hold of Pan Am 103 is based on several facts in official report:

1. A shatter zone was found on the port side just forward of the
wing. This shatter zone reveals a reported hole of 18 to 20 inches in size. This small sized hole is too small to blow off the nose of a 747. Bombs have gone off in 747s before making small holes which did not destroy the plane which turned around and landed safely. The 747 was designed to withstand a small sized hole. All blast damage evidence is too weak for a bomb but normal for a small device.

2. The destruction area is described as if a rather large shotgun had gone off at close range. A rather large shotgun is not a bomb.

3. The destruction area is described as directed, with a straight line of destruction of 25 inches to 50 inches. A bomb blast is spherical. There is no evidence of a spherical blast but evidence of a straight line blast.

4. There is no evidence of plastic explosive in the blast area or shatter zone, only soot and explosive residue which might come from a shotgun.

5. All evidence of high plastic explosive is stated as being on passenger items which are never named, listed or described. Traces of explosive residue on fragments mean very small invisible amounts of something are found on something very small. There were millions of very small pieces of wreckage, including pieces of plastic in circuit boards in alarm clocks.

6. Evidence of traces of high explosive on fragments of wreckage is now shown to be benign and explained as normal heart medicine, or residue from the uniforms of soldiers, or traces left over from a dog sniffing exercise.

7. No pieces of a bomb were found.
8. FBI investigator who made his career on "cracking the mystery of the bombing Pan Am Flight 103 for Pan Am 103" in 1989 was removed and transferred by the FBI on 29 Jan, 1997. Tom Thurman, unit chief of the explosives division was transferred because of questions concerning sloppiness and mismanagement. The Justice report, prepared with the help of several world-renowned forensic experts, found that in some cases the bureau laboratory exercised lax control over evidence and that accountability over findings needed to be improved.

Conflicting evidence that it was not a bomb was available for interpretation from official report:

1. Sudden loud sound on CVR matches Air India 182 sudden loud sound which matches explosive decompression on a cargo door caused crash of a DC-10. A bomb big enough to blow nose off of Boeing 747 would be heard on CVR. Sudden loud sound on Pan Am 103 does not match a bomb. The sound has been officially described as probably Pan Am 103 undergoing structural breakup.

2. Reconstruction diagrams show more severe damage on right side of fuselage, the cargo door side, while light damage is on left side, the small shatter zone side.

3. Reconstruction diagrams match the destruction pattern of a known cargo door failure in a Boeing 747, UAL 811, in amount of skin torn away, stringers exposed, bent floor beams, and cargo door broken in half.

4. Engines number three and four suffered foreign object damage, with engine number three on fire and landing separate
from the engines number 1, 2, and 4. Engine number three suffered most inflight damage and it is on opposite side of small blast hold, but on cargo door side.

5. Blast was directed not spherical. Yet official report has an artist's interpretation of a large spherical blast, and the inaccurate drawing is repeated a few pages later.

6. Door coming off picked up on radar which would explain subsequent destruction.

7. Type and sequence of destruction matches other 747 crashes, a known cargo door caused crash, a tenuous bomb explanation crash, and an unknown crash.
8. "Relatively mild blast..."

9. Bomb theory as presented in AAIB report is contradictory, evasive, inconsistent, and has several errors of fact. There is mistaken grammar in verb tense and poor choice of verb 'exhibit.' These types of error are not made by British authors writing in English for an official United Kingdom report. This section was written by different person than rest of report. Later the same writer states noise is no doubt bomb. Next page of report, written by different person, refers to noise as most likely aircraft structure break-up. Serious contradiction in same report one page apart.
The condition of the aft door, far from locus of damage in forward cargo hold, is reported to be intact and latched. The condition of the forward cargo door, near the scene of damage start of forward cargo hold, is omitted, unreported, not stated,
passed over, neglected. A glaring oversight.

10. For the bombers the sound on CVR was of the bomb, (although sound never matches any bomb sound.) it was lucky to have been placed near air conditioning ducts to direct to blast to other areas of the plane, (even though bombs that caused the same size hole in other Boeing 747s turn around and land safely.) the detonating altitude fuze did not go off on the flight from Frankfurt to London but did go off by itself over Lockerbie, but distresses the Libyan secret agents who put the suitcase bought in Malta on the plane because now the evidence would show it was a bomb and the bombers are upset because they wanted the plane to explode over water so it would not be known it was a terrorist act? And the reason terrorists do terrorists acts is to be noticed for their cause and to be noticed is bad? Non sense, it makes no sense, it's entertaining nonsense.

What might explain the blast, if not a bomb? Diplomatic pouches were carried in the forward cargo hold. Guns or booby traps might have been inside them and went off when the huge explosive decompression occurred when the cargo door tore off at 31000 feet. Or a passenger had fireworks or other incendiary device inside his luggage, which was passed because cargo was not checked or the device did not look suspicious. The fireworks or blasting caps were not fuzed and would be safe as long as a explosive force was not present near it. But the explosive decompression might have set them off, after the door went. There may be other devices normally carried inside the cargo compartment which detonate when exposed to large explosive decompression such as fire extinguishers or emergency power units. There are many alternate explanations for the small blast hole and explosive residue and soot other than a bomb.
UAL 811 to PA 103 summary of matches:
aged
non Section 41 retrofit
high flight time
early model-100
poly x wired
Boeing 747
experienced hull rupture forward of the wing on right side in
cargo door area
shape of hull rupture forward of the wing on the right side is
rectangle with specific rectangular shape.
fodded number three engine
on fire number three engine.
sudden sound on CVR
loud sound on the CVR
short duration sound on the CVR
abrupt power cut to FDR
outward peeled skin in cargo door area
longitudinal break at midline of the forward cargo door at
midspan latch,
took off in no sun
running late
more severe inflight damage on starboard side
at least nine never recovered bodies
vertical fuselage tear lines forward of the wing and aft of cargo
door
torn off skin in forward cargo door area on starboard side,
outward peeled skin on upper forward fuselage,
downward bent floor beams in cargo door area,
destruction initially thought to be have been caused by a bomb.

Gentlemen of the defense team:
I invite correspondence between us, there is much more research and analysis to divulge. Do you have an aviation expert who understands explosive decompression? I prefer to talk to aviation persons who understand airplanes and not police who understand criminals. This event is not a bank robbery but a plane crash.

I am open and give my home address and phone number, as well as email. Call anytime.

Cheers,

John Barry Smith  
(831) 659-3552 phone  
551 Country Club Drive,  
Carmel Valley, CA 93924  
www.corazon.com  
barry@corazon.com  

Commercial pilot, instrument rated, former FAA Part 135 certificate holder.  
US  Navy reconnaissance navigator, RA-5C 650 hours.  
US Navy patrol crewman, P2V-5FS 2000 hours.  
Air Intelligence Officer, US Navy  
Retired US Army Major MSC  
Owner Mooney M-20C, 1000 hours.  
Survivor of sudden night fiery fatal jet plane crash in RA-5C  

The lawyers to defend the two suspects  
Head of defense (Libya)  
Mr. Kamal Maghrur has achieved his Law degree from Cairo in 1957. He has practiced Law since and became an assistant legal advisor for the state of Tripolitania in 1959. He was appointed as a judge of the Court of appeals in 1969 and a judge to the supreme court in 1970. He has written couple of short stories in
the 60's. Since then he has served his country as an ambassador to several countries including the (UN, Canada, France and China).

Mr. Maghur came back to law to defend Libya in the International court of justice in the case between Libya and Tunis (Dispute over the sea border) and won the case (A real legal accomplishment...!).

He then served as a minister of Petroleum and was chosen as the ONLY LIBYAN MINISTER TO EVER BE THE PRESIDENT OF OPEC. After that he held many posts including the Minister of Foreign affairs. In 1987 Mr. Maghur left politics and returned to his passion Law (Reopened his law firm MAGHUR & PARTNERS) and wrinting, his true love.

Mr. Alistair Duff (Scotland)
Solicitor for Abdelbaset al Megrahi since September 1993. Originally from Fife, Alistair Duff also worked as a Procurator Fiscal before taking up defence work in 1981. He has also obtained an extra qualification as a Solicitor Advocate and can therefore appear personally in the High Court.

He is currently partner in the well-known Scottish law firm McCourts in Edinburgh. Alistair Duff is also involved with the Law Society, is on the Management Committee of Crew 2000, a drug group in Edinburgh and is a season ticket holder at Tynecastle!

NB! From October 1999, mr. Duff has two NEW e-mail addresses:
1) in Scotland: adlaw@callnetuk.com , and
2) in Netherlands: adlaw@planet.nl

Office:
53 George IV Bridge, Edinburgh, EH1 1EJ
Tel: +44 (0)131 225 6555
Fax: +44 /(0)131 225 5054
During the trial at Camp Zeist, mr. Duff has rented a flat in Soesterberg, Holland.

* Read a transcript of a direct online interview with Alistair Duff on the Lockerbie crisis at ABC TV, August 1998


Mr. Richard Keen (Scotland)
E-mail: rskeenqc@compuserve.com
Mr. Keen is solicitor for Khalifa Fhima.
His junior counsel in the defense team is Murdo Macleod.Mr. Keen will be instructed by Eddie MaCKechnie from the firm McGRIGOR DONALD SOLICITORS
Office:
McGrigor Donald Solicitors
Erskine House, 68-73 Queen Street, Edinburgh EH2 4NF
phone: +44/ (0)131 226 7777
fax: +44/ (0)131 226 7700
Click here for map of office (*.pdf-format)

Other members of defense team
Several other Scottish lawyers participate as aides in the defense team of the two Libyan suspects. A further consortium of five Libyan lawyers is advising the men.
William Taylor, QC , will help represent Abdelbaset Ali Mohamed al-Megrahi. Mr Taylor, 54, who also practises at the English bar, is a member of the new Scottish Criminal Cases Review Commission and the Criminal Injuries Compensation Board. He succeeded in overturning the conviction of John Daly, a bank robber who was jailed for feigning mental illness, and has successfully defended prison officers who were accused of assaulting inmates at Glenochil prison. He has been an advocate since 1971 and a QC since 1986. He has also been a barrister in England and Wales since 1990 and a QC there since 1998. He
has been standing junior counsel for the Foreign and Commonwealth Office and the DHSS. His junior counsel is John Beckett, 36, a defence advocate who has acted as an advocate depute.

Mr. Stephen Mitchell (UK)
E-mail: sm@smlaw.co.uk
Tel: +44 171 252 2044

A senior legal source close to the case said yesterday the men's legal bills will be paid for by a "trust fund contributed to by various well-wishers, and the Libyan public will be asked to contribute". Gordon Jackson, QC, was paid £255,000 in legal aid last year as ScotlandÕs highest-paid advocate. Mr Taylor will be expected to earn at least £600,000. Mr Beckett's fees are anticipated to be in the region of £300,000-£400,000.

Mr Taylor was appointed August 1998 and travelled to Paris in November to meet the consortium of Libyan lawyers. He travelled to Tripoli for the first time on 23 February and spent four days there, meeting the accused and their lawyers. He returned on 30 March for three days, accompanied by Mr Beckett, to take further instruction from the Libyans. Mr Taylor, Mr Duff and his legal partner, Alex Prentice, saw their clients in Kamp van Zeist on 5 April when the Libyans arrived by helicopter from the Hague after flying in from Tripoli to surrender for trial. Since then they have prepared for the defense procedure by travelling to USA, Malta, Sweden and many other countries in search of testimony and evidence.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:10 AM PDT
To: FAA:Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov, Tom.McSweeny@faa.dot.gov,
Boeing 767
(EgyptAir 990)
There have been control problems previously in Boeing airliners such as the 737, 747, and 767. The events as described for the aircraft in EgyptAir 990, a 767, would fit an explanation of uncommanded autopilot disconnect and uncommanded down right elevator, two malfunctions that have happened before. Should those two mechanical problems have reappeared, the crew would have then acted valiantly to try to save the aircraft from the consequences and did not contribute to the crash. (18 November 1999)
Crash Sequence hypothesis using previous mechanical problems as causes and current evidence to support explanation:
Approx 1:49:40 Plane has started to behave oddly because of unusual uncommanded control inputs to right elevator. Pilot utters religious phrase. Religious phrases uttered by devout Muslims is normal under all conditions and normal under a stressful one.
1:49:44: Autopilot disconnects. The disconnection is uncommanded but normal when autopilot senses conflicting control inputs. The right down elevator is a conflicting input. The plane continues on but starts flying erratically. Uncommanded autopilot disconnects have happened before in a Boeing 767 on May 28, 1996 on a MartinAir according to NTSB ID NYC96IA116.
1:49:52: Nose down elevator. The malfunction is now right elevator is full down. A Boeing 747, 747-436, G-BNLY, has had uncommanded right elevator full down before on October 7, 1993.
The plane starts to dive at 40%. The pilot retards throttles. Engine thrust is reduced but dive continues according to NTSB flight profile: [http://www.ntsb.gov/events/ea990/Ea990f~1.jpg](http://www.ntsb.gov/events/ea990/Ea990f~1.jpg)

1:50:02 Pilot reenters cockpit and asks, "What's going on?" He immediately resumes his left seat and starts pulling back on the yoke to pull plane out of dive, asking his co-pilot, "Help me pull on this," according to cockpit voice recorder statements released by NTSB. Pilot does not say, "Stop that, what are you doing, are you crazy." Pilot does not grab co-pilot to stop him from diving airplane. Pilot does not say, "Put on mask, where is the fire, pull circuit breakers." Pilot treats copilot as assistant to help stop dive.

1:50:08: Speed approaches. 86 Mach, alert sounds. Crew continues to pull back on yoke. Plane is in steep dive as left elevator is up and right elevator is full down.

1:50:22: Pilot turns engines off and extends speedbrakes to try to stop descent. Crew continues to pull back on yoke.

1:50:36: Engines are off, generators are off, plane is dark, uncommanded force is now off right down elevator and it returns to normal and plane bottoms out of its dive and starts to climb bleeding off airspeed from 600 knots at 16300 feet to stall speed at 24000 feet. Crew is unable to restart engines because of G forces and darkness of cockpit. Plane stalls at top of power off climb and descends again to come apart from stress forces at 10000 feet and pieces fall to ocean.

The above scenario reflects the facts as released by 19 November 1999. It rules out bomb, or explosive decompression, or fire and smoke in cockpit, or crew incapacitation, or copilot suicide/murder, or terrorist act, or crew inadvertent error. It does rule in mechanical problems which have happened before to Boeing airliners, uncommanded control inputs resulting in erratic flight characteristics.
Deear FAA officials, 2 Nov 99

So far, the Lauda 767 event matches the EgyptAir event. The below excerpts will act as a model to follow.

Just as UAL 811 matches other 747 events, Lauda will match the other 767 events.

Probably all are wiring caused.

Cheers,

John Barry Smith

(831) 659-3552 phone
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Carmel Valley, CA 93924
www.corazon.com
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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Lauda Air B767 Accident Report

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2.5.3 Electrical System Failures Resulting in Deployment
The possibility of electrical system failures resulting in an uncommanded thrust reverser deployment was considered.
Testing and detailed analysis of the thrust reverser system design were conducted at Boeing with participation of the FAA and the NTSB. The investigation of the accident disclosed that certain hot short conditions involving the electrical system could potentially command the DCV to move to the deploy position in conjunction with an auto restow command, for a maximum of one second which would cause the thrust reversers to move.
AIRCRAFT ACCIDENT INVESTIGATION COMMITTEE
MINISTRY OF TRANSPORT AND COMMUNICATIONS
THAILAND

LAUDA AIR LUFTFAHRT AKTIENGESELLSCHAFT
BOEING 767-300ER
REGISTRATION OE-LAV
DAN CHANG DISTRICT
SUPHAN BURI PROVINCE
THAILAND
26 MAY B.E. 2534 (A.D. 1991)

CAB APPROVED
JULY 21, 1993

------------------------------------------------------------------------
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AIRCRAFT ACCIDENT
INVESTIGATION COMMITTEE
LAUDA AIR LUFTFAHRT AKTIENGESELLSCHAFT
BOEING 767-300ER
REGISTRATION QE-LAV
BAN DAN CHANG DISTRICT
SUPHAN BURI PROVINCE
THAILAND
26 MAY B.E. 2534 (A.D 1991)

SYNOPSIS

Lauda Air airplane, Boeing 767-300 ER of Austrian nationality and registry OE-LAV, flight number NG 004 was on a scheduled passenger flight Hong Kong-Bangkok-Vienna, Austria. NG 004 departed Hong Kong Airport on May 26, 1991, and made an intermediate landing at Bangkok Airport for unloading and loading of passengers and cargo. The flight departed Bangkok Airport at 1602 hours. The airplane disappeared from air traffic
radar at 1617 hours about 94 nautical miles northwest of Bangkok. Local police authorities near the accident site notified the Rescue Co-ordination Centre, Department of Aviation in Bangkok of the accident. The Department of Aviation notified aviation authorities in the Republic of Austria (state of the operator and state of registry) and the United States of America (state of manufacture). The Republic of Austria and the United States of America sent their Accredited Representatives to participate in the investigation.

All times in this report are UTC.

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1. FACTUAL INFORMATION

1.1 History of Flight

Lauda Air Flight 004 (NG004) was a scheduled passenger flight from Hong Kong to Vienna, Austria with an en route stop in Bangkok, Thailand. The flight departed Bangkok at 1602 hours on May 26, 1991 for the final flight sector to Vienna Austria.

All pre-flight, ground, and flight operations appear routine until five minutes and forty five seconds after the cockpit voice recorder (CVR) recorded the sounds of engine power being advanced for takeoff. At this point a discussion ensued between the crew members regarding an event later identified as a crew alert associated with a thrust reverser isolation valve.

The crew discussed this alert for some four and one half minutes. The Quick Reference Handbook (QRH) was consulted to determine appropriate crew actions in response to the alert. No
actions were required, and none were identified as being taken.

Ten minutes and twenty seconds into the flight the co-pilot advised the pilot-in-command of the need for rudder trim to the left. The pilot-in-command acknowledged the co-pilot's statement.

Fifteen minutes and one second into the flight, the co-pilot stated "ah reverser's deployed." Sounds similar to airframe shuddering were then heard on the CVR. Twenty nine seconds later the CVR recording ended with multiple sounds thought to be structural breakup.

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3
Flight conditions were recovered from non-volatile memory in the left engine electronic engine control (EEC). At the suspected point of reverser deployment, the EEC readout indicated that the airplane was at an approximate altitude of 24,700 feet, a speed of Mach 0.78, and developing climb power.

The airplane crashed in mountainous jungle terrain at 14 degrees 44 minutes North latitude and 99 degrees 27 minutes East longitude at approximately 1617 hours. Night time visual meteorological conditions prevailed.

1.2 Injuries to Persons

<table>
<thead>
<tr>
<th>Injuries</th>
<th>Crew</th>
<th>Passengers</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal</td>
<td>10</td>
<td>213</td>
<td>0</td>
</tr>
<tr>
<td>Serious</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Minor/None</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
1.3 Damage to Airplane

The airplane was destroyed by in-flight breakup, ground impact and fire.

1.4 Other Damage

There was no damage to persons or structures on the ground.

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1.5 Personnel Information

The pilot-in-command, Thomas John Welch, male, age 48, held an Airline Transport Pilot certificate number 1589103 issued by the United States Federal Aviation Administration. This certificate carried a rating for Airplane Multi-engine Land, with type ratings for B-727, B-757, and B-767 airplane. The certificate also carried a rating for Airplane Single Engine Land which was limited to Commercial Pilot privileges. The pilot-in-command's United States certification was rendered valid by the Republic of Austria under a Decree of Recognition (#5227) issued December 19, 1990, valid until December 31, 1991. Additionally, the pilot-in-command held a Flight Engineer's certificate with a Turbojet rating (US #1825915). His total flight time as of April 25, 1991 was approximately 11,750 hours.

The co-pilot, Josef Thumer, first officer, male, 41 years of age, held an Airline Transport Pilot certificate (#313) issued by the Department of Civil Aviation of Austria, issued April 24 1985, valid until October 24, 1992. His total flight time was approximately 6,500 hours.
1.6 Airplane Information

The airplane, a Boeing 767-3Z9ER(NOTE 1), line number 283, serial number 24628, was delivered to Lauda Air on October 16, 1989. It was powered by two Pratt and Whitney 4060 engines, serial number P724134 on the left, and serial number P724130 on the right. Engine records indicate the left engine was installed on October 3, 1990, and had 2,904:15 hours and 456 cycles of operation. The right engine was installed on September 15, 1989, and had 7,444:02 hours and 1,133 cycles of operation. The airplane technical log, serial number 61287, dated May 26, 1991, shows the airframe with 7,444:02 hours and 1,135 cycles of operation. The reason for the minor variation in cycle count between the airframe and right engine is not known.

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NOTE 1: A Boeing 767-300ER, manufactured to the specifications of Lauda Airlines.

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Technical logs, component status records, and the Lauda trouble shooting file maintained by their Maintenance Control were reviewed as far back as November 30, 1989. Since August 14, 1990, there were 13 maintenance actions logged on the left engine thrust reverser system, almost always in response to recurring Propulsion Interface Monitor Unit (PIMU) messages of "EEC CH-B REVERSER RNG FAIL" and "EEC CH A/B REV CR-CHK FAIL." Ten of these actions occurred since January 28, 1991. The majority of the corrective actions involved removing and replacing valves or actuators, and adjustments to the system. Typically then the PIMU message would not reoccur for several
flights. The most recent known action prior to the accident was on May 25, 1991 at Vienna. At this time, a left engine thrust reverser locking actuator was replaced. Lauda had accomplished all the troubleshooting steps from the Boeing Fault Isolation Manual (FIM) without correcting the problems of the recurring PIMU messages. The company continued to dispatch the airplane on its regular schedule, with troubleshooting accomplished after return to the home station. Lauda personnel stated, they were in the process of conducting a complete inspection of the left thrust reverser wire bundle for damage before the accident occurred. The last record of visual inspection for the wiring was entered in a trouble shooting log, kept by Lauda Maintenance Department, on March 26, 1991. Dispatch of the airplane with the particular PIMU messages was permitted under a time limited dispatch condition as outlined in the airline's maintenance planning document. The Boeing Dispatch Deviation Guide cites the Pratt and Whitney Type Certificate Data Sheet E24NE, which permits dispatch for up to 500 operating hours with a EEC maintenance message annunciated.

The right engine thrust reverser had three maintenance items logged against it since August 14, 1990, and these were all for reasons of component wear and service bulletin requirements. The Airplane Communication Addressing and Reporting System (ACARS) installed on this airplane was designed to transmit takeoff and cruise reports to ground receiving stations. The takeoff report from Bangkok was successfully transmitted and recorded. Previous takeoff and cruise reports were also available through this system. A review of this historical data did not reveal any unusual indication in the airplane or engine parameters or any marked differences between the right and left engines.
1.16 Tests and Research

Examination of recovered components of the thrust reverser system was conducted at facilities of the Boeing Commercial Airplane Group in Seattle, Washington, USA, and other component manufacturers under the auspices of the Airplane Accident Investigation Committee. The limited number and the degree of damage to the components precluded a determination of functional condition.

Approximately 9 months after the accident, the DCV was returned to Department of Aviation by persons not associated with the accident investigation. The DCV was exchanged for a reward. It was sent to Boeing in Seattle, Washington, under strict control and examined by team members supervised by NTSB and FAA personnel.

DCV examination was conducted on February 18 through 20, 1992. Computer tomography inspection (cat scan/x-ray) of the valve prior to disassembly, indicated that the component responsible for directing hydraulic flow within (second stage spool) the DCV was intact and located in the "reverser stowed" position. This is the normal position for the valve without hydraulic pressure applied. Further examination of the spring that holds the second stage spool in position indicated that it was intact.

The examination of the DCV also revealed that 3 of 4 screws used to secure the solenoid operated pilot valve body to the DCV were loose. Soil was found inside internal passages of the valve.
A metal plug, identified as a case relief valve plug used elsewhere in the engine accessory section, was found installed "finger tight" in the DCV "retract" port. All solenoid operated pilot valve (first stage spool) internal passages were unobstructed. There was no evidence that indicated preimpact failure of the valve, however the condition of the valve indicated that the valve was partially disassembled and reassembled by persons not associated with the accident investigation prior to examination by the investigation team.

Additional system tests were performed using production components in an attempt to simulate potential failure modes.

In one hypothetical condition, the introduction of a damaged piece of O-ring seal into a hydraulic orifice resulted in an uncommanded opening of the directional control valve (DCV). For further information on these tests, see paragraph 2.5.4.

Testing of the electrical function indicated possible areas where an electrical hot short occurring simultaneously with an auto-restore action could result in uncommanded opening of the DCV for up to one second. For further information on these tests, see paragraph 2.5.3.

A full hydraulic set-up was used to verify normal operation of the thrust reverser system and to determine if uncommanded deployment could occur under various hypothetical failure conditions. Hypothetical failure conditions involved the directional control valve (DCV) seal damage, thrust reverser actuator piston head seal leakage and a return line blockage
during hydraulic isolation valve (HIV) cycling. Also, a vibration test simulating the vibration environment of the DCV during it's life was performed.

In another hypothetical failure condition, the effects of piston seal leakage through a thrust reverser actuator was examined with the HIV open. Several test configurations were examined with the piston head O-ring and cap strip missing from the actuator(s). Only one side (one of two sleeves) of the thrust reverser cowl deployed when an actuator was tested with the piston head seal missing and the bronze plating separated from the piston head. Under this condition, with the HIV open, internal leakage across the piston was sufficient to deploy the 3 actuators associated with the deployed sleeve depending on the location of the actuator piston head in the cylinders. If in the stow position and the piston heads were firmly bottomed against the inner cylinder head end prior to commanding thrust reverser stow, the thrust reverser actuators would not deploy. When the head end of the two actuators were slightly unseated, fluid could pass from the rod end to the head end of the locking actuator causing unlock and extension of 3 actuators (one sleeve).

Examination of the thrust reverser actuators from the left engine of the accident airplane was not conclusive, because only one piston head and it's associated seal was recovered from the accident site. The cap strip from this actuator piston head had considerable wear and was extruded.

A DCV was mounted on a vibration table and subjected to resonant searches, resonant dwells, random vibration and sweeps through engine speed
ranges in three axes while under constant and pulsing pressure in the hydraulic lines. Pressure transducers and flow meters on the outflow of the valve indicated that the valve did not open unexpectedly or leak during the test under excessive vibration.

2.1 General

The crew members were trained, qualified and certificated for their respective duties according to the laws and regulations of the Republic of Austria. There was no evidence that medical factors or fatigue affected the flight crew's performance.

The airplane was certificated, equipped and maintained according to regulations and approved procedures. Flight documents indicate that the gross weight and c.g. were within prescribed limits. With the exception of some recurring maintenance PIMU messages pertaining to the thrust reverse system which did not preclude dispatching the airplane's (sic) there was no evidence of pre-accident failure or malfunction of the airplane's structure, powerplants, and systems.

The weather in the area was fair at the time of the accident. Although there were no reported hazardous weather phenomena, isolated lightning was possible. There are few visible landmarks and population centers on the ground along the route of flight and it is possible that the horizon was not distinguishable. Recovery from any unusual flight attitude could have been affected by the lack of outside visual references.

The flight appeared normal until five minutes and forty-five seconds after takeoff (takeoff = the CVR recorded sound of engine power advanced). At this time the crew began to discuss an event in the cockpit that was later identified as illumination of
a REV ISLN indication. The pilot-in-command stated "that keeps coming on." The REV ISLN indication could consist of either a REV ISLN amber (yellow) light illumination on the center pedestal or a L REV ISLN VAL advisory amber (yellow) EICAS message or both indications. This indication appears when a fault has been detected in the thrust reverser system. It indicates a disagreement

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15 between the respective hydraulic isolation valve (HIV) and the associated thrust reverse lever position or an anomaly in the air/ground system. No corrective actions were necessary and none were identified as taken by the crew.

The crew's discussion of the REV ISLN indication was of an informative nature and continued for about four and one-half minutes. The co-pilot read information from the Airplane Quick Reference Handbook as follows: "Additional systems failures may cause in-flight deployment" and "Expect normal reverser operation after landing." The pilot-in-command remarked "....its not just on, its coming on and off," he said, "...its just an advisory thing....," and shortly thereafter stated, "could be some moisture in there or something." The critical nature of an in-flight thrust reverser deployment in this phase of flight was not known and therefore the flightcrew was not provided with operational guidance. Airplane design changes implemented after this accident eliminated the need for operational guidance for the flightcrew.

Review of the thrust reverser system design indicates that when the auto-restow system function is required, system pressure to close the reversers is applied during restow and for 5 seconds
after restow is sensed. The REV ISLN light illuminates for this period except for the first 2 seconds. The associated EICAS message appears 2 seconds after the REV ISLN light illuminates. Interpretation of the crew's comments regarding the reverser ISLN indication, "Coming on and off" indicates that they may have been observing cycling of the auto-restow system (see Appendix C). The specific interval of illumination of the light, and the possibility that the light ceased to be observed, could not be determined from the cockpit voice recorder comments nor from any other evidence. Also it could not be determined if the REV ISLN light was accompanied by an EICAS message; nothing was verbalized by the crew. There was no recoverable data from the nonvolatile memory available in the recovered EICAS components.

At ten minutes twenty seven seconds into the flight, the co-pilot advised the pilot-in-command that there was need for, "a little bit of rudder trim to the left." The crew discussion of trim took place from an elapsed time of 10:27 and lasted nine seconds. About four and one-half minutes separated the REV ISLN indication event from the trim discussion. It ended with the pilot-in-command saying "O.K., O.K.". It is probable that the trim requirement was a normal event in the flight profile. The trim requirement does not appear to be related to the upcoming reverser event, and there was no apparent reason for the crew to interpret it as such.

Fifteen minutes and one second into the flight the co-pilot's voice was heard to exclaim, "ah reverser's deployed," accompanied by sound similar to airframe shuddering, sounds of metallic snaps
and the pilot-in-command stating "here wait a minute." The cockpit voice recording ended twenty nine seconds later with multiple bangs thought to be structural breakup of the airplane.

An assessment of flightcrew attempts to control the airplane's flightpath was not possible due to loss of the FDR data as a result of ground fire damage to the recorder tape.

The physical evidence at the crash site conclusively showed that the left engine thrust reverser was deployed. Nonvolatile computer memory within the electronic engine control (EEC) indicated that an anomaly occurred between channel A and B reverser sleeve position signals. It was concluded that this anomaly was associated with the thrust reverser deployment of one or both sleeves. The EEC data indicated that the thrust reverser deployed in-flight with the engine at climb power; based on EEC design, it was also concluded that the engine thrust was commanded to idle commensurate with the reverser deployment, and that the recorded mach number increased from 0.78 to 0.99 (the actual maximum speed reached is unknown due to pressure measurement and recording uncertainties). The left EEC data indicates that the fuel cutoff switch was probably selected to cutoff within 10 seconds of thrust reverser deployment. Examination of the cutoff switch also indicates that it was in the cutoff position at impact.

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2.2 Airplane Wreckage and Structural Failure Analysis

2.2.1 Airplane Wreckage

The relative close proximity of the wreckage scatter (within one
square kilometer) indicated that the airplane experienced in-flight breakup at a steep descent angle and low altitude. A breakup altitude estimation was attempted using time-synchronized information from the CVR. Although the airspeed history between reverser deployment and the end of the recording (due to structural breakup) cannot be confirmed, the high speeds likely achieved during the descent indicate that the in-flight breakup most likely occurred at an altitude below 10,000 feet.

Damage to the fan runstrips(sic)on both engines indicates nontypical loads from an unusual flight path. The fan rubstrips are located on the forward case of each engine and form the fan blade tip airseal. Each engine fan runstrip(sic) had a deep rub from the fan blades. The character of the rubs is typical of rubs caused by the interaction with the rotating fan. The depths are substantially deeper than typical rubs experienced during normal operation. These rubs were centered at approximately 66 degrees on the left engine and approximately 0 degrees on the right engine as view from the rear of the engine looking forward.

Flight testing of the B767 with JT9D-7R4 engines showed rubs near the top of the engines to be minor depth and centered at approximately 45 degrees on the left engine and approximately 315 degrees on the right engine. The rub results from aerodynamic load from the engine cowls. These loads were determined to be essentially down from the top when the aircraft nose was lowered during descent.

The PW4000 installation is designed for the maximum cowl aerodynamic loads that occur during takeoff rotation. At that condition a .050 inch deep rub, which is considered a minor depth rub, centered at the bottom of the engine can be expected. This rub would be due to upward aerodynamic force on the cowl
at aircraft rotation angles of attack. The depth and location of the rubs in the

18 Lauda accident indicates; 1) cowl load forces much greater than the forces expected during takeoff rotation and 2) by the location, that the forces were essentially down from the top of the cowl. The center of the rubs shown shifted clockwise from the locations documented by the B767/JT9D-7R4 test flights suggests that the airplane experienced a nose-down pitch accompanied by abnormal roll and yaw.

The CVR transcript indicates that the in-flight breakup did not occur immediately after the deployment of the thrust reverser, but rather during the subsequent high-speed descent.

The EEC can provide general altitude and Mach number data however calibration is not provided outside the normal speed envelope. Information from the engine manufacturer indicates that the EEC data may indicate altitude and Mach numbers which are higher than the true value. Also, EEC calibration of its ambient pressure sensor affects the accuracy of the recorded Mach number and altitude. This calibration is not designed to be accurate above maximum certified airplane speeds. In addition, the EEC ambient pressure calibration does not account for the effect of reverse thrust on fan cowl static pressure ports. However, EEC recorded data does suggest that the airplane was operating beyond the dive velocity of 0.91 Mach.

High structural loading most probably resulted as the crew attempted to arrest the descent. Large control inputs applied during flight at speeds in excess of the airplane's operating
envelope appear to have induced structural loads in excess of the ultimate strength of the airplane structure.

2.2.2 In-Flight Breakup Sequence

The analysis of the major structural damage showed that the failures were probably the result of buffeting, maneuvering overload, and excessive speed. Parts of the airplane that separated from buffeting overload appear to be pieces of the rudder and the left elevator. This was followed by the down-and-aft separation of most of the right horizontal stabilizer from maneuvering overloads, as the crew attempted to control the airplane and arrest the high-speed descent. No evidence of impacts were observed on the leading edges of the horizontal and vertical stabilizers indicating that no airframe structural failure occurred prior to horizontal stabilizer separation. It is thought that the download still present on the left stabilizer and the imbalance in the empennage from the loss of the right stabilizer introduced counterclockwise (aft looking forward orientation) torsional overload into the tail, as evidenced by wrinkles that remained visible in the stabilizer center section rear spar. The separation of the vertical and left horizontal stabilizers then occurred, although the evidence was inconclusive as to whether the vertical stabilizer separated prior to or because of the separation of the left stabilizer and center section. (The damage indicated that the vertical stabilizer and the attached upper portion of four fuselage frames departed to the left and that separation of the vertical fin-tip and the dual-sided stringer buckling in the area of the fin-tip failure occurred from bending in both directions prior to the
separation of the vertical stabilizer from the fuselage). The loss of the tail of an airplane results in a sharp nose-over of the airplane which produces excessive negative loading of the wing. Evidence was present of downward wing failure. This sequence was probably followed by the breakup of the fuselage. The complete breakup of the tail, wing, and fuselage occurred in a matter of seconds.

2.5 Possible Thrust Reverser Failure Modes

2.5.1 General

The Boeing B767 thrust reverser system is designed for ground operation only. Actuation of the PW 4000 thrust reverser requires movement of two hydraulic valves that are installed in series. The system has several levels of protection designed to prevent uncommanded in-flight deployment. Electrical mechanical systems design considerations prevent the powering of the Hydraulic Isolation Valve (HIV) or the movement to the thrust reverse levers into reverse. The investigation of this accident disclosed that if certain anomalies exist with the actuation of the auto-restow circuitry in flight these anomalies could have circumvented the protection afforded by these designs.

The Directional Control Valve (DCV) for the left engine, a key component in the thrust reverser system, was not recovered until 9 months after the accident. The examination of all other thrust
reverser system components recovered indicated that all systems were functional at the time of the accident. Lauda Airlines had performed maintenance on the thrust reverser system in an effort to clear maintenance messages. However, these discrepancies did not preclude further use of the airplane.

32

2.5.3 Electrical System Failures Resulting in Deployment

The possibility of electrical system failures resulting in an uncommanded thrust reverser deployment was considered. Testing and detailed analysis of the thrust reverser system design were conducted at Boeing with participation of the FAA and the NTSB. The investigation of the accident disclosed that certain hot short conditions involving the electrical system could potentially command the DCV to move to the deploy position in conjunction with an auto restow command, for a maximum of one second which would cause the thrust reversers to move.

To enable the thrust reverser system for deployment, the Hydraulic Isolation Valve (HIV) must be opened to provide hydraulic pressure for the system. The HIV is opened either by a circuit that includes the air/ground electrical sensing system or through the auto-restow circuit.

That an electrical wiring anomaly could explain the illumination of the "REV ISLN" indication is supported by the known occurrence of wiring anomalies on other B 767 airplanes.

The auto-restow circuit design was intended to provide for restowing the thrust reversers after sensing the thrust reverser cowls out of agreement with the commanded position. The auto-restow circuit powers the HIV to open regardless of indications
from the air/ground circuit. If another electrical failure such as a short circuit to the DCV solenoid circuit occurred, then with hydraulic pressure available, the DCV may cause the thrust reverser cowls to deploy. The electrical circuits involved are protected against short circuits to ground by installing current limiting circuit breakers into the system. These circuit breakers should open if their rated capacity is exceeded for a given time. The DCV electrical circuit also has a grounding provision for hot-short protection.

33 Testing and analysis conducted by Boeing and the DCV manufacturer indicated that a minimum voltage of 8.2 Vdc was required to actuate one of 599 DCV solenoids tested. The worst case hot-short threat identified within the thrust reverser wire bundle would provide 22.6 Vdc to the DCV solenoid for 1.0 seconds. Boeing could not provide test data or analysis to determine the extent of thrust reverser movement in response to a momentary hot-short with a voltage greater than 8.2 Vdc or the ability of the thrust reverser to return to the stowed position after tripping of the circuit breaker associated with the source of the hot-short.

Additional analysis and testing indicated that shorting of the DCV wiring with wires carrying AC voltage could not cause the DCV solenoid to operate under any known condition. The degree of destruction of the Lauda airplane negated efforts to identify an electrical system malfunction. No wiring or electrical system component malfunction was positively observed or identified as the cause of uncommanded thrust reverser deployment on the accident airplane.
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA:Ronald.Wojnar@faa.dot.gov,
John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov,
Bob.Breneman@faa.dot.gov, Tom.McSweeny@faa.dot.gov,
Lyle.Streeter@faa.dot.gov;
Subject: Please reevaluate the wiring/cargo door explanation
for Boeing, re: EgyptAir

Dear FAA officials, 31 Oct 99

Please reconsider and reevaluate the wiring/cargo
doors explanation for AI 182, PA 103, TWA 800, and
The significant similarities warrant such a
reexamination.

Cheers,
John Barry Smith

US Searchers Find Debris Field In Hunt For
EgyptAir Updated 8:16 AM ET October 31, 1999By Leslie Gevirtz
BOSTON (Reuters) - The U.S. Coast Guard searching Sunday
for a missing Cairo-bound EgyptAir passenger plane with 197
people on board discovered a debris field in the Atlantic Ocean
where the plane was lost after take off from New York, officials
said.
Coast Guard officials in Boston said the debris field was discovered off the coast of Nantucket Island. Investigators at the scene were trying to find its exact location.

U.S. Federal Aviation Administration spokesman Eliott Brenner said the plane departed New York's John F. Kennedy International Airport for Cairo at 1:19 a.m. EST (0619 GMT). It disappeared from radar screens at about 2 a.m. EST (0700 GMT). The last contact was about 60 miles south of Nantucket Island off the coast of Massachusetts. Brenner said the flight originated in Los Angeles.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Good solid credentials

"In every accident I ever worked, all kinds of crazies came out of the woodwork with theories about what happened," says former NTSB investigator Brian Richardson, who led the NTSB group that studied why the Aloha jet broke apart. "Matt Austin is not one of those people. He has good, solid credentials, and he's not going off the deep end."

Good solid credentials:

Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

So, why talk to Austin and not to me? You are putting emotion before your duty to find probable causes for aviation accidents. That's a tragedy.

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US Navy reconnaissance navigator, RA-5C 650 hours.  
US Navy patrol crewman, P2V-5FS 2000 hours.  
Air Intelligence Officer, US Navy  
Retired US Army Major MSC  
Owner Mooney M-20C, 1000 hours.  
Survivor of sudden night fiery fatal jet plane crash in RA-5C

**Engineer has alternate theory on plane disaster**  
Boiler expert links jet's age, design to why roof ripped off

By Gary Stoller  
USA TODAY  
As an Aloha Airlines jet descended for landing on Maui, Hawaii, passenger Matt Austin noticed the luggage racks rattling and swaying when the thrust reversers came on. It didn't startle him. He had seen that happen before on other
older Aloha jets. But Austin remembered the name painted across the plane's exterior: Queen Lili'uokalani. It was a 19-year-old Boeing 737.

A week later -- on April 28, 1988 -- the same jet's roof ripped open 24,000 feet over the Pacific Ocean, killing one flight attendant and seriously injuring seven passengers and a crew member. Austin counted himself lucky. Aloha Flight 243's last flight didn't really begin to grip him until the next year, when the National Transportation Safety Board issued its accident report. This is a detective story. It's about a mystery that aviation professionals say was solved 12 years ago and the persistence of Austin, a former Hawaii boiler inspector, who has spent all those years and $45,000 of his money trying to prove that the experts got it wrong.

It's also about an accident that forever changed maintenance practices for old planes and about an alternative theory that could have far-reaching consequences. Finally, it's about the intriguing possible parallels between boiler safety and airplane safety.

But first it helps to know something about Austin. A mechanical engineer, Austin has no professional expertise in airplane accidents. He is an expert on boilers; the NTSB consulted him about a train boiler explosion in Gettysburg, Pa. Austin, 43, runs a consulting business, Hawaiian Steam Engineering, which designs, inspects and restores boilers and locomotives. He also consults for the U.S. Navy on servicing nuclear submarine power plant components.

Since 1989, Austin has researched the Aloha accident independently, always maintaining that his only motivation is "engineering truth" and a conviction that sharing his insights can prevent similar accidents. He has a Web site, www.disastercity.com, where he details his theories on the Aloha accident and other disasters.

If Austin's theories are correct, a design that is intended to
prevent catastrophic failures on nearly all Boeing jets could be flawed. It may even pose a danger to passengers, Austin says. Boeing says the design meets FAA requirements and works as intended.

Austin also says his study has convinced him that:

* Old jets are not safe to fly, even if all required maintenance has been done.

* The FAA's aging aircraft program, which requires airlines to repair and inspect old jets, should be scrapped. The program allows planes to fly beyond their design life and relies on airline inspectors who may not detect all structural problems, he says.

To reach those conclusions, Austin purchased and pored over more than 4,000 pages of NTSB accident findings. He attended a course for airline maintenance managers on aging aircraft and studied books for aeronautical engineers. He bought special computers to study the NTSB's photos of the accident and related forensic evidence. Austin also corresponded with NTSB investigators, FAA officials and a Boeing engineer. The investigators stand by the NTSB's conclusions but say they respect Austin's engineering knowledge. "In every accident I ever worked, all kinds of crazies came out of the woodwork with theories about what happened," says former NTSB investigator Brian Richardson, who led the NTSB group that studied why the Aloha jet broke apart. "Matt Austin is not one of those people. He has good, solid credentials, and he's not going off the deep end."

The NTSB says it will not reopen the accident investigation, but Richardson says the FAA should study Austin's theory. Then goes a major step further.
"Matt may well have nailed the cause of the accident," he says. "I don't really know."

**An important accident**

Aloha Flight 243 was bound from Hilo to Honolulu when its roof tore off. An emergency landing was made in Maui. Many aviation experts consider the flight the most significant accident in commercial aviation. It showed how inadequate airline maintenance procedures and poor FAA oversight can result in tragedy, and it prompted an FAA program to more vigilantly inspect aging airplanes.

The NTSB, which investigated the Aloha accident, concluded the jet's roof and walls tore off in flight because multiple fatigue cracks existed in the jet's skin. Those cracks developed, the NTSB said, because lap joints that were supposed to hold the fuselage together became corroded and failed. A lap joint connects two overlapping metal sheets of the fuselage.

The role of lap joints on the Aloha plane is what first captured Austin's attention. He read a story about lap-joint failure in the accident and realized the same words had been written about a boiler explosion in Brockton, Mass., in 1905.

**The boiler connection**

The danger of failed lap joints is well known in the boiler industry, which stopped using them on large boilers in the 1920s. In Brockton, a shoe factory boiler explosion collapsed a building, killing 58 people and injuring 117 others.

When a boiler's lap joint fails, a hole opens in the boiler's shell. The water inside instantly turns to steam, and increased pressure causes an explosion. Such a phenomenon is known as a fluid hammer, which Austin says caused the Aloha accident. If Austin's theory is correct, it solves a question that the accident's investigators asked: Why didn't Boeing's "fail-safe" design, which is supposed to prevent a massive breakup, work?
Boeing says the 737 was designed to decompress safely with as much as a 40-inch crack in the plane's skin, the 0.036-inch thick, aluminum outer layer of the fuselage. Instead of an explosive decompression, the hole in the skin is supposed to release internal pressure in a controlled way. In the Aloha accident, investigators concluded that more damage occurred -- about 18 feet of the fuselage tore away -- because many fatigue-caused cracks had gone undetected. Austin says that a weakened fuselage was not the main reason for the extensive damage. A 10-inch-by-10-inch hole opened, he says, in the roof of the front cabin at a location known as body station 500. (Body stations are identifying points on the fuselage that are measured in inches from near the nose of the jet to the rear.) A powerful stream of air swept an Aloha flight attendant off her feet and toward the hole, Austin says. Her head and right arm went through the hole, he says, but her body momentarily plugged it, creating a jolt of pressure that ripped the jet apart. The flight attendant was swept out and her body was not recovered. "Slamming the door on a 700-mile-per-hour jet stream creates a localized, short-duration high-pressure spike, up to several orders of magnitude (greater than) the allowable design pressure," Austin says. "This is a fluid hammer."

Forensic evidence, Austin says, shows where the flight attendant's skull struck the exterior of the plane. The location of the skull print is consistent with the location of a plugged hole at body station 500, he says. The NTSB's official accident report says, however, that the breakup of the jet began about 5 feet farther forward, at about body station 440. But Richardson, the former NTSB investigator, says Austin pinpointed a mistake in the NTSB's report. He says he always
assumed the breakup began close to the point that Austin says. The wreckage that could reveal where the breakup occurred is at the bottom of the Pacific Ocean.

**NTSB not persuaded**

USA TODAY brought Austin's analysis to NTSB Chairman James Hall, who joined the board 5 years after the Aloha accident and recently announced his resignation. He said Austin's theory makes sense, but the NTSB doesn't believe it happened that way.

"We don't disagree with Mr. Austin's explanation about how an airplane can decompress at 24,000 feet after a 10-inch-by-10-inch hole is blown open in the skin and about how devastating the 'fluid hammer' effect can be at this altitude," Hall said in a letter. "We disagree, however, with his conjecture involving the role the flight attendant's body played. . . .

"The roof of the Aloha airplane came off as a result of multiple site damage -- mainly, small fatigue cracks that emanated from many chamfered rivet holes. These cracks joined together, resulting in the catastrophic separation of the skin."

Austin agrees that the many fatigue cracks weakened the structure, but he says the plane wouldn't have ripped apart if the hole hadn't been plugged. And, Austin adds, "The NTSB validated my fluid-hammer theory. They couldn't say anything more without reconvening a pool of experts and reopening the investigation."

Richardson says he never heard of the fluid-hammer theory until Austin explained it. No one on his structural team, he says, ever mentioned it during the course of the investigation. He says, though, he'll stand behind his and the NTSB's conclusions. "We never thought that the hole in the fuselage remained small enough long enough for anything to plug it and produce the kind of pressure spike that is common to the pressure vessels that you are familiar with," Richardson wrote Austin.
Austin says, however, that the difference between the NTSB's findings and his analysis is, "We're 60 inches and probably 20 thousandths of a second apart."

He says he enlarged NTSB photos of the skull print, used a computer to view them from a different angle and pinpointed the skull print's exact location. "The skull print is the key," Austin says. "It wouldn't be there so graphically if the flight attendant didn't plug the hole. If there would have been an out-rush of air without a hole being plugged, her whole body would have been sucked out at once away from the aircraft."

Austin also corresponded with FAA officials in 1998. He was told that the FAA intended to do studies on his theory, but the agency later said it couldn't do the work because Congress had cut the FAA's research budget. King Frey, a retired aeronautical engineer who worked for two aircraft manufacturers, Hughes and Douglas, and for Northrop Grumman, which makes fuselages for 747s, buys the fluid-hammer theory. "Matt's reasoning and logic is right on target, and he has an excellent probable theory that should be researched," Frey says. The odds are very small that such a phenomenon will occur, Frey says, "but rare things do happen."

As 737s get older, however, it raises the possibility from an astronomically small number to a number that should be taken seriously, Frey says. The increased possibility of a fluid-hammer effect, he says, needs to be heeded by Boeing and airline mechanics.

Regardless of whether he's right about the Aloha accident, he questions whether a plane can be designed for a safe decompression when a fuselage tears open. That would cause a powerful stream of air to escape from the cabin, he says, which could sweep up persons or objects not belted down, shatter eardrums and cause more serious injuries.
"Safe decompression is a fly-it-'til-it-breaks philosophy," he says. "It's stupid to have a design concept that says a plane is OK until it blows a hole at 24,000 feet."

**Boeing defends design against theory**

Boeing officials say their design is sound and meets FAA regulations. Further, the company says, it tested the plane for the theory that Austin has. Boeing's Jack McGuire says computer simulations were done in 1965 to test what would happen if a 40-inch hole -- one much larger than the hole that Austin believes popped open on the Aloha plane -- was plugged. The tests showed that cabin pressure is maintained longer, increasing passengers' chances of survival, he says. Richardson says research is needed to study Boeing's safe-decompression design. "I think it's worth determining if this type of scenario should be a design consideration in the future," says Richardson, who is now an airline pilot. "Testing by the FAA/manufacturer is the only way to determine if it can happen in an aircraft, absent funding by some private source. The FAA should spearhead the effort to see if Boeing's fail-safe design is viable."

FAA officials in Washington did not respond to written questions about safe-decompression design and aging aircraft. Richardson and some other aviation experts believe the FAA should study the fluid-hammer phenomenon. "Matt's efforts and goals are commendable," he says. "The industry needs to be constantly reminded of the past so it can be ever vigilant in the future."

That's Austin's credo. "Disasters keep recurring because we don't learn from those that have struck in the past," he says. "History is repeating itself before our eyes." Cover story

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From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA  
Subject: Wiring/cargo door explanation

Dear Mister Jim Hall, Bernard Loeb, Ron Schleede (Ret), Al Dickinson, Jim Wildey, Bob Swaim of NTSB, and Misters McSweeny Mr. Ron Wojnar Mr. Dimtroff, Mr. Schalekamp, Mr. Breneman, Mr. Lyle Streeter of FAA, and FBI agents at the New York office, 16 Jan 01

This is John Barry Smith responding with a rebuttal to Chairman Jim Hall of NTSB who states in a 14 December 2000 letter that the wiring/cargo door explanation for TWA 800 has been considered and ruled out. The NTSB, as represented by the Chairman, Jim Hall, and Bernard Loeb, Ron Schleede (Ret), Al Dickinson, Jim Wildey, Bob Swaim states that the NTSB has considered the wiring/cargo door explanation for TWA 800 and ruled it out based upon evidence and has corresponded with me numerous times. That evidence is incomplete and NTSB has not corresponded with me numerous times. NTSB has written me a few times with short statements of opinion telling me they are right and I am wrong. In addition, the NTSB has failed to respond to the specific absolute refuting evidence to the center tank as the initial event and have consistently refused for over four years to discuss the wiring/cargo door explanation or even meet with me to allow me to present a decade of research and analysis which has led me to conclude that the same probable cause of faulty wiring leading to a ruptured/open cargo door in flight has caused four Boeing 747 accidents, including UAL 811 and TWA 800. The actual refuting evidence to the center tank explanation and the actual confirming evidence of the wiring/cargo door explanation is listed below in response to NTSB assertions.
NTSB: ÒThank you for your October 2, 2000, letter regarding Mr. John Barry Smith's assertion that the TWA flight 800 accident was caused by a wiring/switch fault in the accident airplane's electrical system, which led to the rupture of the midspan latches of the forward cargo door in flight. He asserts that this rupture precipitated the sequence of events that led to the explosion of the fuel/air vapor in the center wing tank (CWT).Ó

JBS: Yes, that is my assertion with the clarification that it was wiring based upon new evidence of the faults of Poly X wiring in all aircraft, and in particular, early model Boeing 747s such as TWA 800, which shorted on the door unlatch motor.

NTSB: ÒAs you know, on August 23, 2000, the National Transportation Safety Board concluded that the probable cause of the TWA flight 800 accident was an explosion of the CWT resulting from ignition of the flammable fuel/air mixture in the tank. The source of ignition energy for the explosion could not be determined with certainty, but the Board concluded that, of the sources evaluated by the investigation, the most likely was a short circuit outside of the CWT that allowed excessive voltage to enter the CWT through electrical wiring associated with the fuel quantity indication system.

JBS: Concluded but not published. The final report is yet to be available to the public six months after the ÒNational Transportation Safety Board concluded...Ó

JBS: Concluded but not published. The final report is yet to be available to the public six months after the ÒNational Transportation Safety Board concluded...Ó Why is that?

NTSB: "The source of ignition energy for the explosion could
not be determined with certainty...."

JBS: The NTSB does not have an ignition source for the center tank explosion which is conclusive evidence that the probable cause of initial event as center tank explosion is not confirmed and that all other reasonable alternative explanations are plausible until ruled out by proper and thorough evaluation. A reasonable alternative mechanical explanation that has precedent and supported by official documents should be thoroughly investigated. The wiring/cargo door explanation is mechanical, plausible, supported by Public Docket evidence, has precedent in a similar type aircraft and has not been thoroughly investigated to the standard set by the precedent, UAL 811 in NTSB AAR 92/02. To say an explosion happened and not have the ignition source positively identified after years of searching and tests is to say the current explanation is incomplete and very possible not the initial event. There are three essential factors for a fuel explosion; air, fuel, ignition source; to not have all three is to admit the current explanation may be wrong. In fact, the wiring/cargo door explanation does have an ignition source for the CWT explosion; a FODDed, on fire engine number three which ignited the center tank as the disintegrating wreckage fell after the explosive decompression caused by the ruptured/opened cargo door in flight allowed the nose to be torn off. This scenario is supported by wreckage debris locations, CVR and FDR data, and the precedent of UAL 811’s FODDed and on fire engine number three. The actual refuting evidence of the center tank as the initial event is the absence of any sooted material on the passengers or the fuselage forward of the wing indicating the nose came off first in a generally straight tear line followed by the explosion of the tank which sooted those parts of the fuselage aft of the leading edge of the wing. In addition, the sudden loud sound on the CVR does not match the sound of a center tank explosion as compared with a known center tank explosion CVR sound in a
NTSB chart. Also, the port side just forward of the wing is smooth while the starboard side is shattered which indicates a unilateral event and not the bilateral damage that a center tank event would show. The NTSB explanation as a center tank explosion is partly right because the center tank did explode, but the NTSB has the timing wrong, it was not the cause but a symptom.

NTSB: Ò...the most likely was a short circuit outside of the CWT that allowed excessive voltage to enter the CWT through electrical wiring associated with the fuel quantity indication system.Ó

JBS: So very vague as to be meaningless. A short circuit outside the CWT includes 98% of the aircraft. The wiring/cargo door explanation has precedent of bare wires in the cargo door area of the confirmed cargo door accident, UAL 811. TWA 800 wreckage has bare wires in that cargo door area:

The Systems Exhibit 9A, page 116: "Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

(Note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811. Water has been seen pouring out of a forward cargo bay of a Boeing airliner. Water and leaking electricity make a powerful
conductor. Both are known to exist in Boeing cargo compartments.)

NTSB: "The Safety Board did consider the possibility that the TWA flight 800 accident might have been initiated by the in-flight separation of the forward cargo door. All eight of the latching cams along the bottom of the door were found in the latched position and, along with some pieces of the cargo door itself, remained attached to the pins along the lower door sill. There were no indications of preimpact failure of the hinge at the top of the door. Investigators verified that these cams, pins, and sill pieces were from the forward cargo door by matching the fractures to the attaching pieces of structure. This evidence indicates that the door was closed and locked at impact. Further, deformation and fracture patterns on the door matched damage to the adjacent fuselage structure, confirming that the door was in the closed position at the time of impact.

JBS: Considered but not investigated nor evaluated to the standard set for confirmed ruptured/open cargo door in flight, UAL 811. The UAL 811 AAR 92/02 has a complete metallurgical examination of the entire door, latches, cams, pins, overpressure relief doors, manual locking handle, hinge, and torque tubes. The TWA 800 "consideration" of the forward cargo door consists of one sentence, Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins
along the lower door sill." A one sentence dismissal of a plausible mechanical explanation with precedent in a similar accident by an incomplete examination of eight of ten latches is not up to the aircraft accident investigation standards set by the NTSB in previous reports.

NTSB: "All eight of the latching cams along the bottom of the door were found in the latched position and, along with some pieces of the cargo door itself, remained attached to the pins along the lower door sill."

JBS: Misleading statement from NTSB of the word "all"; there are ten latches per cargo door for a total of twenty latches. Only eight have been recovered and were attached to a cargo door sill which was found in the aft debris field. The only two references to a ÔsillÕ in the TAGS database refer to the aft sill, none for the forward:

8/5/96 0:00:00,"C122",,"40 39 46.90","-72 37 27.90","aft cargo door - lower sill latches and locks","RF45A","L16","Fuselage","Green","FS 1880",10/12/96 12:55:48,"8/05/96-70",0,0,,

8/25/96 0:00:00,"C2155",,"C714","40 39 46.40","-72 37 27.80","FS 1810, outer frame aft cargo door panel STR 24R-28R (aft upper main cargo door sill)"","RF98","16L","Fuselage","Green","FS 1810"

There are no references to any aft or forward cargo door parts in the addendum to the TAGS database, Exhibit 21F Appendix 5: ÔUpdated Wreckage Not Included in Tags Table.Ó

Eight is not ten. Ten is complete for forward cargo door; eight is incomplete. The two missing latches are the midspan latches, the location of which is exactly where the outward peeled ruptures occur in the forward cargo door as confirmed by photographs of the actual shattered forward cargo door wreckage of TWA 800.
ÒXÓ marks the spot of the outward peeled rupture of the aft midspan latch of the forward cargo door of TWA 800. Note hinge and red paint smears on fuselage skin above shattered door.

The large gaping hole to the left of the yellow tag marks the spot of the outward peeled rupture of the missing forward midspan latch of the forward cargo door of TWA 800. Also note red paint smears above hinge, inward pillowing of skin lower down on door pieces, and absence of most of recovered door pieces.

NTSB: ÒThere were no indications of preimpact failure of the hinge at the top of the door.Ó

JBS: There were indications of failure at the top of the door with red paint smears that would only occur when the door ruptured/opened in flight. These paint smears match the style of paint smears of the UAL 811 cargo door area when the door ruptured/opened out and upward and slammed into the fuselage skin above leaving door paint on the fuselage.

NTSB: ÒInvestigators verified that these cams, pins, and sill pieces were from the forward cargo door by matching the fractures to the attaching pieces of structure.Ó

JBS: The items only refer to the eight pieces recovered and do not refer to the two missing midspan latches. Metallurgical examination and report of those Òcams, pins, and sill piecesÓ is absent, unlike the two AAR of UAL 811.

NTSB: ÒThis evidence indicates that the door was closed and locked at impact.Ó
JBS: Absolutely false logic and refuted by the incomplete recovery of evidence and absolutely refuted by photographic evidence of the actual wreckage of the few recovered door pieces which show outward petal shaped ruptures, paint smears, and the location of wreckage debris in the ocean that indicated clearly the forward cargo door ruptured in flight as the initial event and separated in pieces which created the entire shattered area around the forward cargo door on the starboard side. The port side opposite the cargo door is smooth and unshattered which refutes the center tank explosion as the initial event since a "center" event would cause equal bilateral damage, not the severe unilateral damage on starboard side, the cargo door side. A latched cargo door sill in which the rest of the door is shattered and tossed to the wind is not a door which is closed and locked at impact. The actual confirming evidence that the forward cargo door opened in flight is the photographs showing the outward peeled ruptures at the two midspan latches, the engine blade in the right horizontal stabilizer, and the sudden loud sound on the CVR which matches a previous ruptured cargo door in flight on a similar type aircraft.

NTSB: "Further, deformation and fracture patterns on the door matched damage to the adjacent fuselage structure, confirming that the door was in the closed position at the time of impact."

JBS: Absolutely incorrect and proven by photographic evidence. There is no "door"; there are dozens of pieces of the door with most of it still missing and unrecovered as shown by photographs and the recovered wreckage database. To say a "door" is "in the closed position" when the manual locking handle has not been recovered and examined to determine if it in the proper position and stowed is to give a worthless opinion about the
status of a door. A latched cargo door sill in which the rest of the door is shattered and tossed to the wind is not a door which is in the closed position at the time of impact. The few pieces of the forward cargo door which were recovered were found many hundreds of yards apart from each other according to wreckage plot and indicate the door did not shatter upon impact but before impact. The TAGS database lists all the pieces of the forward cargo door which were recovered and constitute less than 50% of the door and confirmed by the wreckage reconstruction: (Note ÔwhiteÕ tag which means it was later changed and contradicts the ChairmanÕs statement below.)

8/4/96 0:00:00,, "B155" ,, "40 39 04.30" ,-72 38 27.20", "forward cargo door lift", "L22", "Fuselage", "Yellow", 8/5/96 0:00:00,, "B189" ,, "40 39 04.30", "-72 38 27.20", "FS 540-580 STR 24R-30R with top right corner of forward cargo door", "RF3D", "L21", "Fuselage", "Yellow", "FS 540-580", 8/5/96 0:00:00,, "B221" ,, "40 39 04.30", "-72 38 27.20", "small section of upper forward cargo door", "RF3E", "L21", "Fuselage", "Yellow", 8/5/96 0:00:00,, "B223" ,, "40 39 04.30", "-72 38 27.20", "FS 600-720 STR 24R-26R with rear top part of forward cargo door", "RF3C", "L21", "Fuselage", "Yellow", "FS 600-720", 8/8/96 0:00:00,, "B334" ,, "40 39 04.70", "-72 38 26.80", "forward cargo door segment", "RF3M", "Fuselage", "Yellow", 8/26/96 0:00:00,, "B2015" ,, "metal strap with internal cargo door switch for forward cargo door; FS 560; WL 164; RBL 96", "L21", "Fuselage", "White", "FS 560", 8/5/96 0:00:00,, "B2029" ,, "B223", "40 39 04.30", "-72 38 27.20", "forward cargo door segment", "RF3N", "Fuselage", "Yellow", 8/5/96 0:00:00,, "B2015", "B223", "40 39 04.30", "-72 38 27.20", "aft pressure limiting door forward cargo door", "RF3K", "Fuselage", "Yellow", ",
There are no references to any aft or forward cargo door parts in the addendum to the TAGS database, Exhibit 21F Appendix 5: Updated Wreckage Not Included in Tags Table.

NTSB: ÒYou indicate that Mr. Smith claims that "only eight [of 20 door latches from TWA flight 800] have been recovered, and they are all from one sill found in the aft debris field" and that "[t]he only cargo door sill found in the aft fuselage debris field belongs to the rear cargo door, and is not the forward cargo door sill." The forward cargo door was found in the "yellow" wreckage recovery zone, which contained the nose portion of the airplane and pieces of the fuselage forward of about station 840. The aft portion of the airplane, including wreckage from the rear cargo door, was found in the "green" wreckage recovery zone, which contained most of the airplane wreckage, including pieces of the fuselage aft of about station 1000. Therefore, Mr. Smith is incorrect in asserting that the only recovered cargo door pieces were those from the rear cargo door.Ó

NTSB: ÒThe forward cargo door was found in the "yellow" wreckage recovery zone, which contained the nose portion of the airplane and pieces of the fuselage forward of about station 840.Ó

JBS: The Ôforward cargo doorÔ was not found anywhere. It was shattered into many pieces (one found in ÔwhiteÔ zone) as shown by the reconstruction photographs and less than 50% of the total door was recovered as shown by the TAGS wreckage database. The important pieces to determine if the cargo door
was properly latched/did not rupture in flight are missing to include the manual locking handle, and the two midspan latches. None of the recovered pieces of the forward door were sooted which refutes the center tank as initial event since the forward door is very near the center tank. There was only one cargo door sill recovered and it was found in the aft debris field.

In addition, the color of a tag was changed even though the piece landed in a different color zone which depicts the actual landing location of the debris.

**ODOCKET NO. SA-516
EXHIBIT NO. 211
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.**

Appendix 8: Tag Renumbering Procedure
(5 pages)
TWA 800 Tags System Procedure
Tag Re-Numbering
OTECH CAJ 9/25/96

Applicability:
When a tag number needs to be changed. Primarily reason: when the tag alpha designator (A B C or X Y Z) or color code (RED, YELLOW, GREEN) is found to be at odds with the debris field in which the object was actually found. Such tags are referred to as Òout-of-areaÓ tags.

Re-tagging may also be necessary for debris field locations which cannot be verified. If database validation processes indicate that existing tag location information is not verifiable, then re-tagging to WHITE will be accomplished using this procedure and associated documentation.

For those situations where documentation indicates that re-
tagging would revise the debris field location (i.e., the tag color should be changed), back-up documentation will be maintained to support the re-tag action.

JBS: At odds with the debris field? The debris field is reality. Pieces landed where they landed for a physical reason. Sophisticated location techniques were used and latitude and longitude locations were logged as the pieces were retrieved. Where the pieces landed is of paramount importance and to administratively change the landing location is very misleading and nonexcusable. The pieces were found to be at odds with the debris field only using the center tank as the initial event. The original location of the debris field pieces make sense when using the wiring/cargo door explanation to explain why fuselage pieces forward of the wing landed where they did. (The overall debris appraisal was made by Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing.") The center tank is not Ôjust forward of the wingÕ while the forward cargo door is. The center tank is aft of the leading edge of the wing and thus parts were not initially shed from that area which means it was not the initial event.

NTSB: ÔTherefore, Mr. Smith is incorrect in asserting that the only recovered cargo door pieces were those from the rear cargo door.Ô

JBS: A completely wrong and ignorant statement by Chairman Hall of NTSB. I never said and do not assert now that Ôthe only recovered cargo door pieces were those from the rear cargo door.Ô In fact, I refer over and over to the forward cargo door pieces; they are conclusive proof that the forward door ruptured
in flight. To say I assert Ô... the only recovered cargo door pieces were those from the rear cargo door,Ô is to show conclusively that the NTSB does not understand the wiring/cargo door explanation, has not seriously considered the explanation, has not discussed the explanation with me, and is content with confused thinking about it.

The wiring/cargo door explanation does refer to the recovered pieces of the aft cargo door (also to many other parts of TWA 800) and asserts that the only cargo door sill of two which were on TWA 800 when it took off was found in the aft debris field and is most likely that of the aft cargo door, a door which is identical in size, function, and parts to the forward cargo door. All pieces of the aft cargo door recovered are listed below; (Note that there are more pieces recovered for the aft door than for the forward door and no ÔwhiteÕ changed tags.)

8/4/96 0:00:00,"C111",","40 39 46.90","-72 37 27.90","aft cargo door cutout (#1860)/seats/fuselage","Green",,
8/5/96 0:00:00,"C122",","40 39 46.90","-72 37 27.90","aft cargo door - lower sill latches and locks","RF45A","L16","Fuselage","Green","FS 1880",
8/21/96 0:00:00,"C644",","40 39 46.89","-72 37 26.59","aft cargo door lower aft section","RF45F","L15.5","Fuselage","Green","FS 1910",
8/25/96 0:00:00,"C2155","C714","40 39 46.40","-72 37 27.80","FS 1810, outer frame aft cargo door panel STR 24R-28R (aft upper main cargo door sill)","RF98","16L","Fuselage","Green","FS 1810"
8/9/96-37"","C2133","C673","40 39 47.04","-72 37 26.90","aft cargo door fragment","RF45G","L16","Fuselage","Green","FS 1810",
8/25/96 0:00:00,"C1080",","40 39 46.40","-72 37 27.80","FS
1900-1940 aft cargo door surround, STR 41R-44R", "RF45E", "L 15.8", "Fuselage", "Green", "FS 1900-1940", 
8/4/96 0:00:00,, "C2252", "C114", "40 39 46.90", "-72 37 27.90", "FS 1820-1840 STR 23R-27R with aft cargo door hinge", "RF30A", "L16", "Fuselage", "Green", "FS 1820-1840" 
8/19/96 0:00:00,, "C2336", "C932", "40 39 47.36", "-72 37 27.71", "FS 1780-1840 STR 38R-46R forward lower corner of aft cargo door cut-out", "RF54E", "L16", "Fuselage", "Green", "FS 1780-1840", 
8/4/96 0:00:00,, "C111", "40 39 46.90", "-72 37 27.90", "aft cargo door cutout (#1860)/seats/fuselage", "Green", 8/21/96 0:00:00,, "C644", "40 39 46.89", "-72 37 26.59", "aft cargo door lower aft section", "RF45F", "L15.5", "Fuselage", "Green", "FS 1910", 

There are no references to any aft or forward cargo door parts in the addendum to the TAGS database, Exhibit 21F Appendix 5: Updated Wreckage Not Included in Tags Table.

NTSB: You also state that Mr. Smith asserts that "all ten locking latches, the manual locking handle, the viewing ports, and two 'overpressure relief doors' have not been fully accounted for in the investigation and are not in the wreckage database." The Safety Board recovered and accounted for all of the closing hardware for the forward cargo door. All ten of the closing cams and pins are in the recovered structure database and are physically located on the reconstructed portion of the airplane. (A metallurgical report on the forward cargo door discusses only the eight latching cams and pins on the bottom of the door and
does not discuss the two alignment pins and cams on the sides of the door.)

NTSB: ÔThe Safety Board recovered and accounted for all of the closing hardware for the forward cargo door.Ô
JBS: Absolutely not true: Ôall the closing hardwareÕ is missing from all of the wreckage pieces databases, from the public docket, from examination and evaluation in Exhibits, and the actual wreckage reconstruction. In fact, all of the forward cargo door has not been recovered, accounted for, or evaluated, with less than 50% recovered and those few consist of ÔsegmentsÕ ÔpiecesÕ and Ôparts.Ô The closing hardware is extensive and included, torque tubes, bellcranks, manual locking handle, ten cams, pins, latches, and overpressure relief doors within the door. To claim that all closing hardware for the forward cargo door was recovered and accounted for is a falsehood.

NTSB: ÔAll ten of the closing cams and pins are in the recovered structure database and are physically located on the reconstructed portion of the airplane.

JBS: There is no documentation that of the twenty identical closing cams and pins, the alleged ten belong to the forward cargo door and not the aft. There is no documentation of the missing two midspan latches from the forward cargo door being found. There is no evaluation of the condition of any of the cams and pins of either door. In the entire wreckage databases there is no report of any ÔcamsÕ nor ÔpinsÕ in the recovered structure database. The two midspan latches of the forward door are not physically located on the reconstructed portion of the airplane as proven by photographs.

NTSB: Ô(A metallurgical report on the forward cargo door
discusses only the eight latching cams and pins on the bottom of the door and does not discuss the two alignment pins and cams on the sides of the door.)Ô

JBS: Misleading statement by NTSB and metallurgist Jim Wildey, as the two midspan latches are not trivial Ôalignment pins and camsÕ, but identical cams, pins, and latches to the lower eight. The top of the door is held by a lengthwise hinge and the lower sill of the door is held by eight latches. The two sides, each eight feet tall, are held in by one latch per side, the midspan latch. The lower eight latches have locking sectors which press against the cams to prevent inadvertent opening in flight. The two midspan latches have no locking sectors. This absence of two sectors per door is the fatal design error of the door in addition to being outward opening and nonplug. An Airworthiness Directive issued after the forward cargo door of UAL 811 ruptured/opened in flight to strengthen the locking sectors had no effect on the two midspan latches because they have no locking sectors to strengthen. Those two locations is where the ruptures occurred in TWA 800, at the midspan latches where no locking sectors existed, as confirmed by photographs. To Ônot discuss the two alignment pins and cams on the sides of the doorÕ as NTSB admits is to admit to an incomplete examination and evaluation of the forward cargo door, a door initially considered to be the initial event of TWA 800.

NTSB: ÔIn your letter, you also indicate that Mr. Smith asserts that "[b]lades on the Number 3 engine were found damaged, in a manner consistent with explosive decompression of the adjacent forward cargo door." However, physical evidence indicated that damage to the number 3 engine's fan blade airfoils was due to the blade mid span shrouds shingling (overlapping) and tearing out part of the airfoils when the engine impacted the water. Further, the damage noted on the number 3 engine's low- and high-
pressure compressor airfoils was similar to that observed on the other three engines' compressor airfoils. None of the four engines installed on TWA flight 800 had any damage that could have been caused by the ingestion of a foreign object. Therefore, this damage does not support Mr. Smith's contention that the forward cargo door separated in flight.

NTSB: “None of the four engines installed on TWA flight 800 had any damage that could have been caused by the ingestion of a foreign object.”

JBS: Absolutely incorrect statement as shown by actual examination of engine number three as reported in the TWA 800 Public Docket:

Exhibit 8A, Page 11, paragraph 3, discussing results of engine 3 disassembly, "Of the 46 fan blades in the fan rotor, 21 blades with complete or partial airfoils and 6 root sections were recovered. All of the fan blades had sooting on the convex airfoil surfaces. Most of the full length airfoils were bent rearward and the tips outboard of the outer midspan shroud were bent forward slightly. About half of the fan blades had impact damage to the leading and trailing edges. Almost all of the impact damage to the airfoils could be matched to contact with the midspan shroud on an adjacent blade. One full length blade had four soft body impacts along the leading edge and a partial airfoil had a soft body impact, which had some streaking extending rearward."

NTSB: “Therefore, this damage does not support Mr. Smith's contention that the forward cargo door separated in flight.”

JBS: The damage to engine number three conclusively supports the wiring/cargo door explanation that the forward cargo door
separated in flight by showing that foreign objects and door skin ejected after explosive decompression were ingested into the adjacent engine number three which led to uncontainment and the spitting out of a blade into the right horizontal stabilizer immediately behind the engine. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

JBS: Only 58% of the fan blades were recovered which means 42% were missing. It is very likely the 'stator blade' found in right horizontal stabilizer was from engine number three which sits directly in front of it. "Almost all' of the 'impact damage,' was explained which implies some wasn't explained. All blades in engine three had soot. Soot means fire. FOD usually means fire. Only engine number three had any sooting inside engine. One full blade and one partial blade had 'soft body impacts'. There is nothing normally soft inside a jet engine. Soft body impact means foreign object damage which could mean the soft bodies of passengers ejected from the open fuselage, as happened with UAL 811. Streaking could be blood streaks. Missing blades in engine three and one blade found directly aft in right horizontal stabilizer recovered far away from main engine means uncontainment in flight. Uncontainment means engine number three was not intact at water impact but implies destruction and fire inflight. The FODDed, uncontained, spewing blades, on fire engine number three is very likely the plausible ignition source for the nearby center tank which was disintegrating into fuel vapor as it fell.
NTSB: ¿Finally, you state that Mr. Smith asserts that "[t]he FDR [flight data recorder] plots of TWA [flight] 800, Pan Am [flight] 103, and UAL [United Airlines flight] 811 are consistent with the explosive decompression of the right forward cargo door" and that "[b]ad wiring ... caused the forward cargo doors to open in flight on high time B747's [including these airplanes and Air India flight 182] ... and that [t]he photographic, CVR [cockpit voice recorder], FDR, FOD [foreign object damage], and other evidence points to a common scenario of cargo door failure." You also state that Mr. Smith believes "the outward peeled ruptures in metal shown in photographs ... are clear evidence of cargo door failure, not of a [CWT] explosion. Mr. Smith is correct that the United Airlines flight 811 accident was caused by the in-flight separation of the forward cargo door. However, the investigation of the Pan Am flight 103 accident (in which the Safety Board participated extensively) revealed overwhelming evidence that the accident was precipitated by the explosion of a bomb in the forward cargo compartment, not by inadvertent opening of the forward cargo door. Further, regarding Mr. Smith's contention that the "outward peeled ruptures" from the TWA flight 800 airplane are indicative of an in-flight cargo door failure, the investigation's Sequencing Group (which included participants from all of the parties to the investigation) reached a different conclusion. The Sequencing Group determined that the damage to the airplane was consistent with an overpressure in the CWT as the initiating event, not a failure of the cargo door.

NTSB: ¿Mr. Smith is correct that the United Airlines flight 811 accident was caused by the in-flight separation of the forward cargo door.Ó

JBS: I asset the above because of NTSB AAR 90/01 and 92/02
regarding UAL 811: NTSB conducted an incomplete investigation of the forward cargo door of UAL 811 and came to an incorrect probable cause in AAR 90/01 for its opening in flight leading to nine fatalities: Improper latching. Upon further investigation the door was found to be properly latched and the cause to be electrical. A new AAR was published which was AAR 92/02, giving the new probable cause. The NTSB TWA 800 investigation in AAR 00-03 is also incomplete leading to the wrong probable cause as the center tank exploding as the initial event. A precedent has been set of NTSB conducting an incomplete investigation leading to an incorrect probable cause in an AAR leading to the event occurring again (UAL preflight uncommanded opening of cargo door) and thus having to write another AAR with the new probable cause. This sequence will happen again unless further investigation of the wiring/cargo door explanation is conducted for TWA 800. A precedent has been set for NTSB to further investigate an accident even though a final AAR has been published. A precedent has been set for NTSB to discover and admit an error of opinion and correct it.

From
NTSB AAR 92/02:

NTSB/AAR-92/02
(SUPERSEDES NTSB/AAR-90/01)

The wrong probable cause in AAR 90/01 for UAL 811: ÔThe National Transportation Safety Board determines that the Probable Cause(s) of this Accident was: The sudden opening of the improperly latched forward lobe cargo door in flight and the subsequent explosive decompression.Ó

The new probable cause in AAR 92/02 for UAL 811: ÔBefore
the recovery of the cargo door, the Safety Board believed that the door locking mechanisms had sustained damage in service prior to the accident flight to the extent that the door could have been closed and appeared to have been locked, when in fact the door was not fully latched. This belief was expressed in the report and was supported by the evidence available at the time. However, upon examination of the door, the damage to the locking mechanism did not support this hypothesis. Rather, the evidence indicated that the latch cams had been backdriven from the closed position into a nearly open position after the door had been closed and locked. The latch cams had been driven into the lock sectors that deformed so that they failed to prevent the back-driving.

Thus, as a result of the recovery and examination of the cargo door, the Safety Board's original analysis and probable cause have been modified. This report incorporates these changes and supersedes NTSB/AAR-90/01.

The issues in this investigation centered around the design and certification of the B-747 cargo doors, the operation and maintenance to assure the continuing airworthiness of the doors, cabin safety, and emergency response.

The National Transportation Safety Board determines that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door in flight and the subsequent explosive decompression. The door opening was attributed to a faulty switch or wiring in the door control system which permitted electrical actuation of the door latches toward the unlatched position after initial door closure and before takeoff.Ó

NTSB: ÓHowever, the investigation of the Pan Am flight 103 accident (in which the Safety Board participated extensively) revealed overwhelming evidence that the accident was precipitated by the explosion of a bomb in the forward cargo
compartment, not by inadvertent opening of the forward cargo door.Ó

JBS: There is not Òoverwhelming evidence that the accident was precipitated by the explosion of a bomb in the forward cargo compartment, not by inadvertent opening of the forward cargo door.Ó That NTSB statement is unsupported opinion and shows that NTSB also influenced incorrectly the PA 103 probable cause as reported in AAIB AAR 2/90. Pan Am 103 is another similar event of TWA 800. It has many similarities that match TWA 800 which are supported by facts, data, and evidence. The wiring/cargo door explanation concludes PA 103 was an ruptured/open cargo door inflight, as was Air India Flight 182. PA 103, AI 182, and TWA 800 are the only Boeing 747 accidents to have the following unusual and rare similarities:

- non Section 41 retrofit
- early model
- poly x wired
- Boeing 747
- experienced hull rupture forward of the wing in cargo bay.
- nose came off
- damaged number three engine
- sudden sound on CVR
- loud sound on the CVR
- short duration sound on the CVR
- abrupt power cut to FDR
- outward peeled skin in cargo door area
- longitudinal break in forward cargo door,
- more severe inflight damage on starboard side
- at least nine never recovered bodies
- vertical fuselage tear lines forward of the wing and aft of cargo door
- torn off skin in forward cargo door area on starboard side,
outward peeled skin in cargo door area
downward bent floor beams in cargo door area,
destruction initially thought to be have been caused by a bomb.

NTSB: ÒFurther, regarding Mr. Smith's contention that the "outward peeled ruptures" from the TWA flight 800 airplane are indicative of an in-flight cargo door failure, the investigation's Sequencing Group (which included participants from all of the parties to the investigation) reached a different conclusion. The Sequencing Group determined that the damage to the airplane was consistent with an overpressure in the CWT as the initiating event, not a failure of the cargo door.

JBS: Again, that conclusion is unsupported opinion which is contradicted by facts, data, and evidence elsewhere in the Public Docket such as NTSBÕs own Trajectory Study. The Sequencing Group is James F. Wildey II, National Resource Specialist-Metallurgy. He is not an aircraft accident investigator. The TWA 800 Public Docket SA-516, Exhibit 18A is the Metallurgy/Structural Group Chairman Factual Report Sequencing Study, signed by only Mr. Wildey. Contrary to the NTSB statement above, the Sequencing Group did not determine that the failure of the cargo door was not the initiating event as the words, ÒCargo DoorÕ are not to be found in any of the 57 page exhibit.
There is nothing in the ÒStudyÓ about the forward cargo door, which is a serious omission as the ruptured/opened door was initially considered by NTSB to be the initial event and the forward cargo door lies very close to the center tank. This is further evidence that the wiring/cargo door explanation has not been properly evaluated by NTSB.

NTSB: ÒMr. Smith's assertion that the CVR evidence for the four accidents mentioned in your letter indicate a common
scenario is also incorrect. The CVR termination sound signatures for Pan Am flight 103, Air India flight 182 (both of which were brought down by bombs exploding in flight), and TWA flight 800 were all characterized by a rapid increase in amplitude with no evidence of prior anomalies. In contrast, the CVR from the United Airlines flight 811 accident involving the in-flight separation of the cargo door revealed a longer-term sound signature with a slower onset. Additionally, the loud terminating sound on the United Airlines flight 811 CVR is preceded by several precursor lower-order events, some of which were noticed and commented on by the flight crew.

NTSB: ÒThe CVR termination sound signatures for Pan Am flight 103, Air India flight 182 (both of which were brought down by bombs exploding in flight), and TWA flight 800 were all characterized by a rapid increase in amplitude with no evidence of prior anomalies.Ó

JBS: The CVR examinations for all four accidents have ruled out a bomb sound and match each other and UAL 811. To state a bomb went off in an aircraft and yet have the CVR not have a bomb sound is to logically rule out the bomb as the cause of the sudden loud sound and thus the accident. An alternative must be found and it is in the explosive decompression sound. UAL 811 had that explosive decompression sound and it matches AI 182, TWA 800, and PA 103.

NTSB: ÒIn contrast, the CVR from the United Airlines flight 811 accident involving the in-flight separation of the cargo door revealed a longer-term sound signature with a slower onset. Additionally, the loud terminating sound on the United Airlines flight 811 CVR is preceded by several precursor lower-order events, some of which were noticed and commented on by the
flight crew.Ó

JBS: NTSB Chart 12 below which compares all CVR sound of the four accidents. They match in the very rare occurrences of a sudden loud sound, not a bomb sound, which is then almost immediately followed by an abrupt power cut to the FDR. UAL 811 did not have any "lower-order events" picked up by the CVR as the time in the chart is in milliseconds. In spite of much effort to make the sudden loud sound a bomb sound, the sounds lack the low frequencies which exist in bomb sounds and the rise time is too slow for the explosion of a bomb. All of the four sounds match the known sound of the explosive decompression of UAL 811 forward cargo door rupturing/opening in flight. The NTSB CVR study omits any detailed analysis of this important sudden loud sound.

NTSB: ÒIn sum, Mr. Smith's position is simply not supported by the facts. Our correspondence database indicates that Mr. Smith has written the Safety Board many letters regarding his theories about the cause of the TWA flight 800 accident. The Board has responded to Mr. Smith numerous times, indicating that Board investigators have considered his theories and that no evidence exists to support his conclusions. In March 1998, I informed Mr. Smith that our correspondence had exhausted this issue and that he should expect no further response from the Board on this subject. I am pleased to have had this opportunity to provide you with details about the Board's position on this issue. However, I continue to believe that it would not be productive to correspond with Mr. Smith further about his theories regarding the cause of the TWA flight 800 accident.

NTSB: ÒIn sum, Mr. Smith's position is simply not supported by
JBS: My position is supported by ample facts from four similar accidents, from the Public Docket, from government AARs, from photographs, and other official documents.

NTSB: ÒOur correspondence database indicates that Mr. Smith has written the Safety Board many letters regarding his theories about the cause of the TWA flight 800 accident. The Board has responded to Mr. Smith numerous times,...Ó

JBS: I have written the NTSB many times but they have not responded numerous times to me. Senator John McCain wrote suggesting a meeting with me but NTSB declined. Congressman Sam Farr has asked for a meeting with me but NTSB, Mr. Drake, refused and reiterated that, in fact, they will not correspond, discuss, meet with me ever. (Note the effort to make the messenger the point of argument instead of the message of wiring/cargo door explanation. I am trivial; the message of wiring/cargo door safety item is paramount.)

NTSB: ÒHowever, I continue to believe that it would not be productive to correspond with Mr. Smith further about his theories regarding the cause of the TWA flight 800 accident.Ó

JBS: Not productive? The NTSB and the FAA have never tried for a productive exchange of ideas with me. NTSB has selected random statements and attempted to contradict them while ignoring the irrefutable facts that rule out center tank explosion as initial event and support the wiring/cargo door explanation. Those facts among many which will never go away are: Sudden loud sound on the CVR. Stator blade in right horizontal stabilizer.
Photograph of forward cargo door showing paint smears, missing midspan latches, outward petal shaped rupture holes at midspan, pillowing inward force on other parts of door. Three other similar events with similar evidence with one event, UAL 811, being a confirmed electrical/cargo door caused accident:

TWA 800 and UAL 811 were both:
aged
high flight time
poly x wired
early model Boeing 747
and shortly after takeoff
while climbing
experienced a sudden initial event in the forward cargo hold which left a
short
sudden
loud
sound on the cockpit voice recorder, an
abrupt data loss to the flight data recorder,
foreign object damage to starboard engine #3
more severe inflight damage on starboard side,
smooth port side forward of the wing
at least nine never recovered bodies,
torn off skin in forward cargo door area on starboard side,
rupture at forward cargo door at aft midspan latch,
outward peeled skin on upper forward fuselage,
downward bent floor beams in cargo door area,
vertical fuselage tear lines forward of the wing and aft of forward cargo door,
inadvertent opening of forward cargo door considered as probable cause.
bare wires found in cargo door area.
destruction initially thought to be have been caused by a bomb
but ruled out later.

In summation:

The matching facts between UAL 811 and TWA 800 are
sufficient to warrant a thorough investigation of the wiring/cargo
door explanation for TWA 800 which would match the standard
of aircraft accident investigation of UAL 811 with its two AARs,
90/01 and 92/02. The wiring/cargo door explanation is supported
by enough evidence to interview the discoverer at length about it.

ÔWhen men are ruled by fear, they strive to prevent the very
changes that will abate it.Ó Alan Paton.

NTSB is driven by fear and pride. Pride comes before a fall.

Therein lies the fault/mistake/crime.

The tragedy is not that a government agency, in this case NTSB,
FAA, and FBI, missed something.

The tragedy is not that a civil servant, in this case, James Wildey,
was asked to do something, aircraft accident investigation, in
which he was not qualified as a metallurgist.
The tragedy is not that an agency, NTSB, relied on an official for
an evaluation report which was error filled, laden with mistakes,
and incomplete, the instant quoted letter and Exhibit 15C.

The tragedy is not that an agency composed of individuals, Jim
Hall, Bernard Loeb, Ron Schleede (Ret), Al Dickinson, Jim
Wildey, Bob Swaim of NTSB, and Misters McSweeny Mr. Ron
Wojnar Mr. Dimtroff, Mr. Schalekamp, Mr. Breneman, Mr. Lyle Streeter of FAA, makes up its mind as to a sequence of events, center tank explosion as initial event, and then tries very hard to make that sequence make sense even to the extent of altering evidence, yellow and red location tags to white tags.

The tragedy is not that an agency with a politically connected appointed official, Jim Hall, not very educated about the area he has responsibility for, aviation, tries to find an explanation that does not ruffle too many feathers, a one off explosion with unknown ignition source.

The tragedy is not that taxpayer money is wasted on a huge project, TWA 800 wreckage reconstruction, and then the evidence discovered, ruptured forward cargo door in many pieces with most missing, is ignored.

The tragedy is not than an official, Mr. Schalekamp, saw the evidence of ruptured cargo door in flight and agreed, but later quickly recanted when he realized it was not the official position.

The tragedy is not than an official of an agency, Mr. Streeter of FAA, refuses to get involved with an issue that the agency can pass over to another, FAA to NTSB and FBI to NTSB, although that agency is tasked with the issue, public safety.

The tragedy is not that an investigating agency, NTSB, FAA, and FBI, focuses solely on an explanation that fits its perceived best interest, bomb, missile, or random event, while ignoring all reasonable alternatives which are perceived to be contrary to that interest, wiring/cargo door explanation.

The tragedy is that the agencies, NTSB, FAA, and FBI, were informed over a period of years of a serious public safety issue
and actively rejected any evaluation of that issue to the extent of changing the evidence, to wrongly accuse a citizen, to refuse to confirm or rule out the presented facts, data, and evidence, and of refusing to meet with the proponent, or discuss through letters the reasonable, plausible explanation. To miss a life or death safety item is human and understandable and sad; to reject a life or death safety item given by a qualified citizen over a period of years supported by documentation is inhuman and incomprehensible and a tragedy. And you, NTSB, FAA, and FBI, have done that for over four years and are doing that right now.

The metaphor I think of is that of a crossing guard who is told over and over again a truck is coming and to put down the guard to protect the children continually crossing the street. The guard says no. The guard says IÔm wrong. The guard says IÔm crazy. The guard says go away. The guard ignores the verbal, written, graphic warnings supported by documents, photographs, and testimony that an event which has happened before is going to happen again, a truck plowing into a group of children at a crosswalk because the guard refused to put down the barrier. The guard then attacks me by saying bad things about my character and motives. The guard never asks, ÔWhy do you say that a truck is coming?"

And then of course the truck comes, just as TWA 800 came along as I was presenting my correlation to UAL 811 for PA 103 all during the early 1990s prior to July 17th, 1996, to media and the insurance agency. I knew right away what TWA 800 was and immediately starting informing NTSB, FAA, and FBI of the forward cargo door problem with Boeing 747s.

The error of judgment which leads to the tragedy is continuously rejecting for over four years an experienced citizenÔs opinion
supported by facts, data, evidence, photographs, charts, documents, interviews with witnesses, and precedent which contradicts that agency's opinion. I have been in a sudden, night, fiery, fatal, jet aircraft accident. I have spent forty years in aviation related endeavors. After years of research, I offer a mechanical explanation with precedent in a similar type aircraft. Wiring/cargo door explanation for TWA 800 is plausible, reasonable, and must be further investigated lest it occur again. Further investigation starts with meeting with me. For a public safety agency to refuse to meet and discuss a plausible explanation for a fatal accident with a citizen when the official version is incomplete is inexcusable and most likely criminal should another cargo door rupture open in flight leading to fatalities.

The tragedy is that the agencies entrusted by the public to protect their lives do not and will not ask the question of an experienced citizen with supporting documents to explain his public safety discovery: wiring will again short a door unlatch motor on and the midspan latches of the forward cargo door of a Boeing 747 will rupture again leading to fatalities, as happened with AI 182, PA 103, UAL 811, and TWA 800. The public trust has been betrayed by officials who will not inquire or investigate a reasonable alternative to their position because of fear and pride. The question has never come, ÓMr. Smith, why do you say that wiring caused the forward cargo door of TWA 800 to rupture at the midspan latches?Ó

In summary: An amateur sleuth going up against the initial mystery and the authorities believing a different way has a hard job. He has to be persuasive, charming, have all the right answers, and at least have some authority who will discuss with him the alternatives. It worked for Sherlock Holmes in fiction
and the Campbells for UAL 811. The problem is that the persons who usually go against the common wisdom and discover a contrary truth are not likable nor charming. They do not say what the agency wants to hear and thus become well liked. It takes a confident, tolerant government agency who really wants to do its job right and solve the mystery of TWA 800 by discussing alternatives with someone they instinctively don’t like. NTSB is not that agency. Nor the FAA. Nor the FBI.

In sum: What is left for this individual citizen who has labored more or less alone for over a decade with no support from government, manufacturer, airline, media, or independent safety organizations? Bitterness, anger, sarcasm, ridicule, are not usual persuasive words but they do make one smile and grimace, keep the morale up, and allow the wiring/cargo door cause to continue to the next Chairman so I will say one word which sums up my attitude towards authority who has got it wrong, keeps on repeating the error, refuses to meet with someone who can correct that life and death error, and yet officially seriously evaluates explanations that make no sense such bombs, missiles, meteorites, and a spontaneous fuel tank explosion with a mystery ignition source:

HA!

Respectfully submitted,

John Barry Smith
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www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Want it, but can't have it both ways:Inward outward at same time

Dear Gentlemen Jim Hall, Bernard Loeb, Ron Schleede (Ret),
Al Dickinson, Jim Wildey, Bob Swaim, and Misters McSweeny
Mr. Ron Wojnar  Mr. Dimtroff,  Mr. Schalekamp, Mr. Breneman,
Mr. Lyle Streeter

3 October 2000

TWA 800 explanation that rules out ruptured forward cargo door
in flight contains a basic contradictory paradox which refutes the
claim that it was all latched and all intact at water impact.
You will note in the photos above of the actual forward cargo
door area of TWA 800 that contains outward petal shaped rupture
opening at the midspan latch and also note the inward pillowing
on the door and adjacent fuselage skin.

Well, it is impossible for the water impact to do the inward
pillowing and the outward explosion at the same time at water
impact. Your rejection of the wiring/cargo door explanation can't
have it both ways and remain logical and plausible.

The wiring/cargo door explanation does remain plausible and
logical: In flight rupture/opening of forward cargo door inflight at
the midspan latches which caused outward petal shaped rupture,
supported by paint smears and missing latches. Then the door
shattered into the many pieces as shown by wreckage
reconstruction. Then the water impact of the pieces which caused
the inward pillowing of the pieces as shown by photo.

Rupture outward at latches in flight/shattering pieces/water
impact pillowing on pieces.

That's the sequence that makes sense and does not contradict the
laws of physics.

Your explanation of evidence above of inward pillowing and
outward shattering at same time at water impact is a physical
impossibility and strains the credulity and patience of any
competent aircraft investigator.

You want it both ways, inward/outward, to support your
explanation of spontaneous center tank explosion and to rule out
wiring/cargo door explanation but you can't have it both ways if you want to remain credible and keep the respect of the NTSB and FAA.

The evidence is above and can not be refuted. To continue to reject the wiring/cargo door explanation and not interview the messenger is not right. You can make it right by doing the thing that aviation accident investigators do, evaluate every reasonable explanation for a probable cause of an airplane accident. Wiring/cargo door explanation for TWA 800 is that reasonable explanation that has not been thoroughly evaluated and should be and can be.

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US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Still time for wiring/cargo door to be evaluated

The final report and pertinent safety recommendation letter will be distributed to recommendation recipients and interested parties as soon as possible.

Dear Officials,

Still time to make true your statements about evaluating every reasonable explanation for TWA 800 and interview me.

Cheers,
John Barry Smith
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Carmel Valley, CA 93924
www.corazon.com
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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Title: Aviation Accident Report: In-flight Breakup Over the
Atlantic Ocean Trans World Airlines (TWA) Flight 800 Boeing
747-141, N93119 near East Moriches, New York July 17, 1996

NTSB Report Number: AAR-00-03, adopted on 08/23/2000

Abstract

This is an abstract from the Safety Board's report and does not
include the Board's rationale for the conclusions, probable cause,
and safety recommendations. Safety Board staff is currently
making final revisions to the report from which the attached
conclusions, probable cause, and safety recommendations have
been extracted. The final report and pertinent safety
recommendation letter will be distributed to recommendation
recipients and interested parties as soon as possible. The attached
information is subject to further review and editing.

EXECUTIVE SUMMARY
On July 17, 1996, about 8:31 p.m. eastern daylight time, TWA
flight 800, a Boeing 747-131, N93119, broke up in flight and
crashed in the Atlantic Ocean near East Moriches, New York.
TWA flight 800 was operating under the provisions of 14 Code of Federal Regulations Part 121 as a scheduled international passenger flight from John F. Kennedy International Airport (JFK), New York, New York, to Charles DeGaulle International Airport, Paris, France. The flight departed JFK about 8:19 p.m., with 2 pilots, 2 flight engineers, 14 flight attendants, and 212 passengers on Board. All 230 people on board were killed and the airplane was destroyed. Visual meteorological conditions prevailed for the flight, which operated on an instrument flight rules plan.

CONCLUSIONS
1. The flight crew was properly certificated and qualified and had received the training and off-duty time prescribed by Federal regulations. No evidence indicated any preexisting medical or behavioral conditions that might have adversely affected the flight crew's performance during the accident flight.
2. The airplane was certificated, equipped, and dispatched in accordance with Federal regulations and approved TWA procedures.
3. At the time of the accident, there were light winds and scattered clouds in the area, but there were no significant meteorological conditions that might have disrupted the flight.
4. The in-flight breakup of TWA flight 800 was not initiated by a preexisting condition resulting in a structural failure and decompression.
5. The in-flight breakup of TWA flight 800 was not initiated by a bomb or a missile strike.
6. The fuel/air vapor in the ullage of the TWA flight 800 center wing tank was flammable at the time of the accident.
7. A fuel/air explosion in the center wing tank of TWA flight 800 would have been capable of generating sufficient internal pressure to break apart the tank.
8. The witness observations of a streak of light were not related
to a missile, and the streak of light reported by most of these witnesses was burning fuel from the accident airplane in crippled flight during some portion of the postexplosion preimpact breakup sequence. The witness observations of one or more fireballs were of the airplane's burning wreckage as it fell from the sky.

9. The TWA flight 800 in-flight breakup was initiated by a fuel/air explosion in the center wing tank.
10. Boeing's design practice of permitting parts less than 3 inches in any direction to be electrically unbonded may not provide adequate protection against potential ignition hazards as a result of static electricity generated by lightning and other high-energy discharges.
11. It is very unlikely that the flammable fuel/air vapor in the center wing tank on TWA flight 800 was ignited by a lightning or meteor strike; a missile fragment; a small explosive charge; auto ignition or hot surface ignition, resulting from elevated temperatures produced by sources external to the center wing tank; a fire migrating to the center wing tank from another fuel tank via the vent (stringer) system; an uncontained engine failure or a turbine burst in the air conditioning packs beneath the center wing tank; a malfunctioning center wing tank jettison/override pump; a malfunctioning center wing tank scavenge pump; or static electricity.
12. Electromagnetic interference from radio frequency sources external to TWA flight 800 did not produce enough energy to ignite the fuel/air vapor in the center wing tank.
13. Electromagnetic interference from personal electronic devices played no role in the ignition scenario for the TWA flight 800 center wing tank explosion.
14. It is unlikely that electromagnetic interference from aircraft system wiring played a role in the ignition scenario for the TWA flight 800 center wing tank explosion.
15. Existing standards for wire separation may not provide adequate protection against damage from short circuits.

16. A short circuit producing excess voltage that was transferred to the center wing tank fuel tank quantity indication system wiring is the most likely source of ignition energy for the TWA flight 800 center wing tank explosion.

17. Silver-sulfide deposits on fuel quantity indication system components inside fuel tanks pose a risk for ignition of flammable fuel/air vapor.

18. The ignition energy for the center wing tank explosion most likely entered the center wing tank through the fuel quantity indication system (FQIS) wiring and, although it is possible that the release of ignition energy inside the center wing tank was facilitated by the existence of silver-sulfide deposits on an FQIS component, neither the energy release mechanism nor the location of ignition inside the center wing tank could be determined from the available evidence.

19. Failure modes and effects analyses and fault tree analyses should not be relied upon as the sole means of demonstrating that an airplane's fuel tank system is not likely to experience a catastrophic failure.

20. A fuel tank design and certification philosophy that relies solely on the elimination of all ignition sources, while accepting the existence of fuel tank flammability, is fundamentally flawed because experience has demonstrated that all possible ignition sources cannot be predicted and reliably eliminated.

21. Operating transport-category airplanes with flammable fuel/air mixtures in fuel tanks presents an avoidable risk of an explosion.

22. The placement of heat-generating equipment under a fuel tank containing Jet A fuel can unnecessarily increase the amount of time that the airplane is operating with a flammable fuel/air mixture unless measures are in place to either (1) prevent the
heat from entering the center wing tank or (2) eliminate the flammable vapors inside the center wing tank.

23. The condition of the wiring system in the accident airplane was not atypical for an airplane of its age and it was maintained in accordance with prevailing accepted industry practices.

24. Until recently, insufficient attention has been paid to the condition of aircraft electrical wiring, resulting in potential safety hazards.

25. The issues defined in the Federal Aviation Administration's Aging Transport Non-Structural Systems Plan are important safety issues that need to be addressed through appropriate changes, including rulemaking.

PROBABLE CAUSE

The National Transportation Safety Board determines that the probable cause of the TWA flight 800 accident was an explosion of the center wing fuel tank (CWT) resulting from ignition of the flammable fuel/air mixture in the tank. The source of ignition energy for the explosion could not be determined with certainty but, of the sources evaluated by the investigation, the most likely was a short circuit outside of the center wing tank that allowed excessive voltage to enter it through electrical wiring associated with the fuel quantity indication system.

Contributing factors to the accident were: (1) the design and certification concept that fuel tank explosions could be prevented solely by precluding all ignition sources; and (2) the design and certification of the Boeing 747 with heat sources located beneath the center wing tank with no means to reduce the heat transferred into the center wing tank or to render the fuel vapors in the tank nonflammable.

NEW SAFETY RECOMMENDATIONS

As a result of the investigation of the TWA flight 800 accident, the National Transportation Safety Board makes the following recommendations to the Federal Aviation Administration (FAA):
1. Examine manufacturers' design practices with regard to bonding of components inside fuel tanks and require changes in those practices, as necessary, to eliminate potential ignition hazards.

2. Review the design specifications for aircraft wiring systems of all U.S.-certified aircraft and (1) identify which systems are critical to safety and (2) require revisions, as necessary, to ensure that adequate separation is provided for the wiring related to those critical systems.

3. Require the development and implementation of corrective actions to eliminate the ignition risk posed by silver-sulfide deposits on fuel quantity indication system components inside fuel tanks.

4. Regardless of the scope of the Aging Transport Systems Rulemaking Advisory Committee's eventual recommendations, address (through rulemaking or other means) all of the issues identified in the Aging Transport Non-Structural Systems Plan, including:

   - the need for improved training to maintenance personnel to ensure adequate recognition and repair of potentially unsafe wiring conditions;
   - the need for improved documentation and reporting of potentially unsafe electrical wiring conditions; and
   - the need to incorporate the use of new technology, such as arc-fault circuit breakers and automated wire test equipment.

To determine whether adequate progress is being made in these areas, the Safety Board believes that, within 90 days, the FAA should brief the Safety Board on the status of its efforts to address all of the issues identified in the Aging Transport Non-Structural Systems Plan.

**PREVIOUSLY ISSUED SAFETY RECOMMENDATIONS RESULTING FROM THIS ACCIDENT INVESTIGATION**
As a result of the TWA flight 800 accident investigation, the Safety Board issued the following safety recommendations to the Federal Aviation Administration on December 13, 1996:

**A-96-174 and -175** -- Require the development and implementation of design or operational changes that will preclude the operation of transport-category airplanes with explosive fuel/air mixtures in the fuel tanks:

(a) Significant consideration should be given to the development of airplane design modifications, such as nitrogen-inerting systems and the addition of insulation between heat-generating equipment and fuel tanks. Appropriate modifications should apply to newly certificated airplanes and, where feasible, to existing airplanes.
(b) Pending implementation of design modifications, require modifications in operational procedures to reduce the potential for explosive fuel/air mixtures in the fuel tanks of transport-category aircraft. In the 747, consideration should be given to refueling the center wing fuel tank (CWT) before flight whenever possible from cooler ground fuel tanks, proper monitoring and management of the CWT fuel temperature, and maintaining an appropriate minimum fuel quantity in the CWT.

**A-96-176** -- Require that the 747 Flight Handbooks of TWA and other operators of 747s and other aircraft in which fuel tank temperature cannot be determined by flight crews be immediately revised to reflect the increases in CWT fuel temperatures found by flight tests, including operational procedures to reduce the potential for exceeding CWT temperature limits.

**A-96-177** -- Require modification of the CWT of 747 airplanes and the fuel tanks of other airplanes that are located near heat sources to incorporate temperature probes and cockpit fuel tank temperature displays to permit determination of fuel tank
temperatures.
As a result of information learned during this investigation, the Safety Board also issued the following recommendation to the FAA on February 18, 1997:

**A-97-11** -- Develop and implement procedures, including a checklist of safety-related items, for the handling and placement of explosive training aids by K-9 explosives detection teams to prevent contamination of aircraft and airport facilities and to ensure an effective K-9 explosives detection program.

As a result of this accident investigation, the Safety Board also issued the following recommendations to the FAA on April 7, 1998:

**A-98-34** -- Issue, as soon as possible, an airworthiness directive (AD) to require a detailed inspection of fuel quantity indication system (FQIS) wiring in Boeing 747-100, -200, and -300 series airplane fuel tanks for damage, and the replacement or the repair of any wires found to be damaged. Wires on Honeywell Series 1-3 probes and compensators should be removed for examination.

**A-98-35** -- Issue an AD to require the earliest possible replacement of the Honeywell Corporation Series 1-3 terminal blocks used on Boeing 747 fuel probes with terminal blocks that do not have knurled surfaces or sharp edges that may damage FQIS wiring.

**A-98-36** -- Conduct a survey of FQIS probes and wires in Boeing 747s equipped with systems other than Honeywell Series 1-3 probes and compensators and in other model airplanes that are used in Title 14 *Code of Federal Regulations* Part 121 service to determine whether potential fuel tank ignition sources exist that are similar to those found in the 747. The survey should include removing wires from fuel probes and examining the wires for damage. Repair or replacement procedures for any damaged wires that are found should be developed.

**A-98-37** -- Require research into copper-sulfide deposits on
FQIS parts in fuel tanks to determine the levels of deposits that may be hazardous, how to inspect and clean the deposits, and when to replace the components
A-98-38 -- Require in Boeing 747 airplanes, and in other airplanes with FQIS wire installations that are corouted with wires that may be powered, the physical separation and electrical shielding of FQIS wires to the maximum extent possible.
A-98-39 -- Require, in all applicable transport airplane fuel tanks, surge protection systems to prevent electrical power surges from entering fuel tanks through FQIS wires.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Turn this stone over

The National Transportation Safety Board determined that the probable cause of this accident was an explosion of the center wing fuel tank (CWT) resulting from ignition of the flammable fuel/air mixture in the tank. The source of ignition energy for the explosion could not be determined with certainty, but, of the sources evaluated by the investigation, the most likely was a short circuit outside of the CWT that allowed excessive voltage to enter it through electrical wiring associated with the fuel quantity indication system (FQIS).

Dear NTSB and FAA Safety Officials,

The above is not all correct and until you interview me and review my data and analysis it will never be correct.
The source of ignition energy for the explosion could not be determined with certainty,

Yes, that part is right and because of it, this stone of wiring/cargo door must be turned over because it does give an ignition source, the on fire number three engine as it falls. It's on fire because of soot found on the blades inside the engine as revealed by the Powerplant Report in the Public Docket.

To claim you have turned over all the stones, you must turn over me and you have not done that.

Cheers,

John Barry Smith
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551 Country Club Drive,
Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C
Responding to Cash, board member John J. Goglia added, "Every single thought that every single person has on our teams gets explored. We don't overlook anything. I visited you in your lab, and never once did I leave with the impression you haven't turned over every stone."

Ha! You guys are so funny.

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US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Published September 13 - 19, 2000
WASHINGTON, D.C.—As the National Transportation Safety Board's recent public meeting to discuss its final report on the July 17, 1996, crash of TWA Flight 800 drew to a close, one could almost hear the thunk. Transforming itself into a gigantic rubber stamp, the bureaucracy validated the theory that a mechanical failure, not a missile, brought down the plane. The NTSB, along with every agency with clear jurisdiction over the crash, and a few others besides, had spoken with one voice. The $50 million investigation, if not the controversy, was over.

It was no surprise that the NTSB's technical staff had decided that the event that tore apart the Boeing 747 and sent 230 people to their deaths over the ocean eight miles south of Long Island was "an explosion of the center wing tank resulting from the ignition of a flammable fuel/air mixture. The source of ignition could not be determined with certainty."

Yet the NTSB had not succeeded in papering over the cracks in its investigation. During two days of discussion, at August 22 and 23 board meetings, the NTSB staff . . .

* failed to explain some mysterious dark brown spongy material, called "splatter" in an NTSB report, found in several places, including on top and inside the center wing tank;
* disregarded results of their own tests and paid scant attention to more than 30 years of government research into fuel flammability;
* failed to explain how the pressure from a fuel tank explosion could have broken through the much stronger fuselage skin and split the plane apart;
* accepted only eyewitness accounts that, they said, conformed to their theory of how the plane broke up, and simply dismissed the rest by
claiming that witnesses' memories must have played tricks on them;
* failed to share the results of analysis done on the brief, loud sound signature at the end of the cockpit voice recorder tape.

The splatter issue is one more anomaly in an investigation that has shrugged off many. On the 22nd, in answer to a board member's question, NTSB director of aviation safety Dr. Bernard Loeb admitted that some investigators had questioned what could be the source of the brown specks of spongy material. Tests determined that temperatures above 490°F had melted plastic foam insulation from around an air-conditioning duct that runs fore and aft outside the tank, over the top of the left side of the tank roof just below the passenger cabin floor. After extensive analysis, Loeb said, "We determined it was fully consistent with the scenario we have given you [i.e., with the breakup of the center wing tank]."

But the "Splatter Deposits Study," a never released report obtained by the Voice, appears to challenge Loeb's statement. The report says the melted foam was splattered over an eight-foot-long section of the tank roof and inside the shattered air-conditioning duct. The splatter was thrown forward with enough force to break through the roof of the tank, landing on two fragments of the front spar (between the wings and under the seats) that were ejected very early in the breakup sequence. Splatter was also found on the fuselage and floor structure just in front of the front spar, and on passenger seats above. The investigators "explored possible airplane sources of higher than normal heat incoming to the area of the splatter," and found none.

In introducing its own endeavors, the NTSB in Washington ignored existing research into Jet A aviation kerosene. "Basic information was not available when we began," said Dr. Joseph Kolly, an NTSB engineer.

Kolly's statement was baffling, because in fact there is a wealth of data on the flammability characteristics of aviation fuels, including Jet A,
available in studies published by the navy, the air force, and a body called the Coordinating Research Council. Many of these studies are even referenced by the NTSB in its reports. For some reason, though, the NTSB felt compelled in Washington to present its own prolific work on Jet A as groundbreaking.

Some of the claims Kolly made for that work do not stand up under scrutiny. For example, when he displayed a slide illustration showing temperatures recorded at many locations inside the center tank of a 747 used for a so-called TWA 800 Emulation Flight test, it was noticeable that none of the temperatures recorded at the altitude at which the plane exploded were below 110°F. But temperatures that appear in the published version of that illustration are as low as 101°F. Kolly said "the average high temperature" inside the tank at the altitude of the explosion was 120°F. But the average inside the tank, going again by the NTSB's published figures, was actually 111.5°F.

These temperatures are significant because they are central to the NTSB case that the center tank exploded and caused the accident. Lacking any evidence of an ignition source, the Safety Board did the flight test and other tests to show that the atmosphere inside the tank, with possibly 50 gallons of fuel, was flammable.

But even if a flame is produced, that does not necessarily mean an explosion will follow. "The mere existence of a normal flame does not by itself imply the beginning of an explosion," notes a NASA addendum to the NTSB's Systems Report.

A spark is just one link in a chain. For an explosion to happen, a spark has to ignite all the fuel-air mixture in a very rapid burning reaction. But this cannot be counted on, especially in a large container like TWA 800's center tank, where there was so little fuel to begin with, and where temperatures varied widely. In such a situation, with some temperatures hovering down near 100°F, a small spark may simply have puffed and gone out, according to Kurt H. Strauss, a nationally recognized aviation fuel expert. Whether an explosion happened "would depend on total energy released when that ignition goes off," said Strauss.

Given that the tank exploded, the NTSB's rationale connecting the blast
to the fuselage damage rests on surprisingly shaky ground. According to Jon Hjelm, a Federal Aviation Administration engineer and member of the Sequencing Group, who contributed pages of stress calculations as a kind of reality check on the deliberations of the group, an enormous force, equivalent to more than the thrust produced by one of the 747's jet engines, acted on the bottom of the tank to produce the cracking that sundered the fuselage in front of the tank. Hjelm said he came up with his figure for this force using assumptions he made about the distribution of the pressure from the explosion.

Hjelm said that in order for his calculations to confirm the breakup sequence, he made another assumption. The force had to remain, pushing down inside the tank, after the explosion had ruptured the front of the tank. For how long? "Maybe some number of seconds. Way more than one second," Hjelm said. What if the the pressure all dissipated in under one second? Hjelm said, "That's a question I feel uneasy to deal with." Yet according to the results of the NTSB's own explosive testing and scientists questioned by the Voice, not to mention the account of the breakup sequence given by Sequencing Group chairman Jim Wildey at the NTSB's Baltimore hearings in 1997, the initial explosion was certainly over within one second.

Wildey said in Baltimore that the Sequencing Group had relied upon Hjelm's calculations, which constitute apparently the only available engineering analysis of the breakup sequence. Boeing (according to its submission to the NTSB) did not complete a project to create a computer model of the breakup.

Dr. David Mayer, who holds a doctorate in applied experimental psychology, drew on studies by psychologists to suggest that influences acting on eyewitnesses in the aftermath of the crash—the chatter of friends, TV reports, even the leading questions of the FBI agents who interviewed them—might have led them to embellish their memories of the crash.

And when they reported seeing the initial explosion, which the NTSB
says was contained "inside an intact airplane," and thus could not have been visible to witnesses miles away, that was understood by investigators not as a reason to reexamine their theory, but to assume the witnesses must have been mistaken. Thus the accounts even of seasoned airline pilots who reported to air traffic control (ATC) in the first moments that they saw the plane explode were essentially discounted. In this regard, there is an unexplained apparent discrepancy between the account of the pilot who first reported an explosion and the official ATC transcript. According to the transcript, Captain David McClaine of Eastwind Airlines reported the explosion at 8:31 and 50 seconds, which is 38 seconds after the NTSB says the plane exploded, at 8:31 and 12 seconds. But McClaine states in a written account he gave the Witness Group that after the explosion he "immediately called Boston ATC and reported an inflight explosion out over the water."

When he was questioned by the group, he said in answer to a question from Mayer that roughly 10 seconds passed after the explosion before he made his first radio call to ATC. Ten seconds seems a reasonable pause between seeing something so dramatic and doing something about it. Thirty-eight seconds appears rather long to wait before making the call to air traffic control. But the apparent time lag could be used to support the notion, suggested by both the NTSB and the CIA, that McClaine, for example, saw only a later stage of the airplane's breakup, not the initial explosion.

As for those witnesses who saw a rising streak of light, Mayer said they probably saw the burning plane climb after the explosion. When the chairman asked him, if the plane did not climb, would that affect his analysis? Mayer said no, it wouldn't. "But we believe it climbed," he said. However, McClaine had been closely questioned about this very issue by the Witness Group, and repeatedly said the plane did not climb; he saw only falling debris after the explosion.

Investigators said, when they first examined the two "black boxes" a week after the crash, that neither device provided clues to explain what
what happened. But there is indeed a marked sound signature, lasting less than two-tenths of a second, on the cockpit voice recorder (CVR) tape. That signature has never been explained, leading the Air Line Pilots Association in its submission to the NTSB to bemoan the lack of follow-up after a series of tests done in Bruntingthorpe, England, in 1997. The submission notes that research done at the University of Southampton shows that analysis of a sound signature can yield information about the type of explosion (whether a high explosive detonation or a lower-energy fuel-air explosion) and its location within the fuselage.

Jerry Rekart, a clearly unhappy ALPA chief investigator and a TWA pilot, told the Voice he is still frustrated at the NTSB's failure to publish any details of its sound spectrum analysis, as it is called. A Sound Spectrum Group met once, before Bruntingthorpe, but never since, he said, despite repeated requests from ALPA. The data recorded at Bruntingthorpe was sent to Southampton, the ALPA submission says, but "the Sound Spectrum group has never been briefed regarding the analysis of the data completed by the University of Southampton, nor has the group met to finalize any type of report of its activities in relation to the investigation of TWA 800."

But at last month's board meeting James Cash, the NTSB engineer responsible for that analysis, strove to give the impression that no questions remain about the CVR sound. "We did all we could to glean whatever we could get out of the cockpit voice recorder," he said.

Responding to Cash, board member John J. Goglia added, "Every single thought that every single person has on our teams gets explored. We don't overlook anything. I visited you in your lab, and never once did I leave with the impression you haven't turned over every stone."

Not everyone shares Goglia's rosy view of the NTSB's investigation to determine the cause of the crash. Michel Breistroff, whose son was killed on Flight 800, might have been speaking for them all when he said, "What I need is that someone from the team will tell me, 'That's the wire [which caused the explosion].'

"We the families are not technical," he told the Voice. "We need true
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Wiring/cargo door AD for 747s

Dear Gentlemen Jim Hall, Bernard Loeb, Ron Schleede (Ret), Al Dickinson, Jim Wildey, Bob Swaim, and Misters McSweeny Mr. Ron Wojnar Mr. Dimitroff, Mr. Schalekamp, Mr. Breneman, Mr. Lyle Streeter
Someone will have to admit to being not exactly correct in former statements about the forward cargo door on TWA 800. Pride comes before a fall and every investigation has a 'fall guy.'" (My vote is for Jim Wildey; just joking, Jim, we met and shook hands at the Baltimore hearing. I enjoyed and respect your opinions except for initial event of spontaneous center tank explosion.)

I ask Mr. Wildey to say that yes, based upon wreckage reconstruction showing shattered door and the fact that not all twenty of twenty door latches have been recovered, that forward cargo door could have ruptured in flight, . Twenty latches for two doors means each door has ten latches and they have not bee recovered. That's all I ask of Mr. Wildey, to say that yes, the door could have ruptured in flight. Then leave the cause why it opened for others to discern. Yes, some damage occurred when the
fuselage hit the water leaving inward pillowing. Yes, eight latches have been recovered in a cargo door sill and they were latched. But, to rule out a possibility, there needs to be substantial evidence that the possibility could not have occurred, and with forward cargo door there is not substantial evidence that it did not rupture in flight because most of the hardware in the door is still missing. On the other hand, there is substantial evidence that the door did rupture in flight based on photographs of actual ruptures in the TWA 800 door and the historical precedent of UAL 811.

I was not exactly correct for the cause of the ruptured cargo door and may still not be. I figured either pneumatic, hydraulic, electrical, crew, bomb, missile, center tank explosion, meteor, EMG, or other, to cause those midspan latches to rupture. Only electrical made sense because of UAL 811 but it was only after Baltimore and the great show that NTSB put on about aging aircraft and the faults of Poly X wiring did I now believe it was Poly X wiring causing the forward cargo door to rupture in flight for TWA 800.

But I could be wrong. It could have been the center tank explosion that blew open that nearby door. I'm not adamant about the cause of the ruptured cargo door in flight, only that it did happen and was not all latched and all intact at water impact.

And therein lies the open mind perception: A center tank explosion could have ruptured that door to rupture, as the photos show. If the door ruptured in flight, then all plausible causes must be examined, and they have not been examined. Why reject an alleged event such at ruptured cargo door if the official version of spontaneous center tank explosion could have caused it?
Mr. Wildey, please state that based upon a new interpretation of existing facts, that a new sequence could be possible. The new sequence states that the center tank explosion was not the initial event and was a symptom, not a cause of the accident. The ruptured cargo door was a symptom, not a cause. The cause is Poly X wiring, a cause NTSB and FAA and Boeing and I all agree with.

Please indicate, Mr. Wildey, that after looking at the photographs and checking the number of latches that were recovered, that that door could have ruptured in flight. If you allow that, Mr. Wildey, that will allow the aircraft accident investigators to go back in to TWA 800 and consider an explosive decompression event when a huge hole appeared in fuselage, just forward of the wing.

Mr. Schalekamp can still say, yes, at first look, it did appear that the door showed an outward explosive force.

Can somebody ask Mr. Ron Schleede to come out of retirement and compare UAL 811 and TWA 800? Can Mr. Schleede have the opportunity to reconsider his statement that a cargo door was locked and latched after only looking at one of two door sills and knowing that most of both doors are still missing including suspect latches at midspan? That conclusion of locked and latched was made just as the pieces of wreckage were being brought in and long before the reconstruction was complete showing the shattered door and missing pieces. He should be permitted an opportunity to reassess his opinion of all locked and latched based on current evidence.

>From: Schleede Ron <SCHLEDR@ntsb.gov>
>To: barry <barry@corazon.com>
>Subject: RE: TWA crash cause
Date: Sun, 11 Aug 1996 11:39:00 -0400

I have examined the cargo door from TWA 800--it is locked and latched!

From: barry
To: SCHLEDR
Subject: TWA crash cause
Date: Tuesday, 30 July, 1996 01:48

http://www.corazon.com/TWA800PA103UA811.html is my website for cargo door
crash theory.

To: SCHLEDR@ntsb.gov
From: barry@corazon.com
Subject: Which cargo door and cam positions
Cc:
Bcc:
X-Attachments:

Mr. Schleede, thank you for your prompt response.

I have examined the cargo door from TWA 800--it is locked and latched!

There are three cargo doors on TWA 800, which one are you talking about.
The front cargo door is reported to be in pieces, your sentence above implies one piece which would means other than front cargo door checked.
The lock sectors are locked, but the cams are unlocked. You do not mention cams.

What are the positions of the cam locks of the forward cargo door?
John Barry Smith

From: Schleede Ron <SCHLEDR@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: TWA crash cause ATTN Robert Francis
Date: Mon, 29 Jul 1996 15:24:00 -0400
Encoding: 17 TEXT
Status:

Be assured that we are checking that. I was the investigator in charge of the UAL flight 811 case and fully knowledgeable in its causes and factors.
Thanks for the interest.

From: Dickinson Al <DICKINA@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: mechanical crash cause
Date: Thu, 19 Sep 1996 19:04:00 -0400
Encoding: 129 TEXT
Status:

Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been noted by the crew and recorded on the CVR. We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter.
Thank you for your interest in aviation safety.
Mr. Dickinson, a depressurization event such as proposed for TWA 800 and experienced by UAL 811 was noticed by the crew and recorded on the CVR. That sudden loud sound on the CVR on TWA 800 and UAL 811 is the sudden outflow of air molecules trying to equalize the low pressure on the outside of the fuselage. Many of the door/hatch/access/panel/windows were recovered but many crucial ones are still missing and probably would indicate they came from the aircraft prior to the initial event. if recovered The 'red zone' is full of pieces of TWA 800 forward of the wing and from the forward cargo bay. The trajectory study indicates that the first objects to leave the aircraft came from forward of the wing. Mr. Dickinson, would you indicate that the forward cargo door of TWA 800 could have ruptured in flight? If you do that, the wiring/cargo door explanation may get the attention it deserves.

Somebody, please, own up to the obvious: That forward cargo door area of TWA 800 is shattered, it's wrecked, it shows inward pillowing on the skin and shows outward petal shaped bulge rupture at midspan latches, it has paint smears, it has missing midspan latches as well as missing manual locking handle, viewing ports, overpressure relief doors and most of the skin. That door should be a focus of attention and receive the same type of examination as that received by the door of UAL 811 such as an extensive metallurgical testing and examination and report. And it's not there for TWA 800. It is for UAL 811 and NTSB AAR 90/01 and NTSB AAR 92/02. Bomb and missile and EMG are wacky, little supporting evidence, not plausible, but possible and were thus thoroughly investigated by NTSB. Wiring/cargo door is sane, common sense, has happened before, plausible, and has much evidence to support it and yet has not
been thoroughly investigated but fobbed off with a few sentences which are not supported by facts. Why is that?

The door is a problem on TWA 800, it was a problem on UAL 811, it can be a problem in the future. The wiring around the cargo door area needs to be inspected for cracks in the insulation to bare wire. It's been done already for TWA 800 and yes, cracked insulation in the wire was found in the cargo door area. Inspection has not been done for other 747s. The FAA could issue an AD to inspect the wiring around the cargo door area for early model 747s, inspecting the areas of wiring which have been shown to be chafed to bare in the past for UAL 811 and TWA 800:

Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:
- Abrasion of the insulation in bundles installed in high vibration areas.
  (This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)
- Random flaking of the topcoat.
- Insulation radial cracks in tight bend radii.
Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor."

The Systems Exhibit 9A for TWA 800 continues on same page
"Evidence of arcing or short circuiting was found in the fuselage of N93119, (TWA 800) in addition to what was found in the wiring from the raceway below the left cabin floor and near the forward wing spar.

The Systems Exhibit 9A for TWA 800 continues, page 116: "Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

(Please note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811.

Will a junior or senior safety official contact me? Can a senior safety official order an investigation into allegations supported by NTSB photos and public docket exhibits that the forward cargo door of TWA 800 ruptured in flight? Can a senior safety official order wiring inspections in and around forward cargo doors of early model Boeing 747s?

Can something be done? Somehow, can that forward cargo door and wiring be full investigated? Can someone call me to get it started? Sometime is better than no time. There is still time right now before the final report goes to press.

Cheers,

John Barry Smith
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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Wiring/cargo door explanation for TWA 800

Above is from AAR 92/02 page 36, and is forward cargo door of UAL 811, a 747 whose nose stayed on, showing the rupture at the aft midspan latch. This door is less shattered than TWA 800 because all of the latches on 811 unlatched, including the bottom eight, allowing entire door to open. These bottom eight latches later had the AD to strengthen their locking sectors with steel. The middle ruptures, aft and forward midspan, for TWA 800 were more intense since the bottom eight latches stayed latched, as the NTSB says they were, allowing all the air pressure to attempt to equalize through the two midspan latches. There were no locking sectors to strengthen the midspan latches so whatever the AD was meant to do, it did not apply to the midspan latches.

Dear NTSB, it's not too late. Check out the wiring/cargo door explanation as it should be checked out. The rupture photographs alone for TWA 800 are enough to justify a complete effort worthy of the one for bomb, missile, or center tank. The model AAR is the UAL 811 report, AAR 92/02, available at corazon.com.

Yes, NTSB got it partially wrong with AAR 90/01 the first time with the probable cause being improper latching, but, NTSB being a fine safety organization who puts truth and accuracy ahead of pride, admitted the partial error and consequently wrote another AAR, 92/02, giving wiring/switch as the probable cause
of the inadvertent opening of the forward cargo door in flight.

Try the wiring/cargo door hypothesis and ask questions based upon that premise. I can answer them. The wiring/cargo door explanation clears up mysteries for TWA 800, some asked and some not.

Why the red paint smears on white paint mainly above the forward cargo door?
What is ignition source for the center tank explosion?
Why were bodies not burned around center tank?
Why were some pieces of metal around the center tank not sooted?
Why was engine number three sooty inside and have missing blades?
How did the piece of engine blade get into the right horizontal stabilizer?
Why were the first pieces to leave TWA 800 just forward of the wing?
Why does sudden loud sound on CVR match that of UAL 811 sudden loud sound?
Why does abrupt power cut to FDR match that of UAL 811 abrupt power cut?
What caused streak?
Why was bomb suspected for so long?
Why did nose come off?
Why was bare wire found in cargo door area?

All above answered by wiring/cargo door explanation.

Above shows TWA 800 rupture at forward midspan latch of
forward cargo door, outward petal shaped bulge, paint smears as
door below slams upward, missing latches, shattered condition of
door and missing manual locking handle and torque tubes,
bellcranks, and viewing ports and overpressure relief doors, all
missing from reconstruction, database, or discussion in exhibits.

Ah, but the facts are there for wiring/cargo door, but so what?
What are the emotional, political, economic impacts of wiring/
cargo door, the big picture, if you will.

I do not want to enter the black hole of conspiracy. I will not
believe that Gentlemen Jim Hall, Bernard Loeb, Ron Schleede,
Al Dickinson, Jim Wildey, Bob Swaim, and Mistresses McSweeny
Mr. Ron Wojnar Mr. Dimtroff, Mr. Schalekamp, Mr. Breneman,
Mr. Lyle Streeter believe in wiring/ cargo door explanation but
are keeping it a secret or trying to project an explanation, such as
center tank explosion, they know is wrong. I do believe that
safety officials are trying to let a sleeping dog lie where it is, and
that is wiring/cargo door explanation.

I do not believe that safety officials believe that a Poly X wiring
insulated wire shorted on a door unlatch motor for TWA 800
which turned ten latches to the open position, and thankfully, the
bottom eight had locking sectors of steel from an AD but
unthankfully, the two midspan latches of the forward cargo door
did not have locking sectors and ruptured in flight suddenly
allowing the entire starboard side of fuselage forward of the wing
to shatter, and nose comes off, and engines catch fire and blow
up disintegrating fuel tanks, and pieces of metal fly off to reflect
as a streak in the orange sunset sky and sudden loud sound on
CVR...and on and on. And believe it but are trying not to allow
the information to be analyzed properly. There is no cover up of
previous errors of judgment.
I think everyone in official world thinks it was spontaneous center tank explosion from unknown mysterious ignition source and that no way, absolutely no way, did that forward cargo door open in flight. The photo of shattered skin shows what happened after that all latched and all intact door hit the ocean. It's coincidence that the CVR and FDR match a previous cargo door event. The outward opening petal shaped rupture at the forward midspan latch of the forward cargo door of TWA 800 was caused by water entering the intact door area when it hit and the water gushed out at the midspan latches causing the outward ruptures.

Well, when I look at it that way, it is not a stretch to ignore, reject the wiring/cargo door explanation when based on false logic, hasty opinion, and denial of in your face evidence.

Wiring/cargo door explanation does require a ruptured forward cargo door in flight And the actual photo of the actual door area of the actual Boeing 747 called TWA 800 shows a ruptured cargo door.

So, how can the facts be so clear and yet so rejected?

Wishful thinking? Not conspiracy, please please please.

Is that wishful thinking that the answer to the mystery of cause of TWA 800 crash belongs to NTSB and not FBI, and certainly not citizen working on his own? Well, that would be pride. And pride comes before a fall, or so they say.

To protect Boeing as the manufacturer will extinct Boeing the way it's going. No airline is going to buy an airplane from a company and then charged with murder if the plane crashes, or
bankrupted when sued, or reputation destroyed. The basic design flaw is outward opening nonplug doors, any kind of door. All this latch and lock sector stuff is an attempt to correct that design flaw. As long as latches and cams and bellcranks and locking sectors are used to close a nonplug door, sooner or later, the nonplug door pops open, somehow, someway.

Boeing should know that planes crash and the way around that is to find out what's wrong and fix it. (Note Boeing does not agree with the center tank as initial event explanation. I am not alone.)

Protect the reputation of NTSB? This wiring/cargo door explanation for TWA 800 would enhance NTSB's reputation. They did UAL 811 which allowed civilian citizens, the Campbells, to put it all together. To now check out the wiring/cargo door explanation would mean that NTSB checked every possible explanation and at the last minute, went back and rechecked the initial explanation for TWA 800, forward cargo door opening in flight. And Bingo, it all made sense with the new added information such as engine breakdown report, wreckage database, and CVR, FDR data readouts.

Elections coming up? Does that affect TWA 800? Well, if there is a change of administrations, then when I go back with this same data to new appointees, the response may be different and wiring/cargo door does get looked into.

Emotional impacts? Deep well earned satisfaction of following a problem right to the end. And as far as the Poly X wiring culprit, NTSB has already investigated in depth the innocent evils of that particular insulation. The wiring company did not intentionally make wiring that easily chafed, become worn after vibration and wore down to bare metal and exposure to water.
Well, actually, kind officials, I'm out of my area when it comes to emotional impacts and money, sort of like sporting events, elections, and the stock market, do opposite what I say.

But I do know airplanes and in particular, cargo doors on Boeing 747s. The below officials' responses about that door are inadequate to rule it out as a cause for TWA 800. The responses are low on facts and high on opinion. The few facts given are wrong and if the opinions are based on those errors, then the opinion is wrong too. Saying the door was all latched and all intact at water impact does not make it so, especially when contradicted by actual photographs of the actual wreckage of the actual airplane.

References to forward cargo door sill from FAA:
29 Oct 97 letter from Mr. Wojnar/Pederson/Breneman to JBS:
"In addition, the door latches at the bottom of the door were still attached to the fuselage lower sill structure. This indicates the door was in the 'latched and locked' position at the time of impact with the water." "However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the right side. This is additional verification that the forward cargo door had not opened in flight or separated from the airplane."

"However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the right side."

False, wreckage of most of the door is missing and damage is
inward and outward on the right side.

18 Nov 96 letter from Mr. McSweeny/Kirkpatrick, FAA, to Congressman Farr:
"The Federal Aviation Administration (FAA) has no evidence that door failures played a role in the TWA flight 800 accident."
False and the above photo is evidence enough.

30 Jan 1998 letter from Neil Schalekamp, FAA, to JBS:
"While no scenario has been categorically proven to be the cause, it is believed, based upon available data, that the center wing tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."
Outward explosion yes but recanted later for unknown reasons.

"You may not agree with the reasoning of the official accident investigators, but I want you to understand the evidence to date indicates that the CWT explosion preceded any fuselage breakup, including damage to the forward cargo door."
Opinion.

19 Feb 1998 letter from Mr. Neil Schalekamp to JBS:
"The theory of an explosive decompression, due to a sudden opening of the forward cargo door was one theory that was examined. However, it has been determined that this did not occur. Based upon the existing evidence, the National Transportation Safety Board, (NTSB), the agency in charge of the accident investigation, believes that the probable cause of the accident was a center wing fuel tank (CWT) explosion, due to an internal fuel tank ignition source. The FAA agrees with the NTSB on this matter.

What? agrees with internal fuel tank ignition source whose identity has eluded the best minds in the business for four years?

You apparently believe that the forward cargo door precipitated the accident scenario by initially separating from the airplane. The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the plane impacted the ocean."

Absolutely incorrect, the door was not attached and not latched at all latches and the photo above is evidence enough.

References about forward cargo door from NTSB:
24 Oct 1997 letter from Chairman Hall, NTSB to Congressman Farr:
"Please be assured that our team has examined all of the structure recovered from TWA flight 800, approximately 95%--including all of the cargo door mechanisms and structures. Early on in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors."

Absolutely incorrect, 95% was not recovered, not even 60% of both doors was recovered. Missing items of aft door: midspan latches, manual locking handle, torque tubes, viewing ports, two overpressure relieve doors, approximately twenty percent of door skin.

20 November 1997 Letter from Peter Goelz of Sandy Hentges of Congressman's Farr's office:
"As Congressman Farr was advised by letter dated October 24, 1997, early in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors."

Early on, before wreckage database and CVR and FDR analysis, a hasty decision was made based upon the examination of one door sill, that the forward cargo door was latched and locked and all intact at water impact. That early decision is absolutely incorrect.
19 December 1997 letter from Chairman Hall, NTSB to JBS:
"However, to repeat, the investigation of the accident involving TWA flight 800 has revealed no evidence to suggest that a failure of a cargo door precipitated the event."

Opinion.

12 January 1998 letter from Jim Wildey, NTSB, to JBS:
"The Safety Board has received your letter to the Chairman, dated December 30, 1997, concerning the possibility that the TWA 800 accident was related to an in-flight opening of a cargo door. As conveyed to you in previous letters we have sent you, the Safety Board believes that sufficient facts have been gathered to rule out this possibility."

Opinion.

10 March 1998 letter from John B. Drake, NTSB, to JBS:
"As we have stated in numerous previous responses, the investigation team has gathered sufficient facts to rule out this possibility."

Opinion.

4 Mar 98 letter to me from Senator John McCain stating, "I have received your letter regarding the forward cargo door of TWA Flight 800, and your interest in meeting with someone at the National Transportation Safety Board (NTSB) relating your
concerns.

I have contacted the NTSB on your behalf, about your concerns. I have asked for a prompt response to be sent directly to you."

17 March 1998 letter from Chairman Hall, NTSB, to JBS:
"As stated in our most recent letter dated March 10, 1998, the TWA flight 800 investigative team has gathered sufficient facts to rule out this possibility of an in-flight opening of a cargo door. We do not believe a meeting is necessary to further discuss this issue."

Prompt denial, yes.

Responses to JBS regarding further communications:
10 March 1998 letter of John B. Drake of NTSB to JBS:  "We consider our correspondence on this subject to be complete. Should you continue to reiterate your position on this issue in future correspondence, you should expect no further response from the Safety Board."

And there you have it, gentlemen of the public safety Board, keyword Safety. "Expect no further response" from the Safety Board. What were the responses in the first place? Door was all latched and all intact at water impact? That's your story and you're sticking to it? No additional evidence or analysis which comes along to contradict the center tank explanation and supports wiring/cargo door explanation will be considered? Closed minds? I think so.
There you have it, no meeting with NTSB with me, no further responses from NTSB to me, and no questions to anybody. I should be flattered. But I don't take it personally, it's not me that NTSB is afraid of, terrified of, that they will not face me, it's the idea. It's the idea of something that was not supposed to happen again, happened again. My idea of wiring/cargo door is the bogeyman NTSB is running from, not me. I am trivial as a messenger; the idea is the killer. Explosive decompression that mimics a bomb when it goes off and yet isn't a bomb, is the idea. ADs that don't fix the problem they are supposed to fix is the idea. Conclusions that are made in haste based on insufficient and not corrected later is the idea that is attempting to see light but is rejected.

And so, wiring/cargo door explanation just sits there in your minds as a possible explanation for TWA 800. And you know it. You all know it because you all can look at pictures as above and realize, that door may have exploded open in flight. It makes a lie of the entire mission of NTSB, to independently and exhaustively consider all plausible explanations for an aircraft accident. That has not been done for wiring/cargo door for TWA 800 and you know it. You know how to do it right by looking at AAR 92/02 and reading about cams and torque tubes and manual locking handles, all of which are missing for both doors, not just the forward. You have made errors of judgment before on that pesky door with AAR 90/01 but did the noble thing and corrected the error with a new AAR. At that time, there was no one saying it was not improper latching except for a couple whose son had died, the Campbells. And sure enough, they were right, just as I am right, wiring shorted on the forward unlatch motor and ruptures occurred at both midspan latches, as seen in photographs of wreckage reconstruction.
Well, these mechanically caused accidents have a way of reoccurring, it's inevitable because machines are consistent, they do the same things under the same conditions. The conditions are high time early model Boeing 747s using Poly X wiring and sooner or later, bare wire is exposed and shorted against metal fuselage, probably in the presence of condensation water, and things happen that aren't supposed to happen, such as a motor turning on. And the destruction sequence starts again.

My conscience is clear. I have done all that can be expected of a citizen with a lifetime of experience in aviation and has been in a sudden night fiery fatal jet plane crash presenting over a decade of research and analysis using official reports to offer the wiring/cargo door explanation for sudden fiery night fatal jet plane crashes to transportation safety board and federal aviation safety officials for investigation and action.

I really feel as if the death warrants for hundreds of passengers will be signed as soon as I give up trying to persuade officials to check out the wiring/cargo door explanation. So I can't give up. I will continue to mail photos, text, analysis, and evidence interpretation to NTSB and FAA. Sooner or later, I believe, I will come across an official who understands drag, lift, and thrust, explosive decompression, and electricity and has some sort of innate sense of responsibility to the ignorant public at large to check out all plausible possibilities, not just prosecute the favored one. That person is the one with the open mind and I will be able to immediately identify that person and will give him/her all the answers then need to the questions they ask.

So far, I have not met that safety official, but I will not give up, after all, it is a life and death matter, I should know, I have been
there, I have been to the life and death location, I was the life and my pilot was the death. I have come back and am telling you that wiring/cargo door problem is destroying high time Boeing 747s and it's not a bomb, or a missile, or a spontaneous center tank explosion caused by mystery ignition source; it's wiring shorting on door unlatch motor which causes ruptures at midspan latches leading to catastrophic explosive decompression. And if you want to see what that looks like, just look at the photo above. The explosion shatters the local door area into many pieces, most of which never get recovered.

Well, these letters should make good reading for future safety officials to know what not to do: Ignore a motivated citizen with access to the internet for research, time to do it, money to pay for travel and copies of documents, tons of experience in evaluation of plane crashes, and with an explanation that is plausible, makes sense, not loaded with conspiracy nonsense, and supported by text, evidence, and photographs.

No further response? Is that the attitude of a questioning safety body with an open investigation on their hands with a favored probable cause that has a huge problem? No further response? When the previous responses were limited and based on hasty conclusions? Apparently so, and that is sad. It doesn't have to be that way. Every stone can be turned over and the underside examined. It's not too late although I have to say, it's getting closer to too late every day. I imagine the trial of TWA 800 will be the next forum to expound the wiring/cargo door explanation, there must be someone on trial for their freedom and money that will hear me out about the wiring/cargo door explanation, especially if they are blamed for starting a fire they didn't set.

Cheers,
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Still still trying TWA 800 wiring/cargo door

Dear Chairman Hall, Dr. Loeb, Mr. Schleede, Mr. Dickinson, Mr. Wildey, Mr. Swaim, 24 August 2000

Copy for FAA: Dear Mr. McSweeny Mr. Wojnar Mr. Dimtroff, Mr. Schalekamp, Mr. Breneman Mr. Streeter
To properly rule out a suspect, (forward cargo door opening in flight), that suspect must have an airtight alibi and the story checks out, especially if the suspect is the prime suspect. Well, for the forward cargo door, prime suspect, former killer, the story does not check out; the alibi is full of holes, literally, and the evidence in hand points right to it.

Look at the photo of the door and its adjacent area particularly to the left of "RF25":

Prima Facie evidence shows the door to be shattered. Water impact would push it inward, as is shown on some shattered pieces. That was water impact. However, there are outward ruptures at the midspan latches Photo above shows forward midspan latch area ruptured outward. Aft midspan latch shattered area and outward bulge petal shape rupture shown below in NTSB photo

For all 747s there are twenty latches, two sills, and sixteen locking sectors on two identical main cargo doors. For TWA 800 not all have been recovered to be examined and deemed normal and therefore able to rule out open cargo door in flight.

For the forward door of TWA 800, according to NTSB written documents of Exhibit 15C and wreckage database, original and updated, only eight of the ten latches, one sill, and eight locking sectors have been recovered and examined. That's not enough for a thorough examination of a former prime suspect.
UAL 811 shows a proper examination of a forward cargo door mechanical aspects:

Note excerpt for UAL 811, a confirmed open cargo door event.

The forward mid-span latch pin was relatively undamaged. The aft mid-span latch pin had definite areas of damage. Both pins had wear areas where the cams would contact the pins during latching.

For UAL 811, a proper examination of the mechanical aspects of the suspected forward cargo door:

NTSB/AAR-92/02
(SUPERSEDES NTSB/AAR-90/01)

1.16.1 Cargo Door Hardware Examinations
1.16.1.1 Before Recovery of the Door
The following forward cargo door closing and latching components were returned to the Safety Board's Materials Laboratory for analysis after they were documented in place on the airplane:
Two pull-in hook pins, one from the lower end of the forward side of the door body cutout forward frame, and one from the lower end of the aft side of the body cutout aft frame, with housings;
Two mid-span pins, one from the forward side of the door body cutout forward frame, and one from the aft side of the door body cutout aft frame.
All components were initially examined while installed on the
airplane. All eight forward cargo door latch pins, with housings, were removed for further laboratory examination. Also, for comparison, one of the latch pins, with housing, from the aft cargo door was also removed. For orientation purposes, the eight lower latch pin assemblies are referred to by number, with the No. 1 latch pin being the most forward on the lower door sill, and the No. 8 pin being the most aft. When referencing a circumferential location on the latch pins or mid-span pins, a clock position was used. The clock code was oriented looking forward with 12 o'clock being straight up and 9 o'clock being directly inboard.

Based on the orientation of the latching mechanisms, the fully unlatched latching cams would first contact the latch pins from about the 1:15 o'clock position to the 7:15 position as the door was closed. As the cams are being latched around the pins, they would rotate approximately 80°, making contact with the pins from about the 4:15 position to the 10:15 position (See figure 7).

Detailed examination of the exposed surface of the pins (the portion of the pins extending from the housings) revealed various types of wear and damage. In general, all of the forward door cargo latch pins had smooth wear over the entire portion of the pin area contacted by the cams during normal closing and opening of the door. The pins also had distinct roughened (smeared) areas between the 6:15 and the 7:30 positions (See figure 8). The roughened areas had evidence of "heat tinting" and transfer of cam material to the surface of the pins. On pins 1 and 8 the roughened areas extended past the pin bottom to the 5:00 position. The 7:30 position approximately corresponds to the area on the pin where the lower surface of the cam would be relative to the pin when the latch cams are in the unlatched or nearly unlatched position.

The forward pull-in hook pin was not significantly bent, but the structure to which it was attached was deformed outward, so the
hook pin was deflected significantly outward. Three of the four bolts holding the aft pull-in hook pin had sheared, so the hook pin was also deflected outward. Both hook pin ends were damaged, but neither pin was significantly deformed along its length. There was significant heat tinting on the damaged area of the forward hook pin. Boeing engineering calculations determined that the pull-in hook pins would fail at a 3.5 psi differential cabin pressure with the latch cams unlatched. The forward mid-span latch pin was relatively undamaged. The aft mid-span latch pin had definite areas of damage. Both pins had wear areas where the cams would contact the pins during latching.

1.16.1.2 After Recovery of the Door
The documentation of the recovered cargo door was divided into four areas: 1) door structure, 2) master latch lock system, 3) latch system, and 4) hook system. A description of the recovered door follows.

1. Door Structure:
The cargo door had fractured longitudinally near the mid-span lap joint near stringer 34R, just beneath the mid-span torque tubes. Except for an area of missing skin between frames 2 and 3 and a portion of frame webs where the upper latch lock torque tube had torn out, the frames and skin of the upper door piece mated to the lower door piece. Several areas of the upper door skin along the longitudinal fracture were bent back. In addition, a large area of lower door skin between frame 6 and the aft door edge had peeled downward from the fracture line. The two door pieces are shown together in Figures 9 and 10. Examinations of the fracture surfaces of the skin and frames revealed no evidence of pre-existing cracks. All fractures were typical of overstress separation. Seven of the eight lock sector slots in the lower beam showed evidence of contact and scraping by the lock sectors. Only the
No. 1 lock sector slot was undamaged, although the bracket forward and above the No. 1 slot did appear to have been damaged by contact from the lock sector (slots numbered 1-8, forward-aft). The direction of the scraping on the slots could not be determined conclusively. The decal covering the latch actuator manual drive port was found broken circumferentially around the edge of the port cover, which was loose and rotated from its normal position (See figure 11). There was an impression in the decal similar to a Phillips-head screw slot in line with the center of the retainer screw securing the cover. There was also a 0.06-inch-long linear slit from 10 to 4 o'clock approximately centered over the retainer screw head (See figures 12 and 13). There was no rotational tearing and no loss of decal material in the area covering the screw head location. During examinations of the door at Boeing, it was noted that the retainer bracket on the inside of the latch actuator manual drive port cover was bowed outward; the port cover was not deformed. The retainer bracket on the inside of the hook actuator manual drive port cover was similarly bowed outward, and the port cover was bowed outward. The hinge that attaches the cargo door to the fuselage is comprised of several hinge sections--those attached along the upper edge of the cargo door and those along the fuselage just above the cargo door cutout--interconnected with hinge pins. The hinge pins and all hinge sections from N4713U's forward cargo door were intact; all hinge sections rotated relatively easily. All attach bolts from the hinge sections on the door remained attached; conversely, no bolts remained attached to the hinge sections on the fuselage. Several areas on the hinge sections, such as the fuselage hinge sections, showed evidence of contact from the door during overtravel (See figure 14). In addition, the fuselage forward hinge sections were slightly bent. The upper flange of the door, to which the
door hinges are attached, was not deformed. The forward cargo
door can rotate open 143 degrees before the hinge would deform,
permitting the door to contact the fuselage above.
Examination of the outer skin contour of the upper door piece
revealed that it had been crushed inward. There were also many
areas on the outer skin where blue and red paint transfer marks
could be seen. These marks were generally forward of the aft
pressure-relief door, and the blue marks were located above the
red marks. The UAL paint pattern incorporates red and blue
stripes along the fuselage above the cargo door. Figure 15 is a
plot of the documented paint marks on the upper door piece.
There was no evidence of the pressure relief door shrouds found
on the forward door; however, most of the inner door lining to
which the shrouds attach was missing.
2. Master Latch Lock System:
All eight lock sectors were found in the locked position--actually
past the fully locked position. They had been pulled through the
lock sector slots in the lower beam of the cargo door. (When they
are fully locked, the lock sectors should be recessed in the lower
beam approximately 3/8 inch). All lock sectors had deflected off
the high shoulder of the latch cams due to interference with the
partially unlatched cams. Prior to disassembly of the
components, the interference between the cams and the lock
sectors was removed by rotating the cams to the latched position.
Examination of the lock sectors disclosed that the bottom of the
lower arm of each lock sector was gouged. For seven of the eight
lock sectors, the distance from the main gouge area to the
location of the interference between the latch cam and the lock
sector was approximately 0.75 inch. (The No. 2 lock sector was
corroded and had fractured at the location of the large gouge
common to the other seven lock sectors. Consequently, it was not
in contact with the No. 2 latch cam when the door was retrieved).
The master latch lock handle housing and trigger were found
relatively flush with the door outer skin. The top of the handle was recessed approximately 0.50 inch inward from flush, and the bottom of the handle was protruding approximately 0.40 inch outward from flush (See figure 16).

Figure 15.--Documented paint marks on outer skin of upper door piece. Dashed line is approximately 8 degrees from horizontal.

position of the handle indicates that the lock sectors were in a position past fully locked. The fuse pin was found in three pieces but was heavily corroded. The handle housing was undamaged. Two of the three connecting rods between the master latch lock handle and the lock sector torque tube were bowed slightly, but they were otherwise intact. No deformation was observed on any section of the lock sector torque tube, although one of the six bearings assembled on the torque tube had been damaged. The No. 3 bearing inner race and its torque tube locator sleeve were displaced forward approximately 0.20 inch from the bearing housing centerline. The outer race was broken and pushed forward out of the housing.

The lower two connecting rods between the lock sector torque tube and the torque tube below the pressure-relief doors were undamaged; however, the upper connecting rod had separated at the upper, tapered end. The torque tube below the pressure-relief doors were missing, and the pressure-relief door connecting rods had separated at the lower, tapered end. The remaining portion of each rod was undamaged, but the forward pressure-relief door was jammed open into the cutout.

3. Latch System:
All eight lower latch cams were found in a nearly unlatched position, and all of them were binding against the lock sectors except the No. 2 cam (lock sector No. 2 had broken). Latch cams 1-6 were approximately 62 degrees from the fully latched position, and cams 7 and 8 were approximately 70 degrees from fully latched. Full rotation of the latch cams is 80 degrees.
Several of the lower latch cams contained compression and smearing damage on the lower lip of the latch cam cavity ("lower" relative to an open cam). This damage is consistent with the forceful movement of the cams across the latch pins. The four rods between the latch actuator torque tube and the four bellcranks containing the latch cams were attached and undamaged. No section of the latch actuator torque tube was damaged, and the bearings/supports along the tube were intact. The latch actuator was removed and later disassembled. No anomalies were found.

4. Pull-in Hook System:
The forward and aft pull-in hooks were found near the closed position. Both of them exhibited wear patterns consistent with contact with the pull-in hook pins during door operation. For both the forward and aft hooks, the inboard edge of the pull-in hook channel contained compression and smearing damage consistent with a forceful movement of the hooks over the pins while the hooks were in the closed or nearly closed position.

Gentlemen,

TWA 800 investigation was extensive but not complete. The wiring/cargo door explanation needs examination. All ten latches were not recovered, all then were not examined, all ten were not given the type of examination that was given to UAL 811, a high time 747 that had a sudden loud sound on the CVR and an abrupt power cut to the FDR when its cargo door opened in flight and which forensic evidence matches TWA 800.

Why do you not contact me? Why do you not interview me and ask me to rebut any questions or contradiction or impossibilities in the wiring/cargo door explanation?
Door all latched and intact at water impact is wrong, it is not the opinion of an aircraft accident investigator who understands explosive decompression and knows the history of it dating back to the mid '50s and the Comet.

The evidence, the real and historical evidence that can be seen with your own eyes and listened to with your own ears says the forward cargo door of TWA 800 opened in flight and why it opened is a good question. I vote for the UAL 811 NTSB second explanation of electrical and not improperly latched, or bomb, or missile, or center tank explosion or other.

To reject the wiring/cargo door explanation based upon a falsehood is a serious error. The falsehood is the forward cargo door was all latched, locked, intact at water impact. That is based upon the false data of all ten latches of the forward door recovered and examined and found to be locked and normal; and that the shattered areas of the door were caused by water impact when the ruptures at the midspan latches were outward.

The eight bottom cams have locking sectors to prevent the latches from unlocking once the unlatch motor gets shorted on by fault. That AD was done after UAL 811, but the killer here is that the two midspan latches never had and still don't have locking sectors. So when all ten try to unlatch, as they are told to do by the unlatch motor, the bottom eight hold true, while the two midspan just have to unlatch enough to go over dead center and the 38115 and more pounds of internal pressure push out the rest of the door.

Yes, the two midspan latches are the only ones without locking sectors, a design flaw that is only equalled by have the huge doors non-plug.
To reject an explanation with precedent, which explains the streak, and identifies the mystery ignition source, which based upon wishful thinking of having all the latches, cams, torque tubes, manual locking handle, and latch pins upon which to base a rejection, is terribly terribly wrong when you don't have the manual locking handle, all ten latches, cams, or latch pins.

You don't have the evidence which would lead you to dismiss/reject/rebut the wiring/cargo door explanation.

However, the wiring/cargo door explanation has massive historical and forensic evidence to support such a claim, starting with photographs above which show a very shattered starboard side forward of the wing cargo door area and, for comparison, a very smooth port side.

Starboard side above showing shattered cargo door area just forward of wing.

Below is what all that NTSB has to say about the forward cargo door and its ten latches:

Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

Wreckage database does not have full complement of sills,
Regarding the recent response of Shelly Hazle of NTSB with the below excerpt:

"For example, Mr. Smith claims that there are 10 latches on the cargo door and that the Board only discusses eight in the above mentioned report. While a superficial description of the door might imply that there are 10 latches, Mr. Smith is, in fact, incorrect in implying that they all hold the door onto the fuselage. The eight at the bottom of the door, which were discussed in the report actually hold the door closed - the other two, one on each side of the door are merely "alignment latches" and do not hold the door closed."

Note that nowhere is there the claim that the two midspan latches have been recovered, only ignored or ruled unimportant. Ruled unimportant by Ms. Hazle, not an aircraft accident investigator.

The forward cargo door of TWA 800 opened/shattered/ruptured in flight and it started at the midspan latches, just like UAL 811.

That claim must be investigated as thoroughly as any other plausible explanation for TWA 800. Wiring/cargo door has not been given that same standard of investigation. The investigation is incomplete and unworthy of NTSB to make final as it stands.

The grounds for rejection of wiring/cargo door explanation are faulty and contradicted by NTSB evidence of Exhibit and database.

So, what to do? Hide, run for cover, ignore it, pretend it doesn't
exist, attack the messenger, circle the wagons? Or do the right thing, the thing you were trained to do, swore to do, paid to do, want to do, find out why planes crash so they won't crash again, and to do that you need to find out why TWA 800 crashed and to do that you must do the aircraft investigator thing, check out all the plausible explanations and rule them in or rule them out.

To rule out wiring/cargo door, you know more needs to be done than a few sentences after examination of less than fifty percent of the many pieces of the forward cargo door.

To rule out the open door inflight you need more than a condescending sentence about it by Chairman Hall at the Dec 97 Baltimore hearings, or a few sentences by Dr. Loeb at the 23 Aug 00, hearing, or a short exhibit by Mr. Wildey about the bottom sill.

UAL 811 is the model again for proper AAR for examination of a forward cargo door suspected of coming open in flight.

The first step is to talk to me and confront me with all the data and evidence you believe rules out open cargo door in flight, and eight of ten latches in hand is not good enough. Especially since the two midspan latches of UAL 811 were never recovered either.

What is the personal angle to this? Why did Mr. Goelz say I was 'peddling' wiring/cargo door explanation for profit? Why is wiring/cargo door explanation given NTSB worth equal to 'plane too heavy to fly that day'? Why am I referred to as 'A member of the public.'

Why the constant denigration of the messenger and never
professional queries about the message?

Where are the technical questions of accidents using acronyms of PSI, FS, IAS, MSL, NM? I know the questions that open minds ask because I have been answering them from my web site to the hundreds of pilots and other who email me discussing the wiring/cargo door explanation. I know that dozens of FAA and NTSB and Boeing computers have been logging on to corazon.com thousands of times over the past four years because I have the IP resolved of visiting computers below from previous month statistics:

760: 0.78%: blv-proxy-01.boeing.com
329: 0.31%: blv-proxy-02.boeing.com
467: 0.60%: blv-proxy-03.boeing.com
483: 0.41%: blv-proxy-04.boeing.com
253: 0.31%: blv-proxy-05.boeing.com
12: 0.01%: blv-proxy-06.boeing.com
74: 0.14%: svifw02.lgb.cal.boeing.com
2: : proxy-le0.cal.boeing.com
41: 0.04%: stl-proxy-01.stl.mo.boeing.com
37: 0.04%: svwww007.stl.mo.boeing.com
25: 0.02%: svwww008.stl.mo.boeing.com
65: 0.05%: slb-proxy-01.boeing.com
108: 0.09%: www-fw-proxy1.boeing.com
123: 0.09%: www-fw-proxy2.boeing.com
77: 0.05%: www-fw-proxy3.boeing.com
373: 0.33%: www-fw-proxy4.boeing.com
121: 0.11%: www-fw-proxy5.boeing.com
11: 0.01%: firewall.ntsb.gov
3: : awaproxy.faa.gov
216: 0.30%: enduser.faa.gov

I know the closed mind questions and they are usually the
conspiracy guys with all capitals, obscenities, misspellings, multiple exclamation marks, anonymous, and question/statement full of error, misstatements, and accusations.

I'm not getting the open minded questions from NTSB but am getting some of the closed mind responses.

I will say this to Chairman Hall, who asked plaintively at the Dec 99 hearing words to the effect, "Why were the passengers above and near the center fuel tank not burned?"

I answer you now, Chairman Hall, as I did then in an email, "They were not burned because they were not there to be burned when the center tank exploded. They had previously been ejected into the air after the nose came off from the huge hole on the starboard side where the cargo door used to be. None of the parts recovered in that nose has sooting. Only later, when the noseless fuselage is falling and the wings and fuel tank are coming apart, and the on fire number three engines is spinning and falling too, do the two meet, ignite, and explode.

The big and little mysteries that are left hanging with the wiring/center tank explanation are explained with the wiring/cargo door explanation. Streak, ignition source, lack of burns, engine blade in right horizontal stabilizer, sooting on blades of engine number three.

By the way, the statement about all four engines operating normally until water impact is just as false as forward cargo door all latched and intact until water impact.

NTSB Docket SA 516, Exhibit 8A, Powerplants Group Chairman's Factual Report,
The disassembly of the engines did not show any indications that any of the engines had sustained any uncontainments, case ruptures, fires, or penetrations."

Exhibit 8A, Page 11, paragraph 3, discussing results of engine 3 disassembly, "Of the 46 fan blades in the fan rotor, 21 blades with complete or partial airfoils and 6 root sections were recovered. All of the fan blades had sooting on the convex airfoil surfaces. Most of the full length airfoils were bent rearward and the tips outboard of the outer midspan shroud were bent forward slightly. About half of the fan blades had impact damage to the leading and trailing edges. Almost all of the impact damage to the airfoils could be matched to contact with the midspan shroud on an adjacent blade. One full length blade had four soft body impacts along the leading edge and a partial airfoil had a soft body impact, which had some streaking extending rearward."

8. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

Less than half of complete fan blades in the fan rotor were recovered, not the 95% recovered figure given by Chairman Hall about TWA 800 recovered wreckage. Only 58% of the fan blades were recovered so it is very possible 'stator blade' found in right horizontal stabilizer was from engine number three directly in front. "Almost all' of the 'impact damage,' was explained which implies some wasn't. All had soot. Soot means fire. Only engine
number three had any sooting inside engine. One full blade and one partial blade had 'soft body impacts'. There is nothing normally soft inside a jet engine. Soft body impact means foreign object damage. FOD may mean fire. Fire means soot. Missing blades in engine and one found directly aft in right horizontal stabilizer means uncontainment. Uncontainment means engine not intact at water impact but inflight.

Analysis above on raw data gives conclusions engine number three alone had foreign object damage in flight, had fire, and had partial disintegration. Engine 3 was the only engine to give such evidence. Engine number three is next to forward cargo hold, an area known to give FOD to engine 3 when cargo door inadvertently opens in flight. A foddled and on fire engine number three could provide the mystery ignition source for the center tank fire/explosion/fireball.

More NTSB produced evidence of wiring/cargo door explanation being worthy of further investigation:
7. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

4. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

It's not too late to one more final investigation of a new scenario/sequence that has emerged when given a new interpretation of
current information, as the NTSB author of Exhibit 18A states.

Gentlemen, please do what you said you would do, are supposed to do, and want to do, check out all the plausible explanations for TWA 800, including wiring/cargo door explanation.

Cheers,

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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.  
US Navy reconnaissance navigator, RA-5C 650 hours.  
US Navy patrol crewman, P2V-5FS 2000 hours.  
Air Intelligence Officer, US Navy  
Retired US Army Major MSC  
Owner Mooney M-20C, 1000 hours.  
Survivor of sudden night fiery fatal jet plane crash in RA-5C


From: John Barry Smith <barry@corazon.com>  
Date: September 6, 2009 12:03:09 AM PDT  
To: FAA  
Subject: TWA 800 analysis

For NTSB: Dear Chairman Hall, Dr. Loeb, Mr. Dickinson, Mr. Wildey, Mr. Swaim, 24 August 2000

Copy for FAA: Dear Mr. McSweeney Mr. Wojnar Mr. Dimtroff, Mr. Schalekamp, Mr. Breneman Mr. Streeter
You have done an extensive investigative job on TWA 800; extensive and expensive but not complete. You have prosecuted the center tank explosion as the initial event. You have defended your probable cause from missile or meteor or electromagnetic or bomb. But you have not defended it properly from wiring/cargo door explanation. You essentially offer the wiring/center tank explanation for TWA 800 which is refuted by photographic evidence of dark soot and suddenly non-soot whiteness on upper fuselage and smooth port and shattered starboard side just forward of the wing of TWA 800 reconstruction. A center tank explosion would do centered spherical sooting and shattering. The evidence shows unilateral starboard damage and a sudden break of the fuselage with no fire on one side. You have no ignition source after trying God with static electricity, pump manufacturer, and now mechanics drilling and not removing shavings.

Wiring/center tank explosion is not the initial event.

Wiring/cargo door is. The photographic evidence shows the shattered door and the outward ruptures at midspan latches. The ignition source for later center tank fire/explosion is the on fire engine number three, fodded because it is closest to the forward cargo door and would ingest foreign objects and catch fire should that door open or rupture in flight, as happened in UAL 811.

Well, the sound of the CVR and the visual of the wreckage all support wiring/cargo door, and yet, no investigation other than checking eight of ten latches of which there are twenty on that Boeing 747 in two identical cargo doors.

All latched and locked and door intact at water impact? Whose
opinion is that? Certainly not an aircraft accident investigator. That sounds like a metallurgist's opinion. Is it? Well, it's wrong. The door was shattered up high and the bottom eight latches of ten available may have been latched and locked at water impact but the midspan latches were long gone. So, why was not the wiring/cargo door explanation given as much official attention and investigation as the wacky bomb, missile, EMG, and meteor explanations? Wiring/cargo door has happened before in similar type aircraft under similar conditions leaving similar forensic evidence on metal, tape, and paint and should have had priority.

So, after Senator John McCain personally asked Chairman Hall to discuss with me the wiring/cargo door explanation, and Chairman Hall declined, I have come to the conclusion that you are all ducking me, refusing to think, refusing to talk, refusing to listen, refusing to consider wiring/cargo door explanation. Is it because it leads to PA 103 and AI 182? Is it because it was NIH, not invented here, syndrome? Is it because you hate to admit you were wrong, even about small things? Is it fear? Fear that the wiring/cargo door explanation is correct and the implications are perceived as dire? Dire to who?

It's dire to passengers and crew if you're wrong, NTSB, and wiring pops a door...again, and again. It's dire to the manufacturer if it is shown that aging wiring is a problem in airliners. Wait, that's been done already by NTSB. There is nothing to fear anymore. The main problem has been identified: Aging wiring in aging aircraft.

On many main items we agree on TWA 800:

You say mechanical; I say so too
You say aging wiring is problem; I say so too.
Initial event is wiring short, I say so too.
You say catastrophic; I say so too.
You say no bomb or missile or meteor or electromagnetic interference; I say so too.

Only in details do we disagree:

Your suspect wiring is just aft of the wing leading edge and mine is just forward.
Initial event after wiring short is cargo door rupture and not spontaneous center tank explosion.
Center tank exploded later, ignited by on fire engine number three.
Nose came off after huge hole on starboard side appeared just forward of wing, (see NTSB photograph for shattered area.)
Streak is piece or pieces of door area of shiny metal reflecting evening orange sunlight to observers on ground as they spin away after explosive decompression.
Place of explosive decompression is the two midspan latches of forward cargo door, (see photos of midspan latches showing outward open petal rupture.)
http://www.corazon.com/Forwarddoorblowupphoto.html

Photo above shows a door that was not intact and latched at water impact but shattered and ruptured at midspan latches early on.

We are close in probable cause, but far enough away so that the suspect forward wiring is still there and not yet inspected and replaced if necessary when cracked, chafed, or worn to bare wire,
as Poly X is wont to do.

Curious that, wiring was inspected in cargo doors of MD 11, fuel tanks of 747s, but not cargo doors of 747s, although cargo doors have opened in both designs but only the Boeing 747 has confirmed wiring/switch problems.


We will all know at the same time the cause of the next wiring/cargo door event because it will follow such a predictable pattern:
Sudden loud sound on the CVR not matched to bomb but matched to explosive decompression. (Same as AI 182, UAL 811, and PA 103, and TWA 800.) Sudden power cut off to FDR and secondary transponder. (Same as AI 182, UAL 811, and PA 103, and TWA 800.) More inflight damage on the right side of aircraft. (Same as AI 182, UAL 811, and PA 103, and TWA 800.) Forward cargo door found in pieces, aft door intact and latched. (Same as AI 182, UAL 811, and PA 103, and TWA 800.) Front section will be torn off from aft section. (Same as AI 182, and PA 103, and TWA 800.) Engine 3 fodded. (Same as AI 182, UAL 811, and PA 103, and TWA 800.) Damage start location in or near forward cargo hold. (Same as AI 182, UAL 811, and PA 103, and TWA 800.) At least nine never recovered bodies of passengers and crew. (Same as AI 182, UAL 811, and PA 103, and TWA 800.) Wreckage plot areas will be front section, aft section, and engines with number three engine apart from other three. (Same as AI 182, and PA 103, and TWA 800.) Possible streak of departing door if sun angle and observers is aligned.
(Just like TWA 800.) Aircraft will be a high time Boeing 747. (Same as AI 182, UAL 811, and PA 103, and TWA 800.)
So, Gentlemen entrusted with the public safety in aviation, you have not properly ruled out open cargo door in-flight for TWA 800 because you have refused to discuss the explanation with the leading advocate and discoverer of it, that's me, as well as not having the required evidence such as a smooth cargo door and all ten latches to substantiate your reason for ruling it out as:
Dr. Loeb of NTSB: "We found no evidence that a structural failure and decompression initiated the breakup. A thorough examination of the wreckage by our engineers and metallurgists did not reveal any evidence of fatigue, corrosion or any other structural fault that could have led to the breakup. As a side note, I would like to mention that there was absolutely no evidence of an in-flight separation of the forward cargo door - one of the many theories suggested to us by members of the public. The physical evidence demonstrated that the forward cargo door was closed and latched at water impact."

That statement above is absolutely false, full of errors, and a wrong conclusion. All claims are refuted by official documents and photographs which were emailed to you yesterday. Until you talk to me, you have not done your job of a complete aircraft accident investigation for TWA 800. And you know it after these long four years and hundreds of emails from me filled with facts such as analysis attached. I've included the analysis below to refute any accusation of weirdness, lack of research, faulty reasoning, and inaccuracy of facts presented by me. I'm not a missile guy or a bomb guy nor any conspiracy person. I'm the reasonable aviator who has been in a sudden night fiery fatal jet crash and is saying that for several Boeing 747s, an event that happened before has happened again for TWA 800 and supports that plausible claim with extensive facts, data, and evidence.
Until you face, consider, and thoroughly investigate the wiring/cargo door explanation for TWA 800, you have failed. You have failed your duty as public safety officials to whom media, manufacturers, and citizens look toward for a complete investigation. You did not do a complete investigation. You did a specialized prosecution of center tank explosion. The wiring/cargo door explanation is still there, waiting for examination. And you know it. One exhibit in the Public docket and a sentence at a public hearing is not a complete investigation of a cause initially thought to the answer, forward cargo door opened in flight and ruled out within days based upon cursory examination of some but not all of the latches and some but not all of the cargo door.

I again challenge you, as NTSB officials, as public safety officials, to check out the wiring/cargo door explanation for TWA 800 by interacting with the proponent, the one who knows the most about it. If your mind is changed in some areas, then the better for it; if not changed, then you may rest that you have done a complete job of investigation and the better for it also.

Sincerely,

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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

NTSB Docket SA 516, Exhibit 8A, Powerplants Group
Chairman's Factual Report,

Page 2, paragraph 2, "After the engines were recovered, they were transported to the former Grumman facility at Calverton, New York, for disassembly. The disassembly of the engines commenced on August 12, 1996, in the presence of the Powerplants Group. The disassembly was completed on August 16, 1996."

Analysis by JBS>
1. Wrong to send to empty hangar, right to send to engine teardown facility. Wrong thing done in haste to examine engines at Calverton.
2. Five days for four engines? One day and a bit per engine is incredibly fast to disassemble one of the most complex and precise machines on the planet. It's not a bicycle. A forensic powerplant teardown is likely to require several man hundred hours per engine with several thousand hours of metallographic back up work. Additionally many specialized tools are required to do this. There should be many thousands of feet of tape or pictures. Haste is evident in a one day teardown per engine in an empty hangar with only one engine specialist present.

Page 2, paragraph 3, "The disassembly of the engines consisted of removing the cowling, external components, fan, and low pressure compressor (LPC) to expose the high pressure
compressor (HPC), diffuser, combustor, high pressure turbine (HPT), low pressure turbine (LPT), and turbine exhaust cases. Engine No. 3 was disassembled further to remove and partially disassemble the HPC. The disassembly of the engines did not show any indications that any of the engines had sustained any uncontainments, case ruptures, fires, or penetrations."

Analysis by JBS>Why was only engine 3 disassembled further? What evidence was seen in No. 3 to warrant further investigation? Why were not the other three engines disassembled further? The four most important jet engines in an airplane crash in history were not given comprehensive teardowns. The conclusion statement of no uncontainments is contradicted by other exhibit which states 'stator blade' was found in right horizontal stabilizer. The conclusion statement of no fires in any engines is contradicted later in this same report with raw data indicating sooting in engine number 3. The conclusion statement of no penetrations of any engine is contradicted by raw data in this report indicating soft body impacts on blades. The conclusion statement of everything normal in the engines is contradicted by photograph of TWA 800 engine retrieval showing forward stator stage missing and irregular FDR EPR readings.

Pages 16 through 22 discuss fuel samples which are mainly irrelevant in a discussion about engines and teardown results. 33% of engine report is not about engines but about favored NTSB explanation of center tank fuel explosion as initial event.

Exhibit 8A, Page 11, paragraph 3, discussing results of engine 3 disassembly, "Of the 46 fan blades in the fan rotor, 21 blades with complete or partial airfoils and 6 root sections were recovered. All of the fan blades had sooting on the convex airfoil
surfaces. Most of the full length airfoils were bent rearward and the tips outboard of the outer midspan shroud were bent forward slightly. About half of the fan blades had impact damage to the leading and trailing edges. Almost all of the impact damage to the airfoils could be matched to contact with the midspan shroud on an adjacent blade. One full length blade had four soft body impacts along the leading edge and a partial airfoil had a soft body impact, which had some streaking extending rearward.

Analysis by JBS>Less than half of complete fan blades in the fan rotor were recovered, not the 95% recovered figure given by Chairman Hall about TWA 800 recovered wreckage. Only 58% of the fan blades were recovered so it is very possible 'stator blade' found in right horizontal stabilizer was from engine number three directly in front. "Almost all' of the 'impact damage,' was explained which implies some wasn't. All had soot. Soot means fire. Only engine number three had any sooting inside engine. One full blade and one partial blade had 'soft body impacts'. There is nothing normally soft inside a jet engine. Soft body impact means foreign object damage. FOD may mean fire. Fire means soot. Missing blades in engine and one found directly aft in right horizontal stabilizer means uncontainment. Uncontainment means engine not intact at water impact but in flight.

Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

Analysis above on raw data gives conclusions engine number
three alone had foreign object damage in flight, had fire, and had partial disintegration. Engine 3 was the only engine to give such evidence. Engine number three is next to forward cargo hold, an area known to give FOD to engine 3 when cargo door inadvertently opens in flight. A foddled and on fire engine number three could provide the mystery ignition source for the center tank fire/explosion/fireball.

Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 34, A section of the structure outboard of H7 exhibited evidence of red paint transfer marks on the upper skin (H8); only the remnants of the shattered logo light window remain in the window frame.

The above details a red paint transfer mark on the right horizontal tail surface of TWA 800 directly aft of the red painted trim in cargo door area. This area shows missing red paint clearly in NTSB photo displayed at URL <http://www.corazon.com/redpaintsmearssoloprint.html>

The NTSB photographs are clear in color and detail. The TWA 800 reconstruction photograph shows abnormal green, white and red paint on the right side forward of the wing.

Normal TWA red trim paint scheme is seen at<http://www.corazon.com/twapaintpixweb.html> Only above the forward cargo door of the reconstructed fuselage of TWA 800 is seen the abnormal red paint smears.

The sequence is thus: bare aluminum skin is cleaned, primed, base coat of white applied, then red trim on top of white, then decals. This sequence is basic painting for Boeing 747s and confirmed by aviation professionals.
It is not red paint trim on primer with overspray, mask off, then paint white base coat around the trim.

The red trim is always on top of white base coat and means that the many, red, and large red paint smears between the passenger windows are red paint transfer marks. The red paint marks are not red paint exposed when white above is worn away, it is always red on top of white, not underneath.

This is further proven by skin which has red paint missing and thus exposing white undercoat. This is seen at URL <http://www.corazon.com/TWA800hullrupture.html> The white is always underneath the red. The green is always underneath the white.

Additionally, the added red paint between the windows is next to the missing red paint in the trim above the cargo door. Red paint went from one area to another.

The many red and large red paint transfer marks above the forward cargo door of TWA 800 indicate the cargo door opened in flight. The precedent of cargo door paint transfer marks was set by UAL 811 as described in NTSB AAR 92/02, page 41.

The red paint transfer marks indicate the red door below ruptured/opened in flight and slammed into the white paint above, removing the red trim paint and transferring it on top of the white paint. This is clearly seen between the passenger windows.

The red paint evidence coupled with the outward peeled skin on the side, and in the door area, and in the belly proves an
explosive event occurred inflight in the cargo door area.

The downward crushed main floor beams confirm the explosive event. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."

The petal shaped outward bulge at the aft midspan latch of the forward cargo door pinpoints the location of the initial rupture of the hull of TWA 800 as seen at URL <http://www.corazon.com/petalbulge.html> The aft latch is missing, the door frame is curved outward, and surrounding skin is shaped circular.

The analysis of red paint markings and structural deformation indicating an outward explosion was briefly held by FAA Branch Manager Neil Schalekamp of Northwest Region in a letter to me on 30 Jan 1998. "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT."

The cause of the outward cargo door explosion being the center tank is refuted by the lack of soot on the few recovered forward cargo door pieces and other right side fuselage pieces. Exhibit 20A page 129. Fire and Explosion Group Factual Report. "RF2 C-004 No sooting No sooting RF3A-H These pieces are part of the forward main cargo door."
Some have grimy corrosion inhibiting compound (CIC), but there is no apparent sooting.
These pieces are part of the forward main cargo door.
Some have grimy corrosion inhibiting compound (CIC), but there is no apparent sooting.
RF4 B-103 No sooting No sooting
RF5 A-071 No sooting No sooting
RF6A B-2004 No sooting No sooting
RF6B B-240 No sooting No sooting
RF6C B-318 No sooting No sooting
RF7 A-033 No sooting No sooting
RF8A No sooting No sooting
RF8B B-256 No sooting No sooting
RF8C B-263 No sooting No sooting
RF8D B-068 No sooting No sooting
RF8E B-268 No sooting No sooting
RF8F B-248 No sooting No sooting
RF9A C-117 No sooting No sooting
RF9B C-117 No sooting No sooting
RF9C C-259 No sooting No sooting"

NTSB investigators also are intrigued by the aircraft forward door popping open in flight, an explanation supported by red paint smears, outward peeled skin, downward floor beams, and petal shaped bulge at aft midspan latch. "NTSB investigators have suggested unofficially that the streaks the pilots saw could have been light reflections from the skin of the aircraft, tongues of flame from the airliner or the forward door of the aircraft popping open, a possibility that still intrigues investigators, the second official said." AW&ST 3/10/97
Basic NTSB generated evidence for TWA 800 in photos, text, sooting diagrams, tables, and drawings, a NTSB produced report AAR 92/02, and visual interpretations of NTSB photograph at <http://www.corazon.com/redpaintsmearssoloprint.html> and on NTSB CD-ROM proves that the forward cargo door of TWA 800 opened in flight.

The evidence above proves the the cargo door was not all latched, all locked, and all intact at water impact, as previously believed based upon examination of only eight of the ten cargo door latches. Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

The cause of the door opening in flight is probably the same as UAL 811, as described in AAR 92/02; chafed wiring shorting on door unlatch motor based upon NTSB evidence for TWA 800 in Docket Exhibit 9A page 116: "Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

NTSB agrees that a new explanation for the destruction sequence is possible based on new interpretations of the evidence such as shown by the red paint smears. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a
new interpretation of current information."

The wiring/cargo door explanation for TWA 800 must be thoroughly investigated to rule in or rule out the reasonable conclusions reached by the careful analysis of red paint smears, outward peeled skin, downward floor beams, petal shaped bulge at aft midspan latch, and cracked to bare conductor wires discovered in TWA 800 by NTSB.

The wreckage of TWA 800 is the victim at autopsy. It is the victim saying look at me, I exploded in flight, right there at the aft midspan latch. Just like I did before in 1989 with UAL 811 and left paint smears, outward peeled skin, aft midspan latch rupture, sudden loud sound on the CVR and power cut to the FDR. Don't ignore me; don't deny me; do something about me.

Facts presented by NTSB about TWA 800 in exhibits, photographs, text, drawings, and testimony:

1. right horizontal stab has red paint smear
2. stator blade in right horizontal stab behind engine number 3
3. inward crush top of cargo door
4. top of cargo door attached to hinge
5. petal shape of rupture area around aft midspan latch
6. missing pieces of forward cargo door include locking handle, latching pins, overpressure relief doors, midspan latches
7. rectangle visible of explosive decompression zone of outward peeled skin on right side forward of the wing on right side
8. downward movement of floor beams near cargo door
9. hoop stresses found
10. CVR sudden loud sound
11. FDR abrupt power cut
12. missing turbine blades in engine number 3.
13. soft body impacts on blades in engine number 3.
14. outward peeled skin near top of nose, under belly, and in cargo door area.
15. red paint smears above cargo door on white paint
16. soot on most blades of engine 3.
17. starboard side more damaged than port side
18. intact R2 door near shattered cargo door.
19. poly x is known to be susceptible to chafing and present
20. section 41 is known to be weak
21. history of cargo door openings in past in various airliners
22. EPR problems on aircraft before or during fatal flight.
23. fires in forward cargo hold in the past on Boeing 747s.
24. vertical tears in fuselage skin forward of the wing on the right side
25. singe marks on right side of fuselage show burnt skin, then abruptly at tear line there are no singe marks
26. red paint rubbed off revealing white paint underneath on skin above cargo door area
27. first pieces off plane came from forward cargo hold just forward of the wing
28. at least nine missing never recovered bodies, just fragments
29. initially thought to be a bomb
30. wreckage debris shows cargo door shattered in many pieces
31. aft portion of forward door which includes aft midspan latch and locking handle missing from recovery effort
32. no soot on maintenance hatch
33. no soot on front spar of center wing tank
34. no burned bodies forward of the wing and very few burned at all
35. aft cargo door sill, latches, and locks recovered
36. forward cargo door sill, latches, and locks not recorded in data base
37. no orange zone pieces recorded in database
38. no orange zone discussion in public record other than identification
39. chafed to bare wires found in cargo door area
40. wiring defects found on Boeing airliners
41. water observed pouring out of forward cargo hold of a Boeing airliner, cargo holds have bilges.
42. no soot on keel beam forward of the wing
43. compression fractures right side forward of the wing
44. tension fractures left side forward of the wing
45. seats in the rows in the explosive shatter zone above cargo door are in red zone and not sooted
46. aft cargo door sill is sooted
47. many witnesses said they saw downward streak that was red-orange
48. NTSB official said possibility of forward door popping open was intriguing.
49. FAA official said, then recanted, that paint smears and structural deformation indicated outward explosion.
50. initial event time was 20:31:12 at 13700 on 17 July 1996 eight miles off coast of Long Island.

Reasonable conclusions derived from facts above:
1. water in forward cargo bay.
2. chafed bare wire touched by water.
3. electrical short occurs.
4. forward door motor turns on to unlatch position.
5. aft midspan latch of forward cargo door partially unlatches.
6. pressurized hull ruptures at aft midspan latch.
7. cargo door tears into pieces, some pieces stay with nose, some don't.
8. shiny metal pieces spin away reflecting evening sunlight and perceived as red-orange streak to observers far away.
9. explosive decompression occurs shattering cargo door area
forward of the wing on right side exposing twenty foot by forty foot hole in nose producing sudden loud sound on CVR.
10. 300 knots slipstream tears weakened nose off.
11. ejected debris is ingested by starboard engines which catch fire.
12. wing and wing fuel tanks; engines, tail, and fuselage fall and disintegrate on way down.
13. fiery starboard engine ignites fuel vapor clouds from disintegrating tanks, including center tank.
14. fireball observed on the ground.
15. water impact of wreckage, cargo bay material first to hit water.

Sequence of Destruction for TWA Flight 800
John Barry Smith
11 Jan 98
Hot humid air in forward cargo compartment was subjected to cold conditioned air after takeoff from hot summer evening near New York on July 17, 1996. Condensation was precipitated out and formed on cold metal fuselage skin. Poly-X wire bundle which held cargo door motor on power was chafed by the friction of continuous vibration against clamp or many door openings and closings on it. Sheath around bundle was worn through to insulation and then worn through to bare wire. Condensed water met the bare wire and shorted against fuselage metal charring wires and powering on door motor which attempted to turn all ten cam sectors to unlocked position. At 13700 feet MSL and 300 KCAS, the eight lower cam sectors were prevented from unlocking because of strengthened locking sectors. However, the two midspan latches have no locking sectors at all. The slack in bellcranks, torque tubes, and high time worn cam latches allowed the aft midspan latch to rotate just past center allowing the 3.5
PSI internal pressure to rupture outward the forward cargo door at the aft midspan latch. The nine foot by nine foot squarish door burst open at midspan latch sending the latch and door material spinning away in the setting sun which reflected upon the shiny metal as it spun away erratically and appeared as red-orange streak to ground observers moving all which ways. The aft door frame was clean of attachment to door and bulged outward. Fuselage skin was torn vertically. The door fractured and shattered. The bottom eight latches held tight to the bottom eight latch pins on bottom sill while bottom external skin of door blew away. The top piece of red topped cargo door opened out and up smashing into the white fuselage skin above it leaving the red paint of the door on the white paint between passenger windows above. The red paint of the trim was rubbed away showing the white paint underneath. The top piece of the door took the hinge with it and fuselage skin as it is tore away. The loose red painted trim piece and top of door flew directly aft and impacted the right horizontal stabilizer leaving a red paint transfer mark on it. The hinge still appears to be working normally likely having overtravel impression marks on the opposite hinge when door overextended to slam on fuselage above. The top piece of the door shows inward damage when it hit fuselage above. The explosive decompression of the thirty eight thousand pounds of internal force on the door blew out a large hole about twenty feet wide and forty feet high on the right side of the nose forward of the wing. Parts of the cargo hold structure were the first parts to leave the aircraft. The now uncompressed air molecules rushed out of the huge hole equalizing high pressure inside to low pressure outside while making a very loud noise. Fuselage skin was peeled outward at various places on the right side of the nose. The sudden rushing air was recorded on the Cockpit Voice Recorder as a sudden loud sound. The explosive decompression
of the forward cargo hold severely disrupted the nearby main equipment compartment which housed power cables and abruptly shut off power to the Flight Data Recorder. At least nine passenger's bodies were never found, only bone fragments. The number three engine also ingested metal in baggage and started on fire from inefficient burning of fuel. The number three engine with pylon started to vibrate and a stator blade from the engine was spit out and impacted directly behind it in the right horizontal stabilizer. The floor beams above the cargo hold were bent downward, fractured and broken from the sudden decompression. The main structural members of door and frame were gone and compromised. The flight attitude of the aircraft was askew to the left from reaction of explosive decompression to the right. Air rushed into the hole and weakened other skin and frame peeling skin outward. The 300 knots of air pressed upon the weakened nose and crumpled it into the large hole. The nose tore off and landed in a dense debris heap apart from the rest of the plane. The port side forward of the wing was smooth and unshattered while the starboard side forward of the wing was shattered, torn, and frayed at ruptured cargo door area and severely disturbed over twenty feet by forty foot explosive decompression zone. Outward petal shaped fuselage skin appeared at aft midspan latch from rupture. Aft midspan latch was blown away. Outward peeled skin appeared from blowout. Fuselage skin remained smooth next to blown out skin. The rest of the plane without the nose suddenly decelerated from 300 knots and caused whiplash injuries to passengers. Passengers inside fuselage had baro-trauma to eardrums which ruptured trying to equalize middle ear pressure. The plane maneuvered with huge gaping wound in front increasing drag. The wind force disintegrated the fuselage and wings. Fuel poured out of ruptured tanks as wreckage fell. The broken fuselage, the ruptured wings,
the fuel cloud, the center tank, and the spinning, on fire engine number three met at 7500 feet and exploded into a bright loud fireball putting singe marks on the fuselage skin while leaving earlier departed nose burn and singe mark free. The center tank exploded as well as other nearby fuel tanks. Forward passengers were not burned because they were in the earlier separated nose. The debris fell and spread out from 7500 feet to sea level in windblown southeast directly, leaving a wide debris field. Ground observers heard the fireball explosion of the center tank and other fuel and looked up. They saw fire and smoke and falling debris.

Explosive decompression at the forward cargo hold led to suspicion of bomb in cargo compartment but bomb later ruled out. Debris ejected to the right from explosive decompression led to suspicion of missile exploding on left side of nose. Streak of shiny metal object spinning away reflecting evening sun to ground observers led to suspicion of missile exhaust but later ruled out.

Fire/explosion of center tank into fireball led to suspicion of center tank explosion as initial event. There were difficulties in determining ignition source, fuel volatility, unheard fuel explosion sound on CVR, unilateral fuselage damage, singe marks, and other evidence needed to corroborate center tank explosion as initial explosion.

Fuselage rupture at aft midspan latch of forward cargo door inflight is initially rejected because bottom eight latches are found latched around locking pins while two midspan latches are unexamined and status unreported.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: For the NTSB, thought you might be interested...

Statement of Dr. Bernard S. Loeb
TWA flight 800 Board Meeting
August 22, 2000

We found no evidence that a structural failure and decompression initiated the breakup. A thorough examination of the wreckage by our engineers and metallurgists did not reveal any evidence of fatigue, corrosion or any other structural fault that could have led to the breakup. As a side note, I would like to mention that there was absolutely no evidence of an in-flight separation of the forward cargo door -one of the many theories suggested to us by members of the public. The physical evidence demonstrated that the forward cargo door was closed and latched at water impact.

Dear Dr. Loeb and other members of NTSB, 22 August 2000

I have to refute the statement above by Dr. Loeb because it is refuted by NTSB facts below.

Side note on the side note: There was substantial evidence of an in-flight separation of the forward cargo door. The physical evidence demonstrated that the forward cargo door was in many pieces at water impact.

Substantial evidence of an in-flight separation of the forward cargo door.: Chart 12 of the Public Docket for TWA 800 prepared by NTSB: This substantial historical evidence shows that when a cargo door opens on an early model Boeing 747 shortly after takeoff a sudden loud sound occurs on the cockpit voice recorder. It happened on UAL 811 as confirmed by NTSB in AAR 92/02.
It matches TWA 800 historically.

What is the physical/forensic evidence to back up the historical evidence?

The physical evidence below demonstrated that the forward cargo door was in many pieces at water impact. Forward cargo door is in shattered pieces with many pieces, still unrecovered in NTSB photo below. Forward cargo door has ten latches but only eight have been recovered. Physical evidence as prepared by the NTSB is in the wreckage reconstruction of TWA 800 and shows shattered starboard side around forward cargo door and then the smooth port side of TWA 800 forward of the wing.

Nose to right above.

Nose to left above.

High Resolution photo below shows huge amount of forensic physical evidence that the forward cargo door was in many pieces at water impact. Note huge outward opening petal shaped rupture at the forward midspan latch, one of two without locking sectors, and which was never recovered.

Dear Dr. Loeb and members of NTSB, to conclude,

You know the wiring/cargo door theory/explanation is plausible because it's happened before and it was the first thing you
thought of. You know that a lot of the things that happened to UAL 811 happened to TWA 800. You know what happened to UAL 811, open cargo door in flight, and it may very well have happened again. Yes, probably wiring shorting on unlatch motor, yes, the locking sectors should have been on all the latches, not just the bottom eight. Yes, the center tank exploded, on the way down, ignited by engine number three which was foded and on fire, just like UAL 811.

To be fair, to live the truth that you are aircraft accident investigators intent on determining the best probable cause after examining in detail, including interviews, all submitted explanations for TWA 800 to include center tank explosion, bomb in forward cargo hold, missile anywhere, electromagnetic interference, meteor, and wiring caused open cargo door in flight, you would contact me, email me, call me, interrogate me, drain me of everything I know about cargo doors opening in flight in Boeing 747s. I know a lot. I learned it from NTSB documents. You have not talked to me but still can. To be fair, you must follow up on substantiated leads. Chairman Hall referred to me and my cargo door explanation at the beginning of the December 1997 hearings in Baltimore; Dr. Loeb referred to me in his opening remarks at the public hearing today. Yet, you have not talked to me as you have to hundreds of others with information about TWA 800. Let me present the wiring/cargo door case. Let the evidence and analysis that I have researched and assembled be allowed to stand and be examined.

To reject the wiring/cargo door explanation for TWA 800 without interviewing me, without giving scientific explanations for the photos and chart above, and without recovering and examining the missing latches is to have conducted an incomplete investigation which may very well have concluded with the
incorrect initial event for the probable cause for TWA 800. You have not turned over every stone. In fact, you have refused to turn over a stone right here and which you initially thought might be the right one, and one which I am again pointing to; turn it over, open forward cargo door in flight. Let the historical and forensic evidence speak.

Regards,

John Barry Smith
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Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Photos of ruptures at latches of TWA 800/wiring/cargo door explanation.

Dear FAA, The NTSB has not yet examined wiring/cargo door explanation for TWA 800. There are ten latches on that forward
cargo door and they only have eight.

Below are high resolution photos of ruptures at midspan latches of TWA 800.

http://www.corazon.com/Forwarddoorblowupphoto.html

Forward midspan latch rupture, two photos.


Aft midspan latch rupture.

Final report in August? You have not yet thoroughly ruled out the wiring/cargo door explanation for TWA 800. You have attempted without success to rule in spontaneous center tank fire explosion as initial event.

Streak is pieces of fuselage near cargo door area being blown out and away and reflecting evening sunlight to observers down below.

The is still time to complete the report.

Cheers
John Barry Smith
(831) 659-3552 phone
551 Country Club Drive,
Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

At 2:20 AM -0400 6/5/00, AVweb's AVflash wrote:
...TO RULE THEM OUT AS CAUSE ONCE AND FOR ALL
The missiles were fired in April at Eglin Air Force Base near Fort Walton Beach, Fla., to determine whether streaks of light reported by
witnesses could have even been missiles and to establish a baseline of
what might have been visible of a shoulder-fired missile. The
NTSB plans to hold a final hearing on the crash in late August, when it will
determine a "probable cause." AVweb's NewsWire coverage at
a proposal the FAA is considering that would cost millions but might
prevent another TWA Flight 800.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: RE: Please resolve contradictions/We are on the same side.

From: Wildey Jim <WILDEYJ@NTSB.gov>
To: "John Barry Smith" <barry@corazon.com>
Subject: RE: Please resolve contradictions/We are on the same side.
Date: Mon, 23 Feb 1998 16:03:27 -0500
X-Priority: 3

Mr. Smith: To the best of my knowledge (and I have checked), there are no contradictions between what the FAA believes and what the NTSB believes in regard to the forward cargo door, despite any correspondence you may have received from individuals within the FAA. The public docket on this accident contains the factual information generated so far. This information has been reviewed by the technical experts from the parties (including the FAA) and is the only proper source of information. Based on this factual information, the Safety Board has concluded that the cargo door did not initiate the destruction of TWA flight 800.

Jim Wildey

> -----Original Message-----
> From: John Barry Smith [SMTP:barry@corazon.com]
> Sent: Saturday, February 21, 1998 8:45 AM
To: Wildey Jim
Subject: Please resolve contradictions/We are on the same side.

Mr. James Wildey, 21 Feb 98

Hello again. John Barry Smith here. Please resolve contradictions of

NTSB
saying 1. forward cargo door was all latched, all locked, and all intact at water impact which caused right side forward of the wing damage of TWA 800

as shown in Exhibit 15C, author Mr. James Wildey II, and 2. the FAA saying right side structural deformation and paint markings indicate outward explosion, the door blew open in flight, and the NTSB initial event of center tank explosion caused the door to open in flight.

Two discrepancies of vital importance:

1. Right side damage around cargo door area from internal explosion or external water impact?
2. Cargo door open in flight or stay closed until water impact when it shattered?

The new interpretation is correct, Mr. Wildey, exactly as you
> predicted in
> your exhibit report excerpt below:
> 
> Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, you
> write:
> "It is therefore possible that new scenarios (sequences) may emerge as
> new
> information is acquired whether it be from newly identified parts, or
> simply a new interpretation of current information."
> 
> FAA Airplane Transportation Directorate, from which you relied on for
> data
> to base your conclusions in Exhibit 15C, now says that when
> cargo door
> opened inflight (as a result of CWT explosion) it may have flown far
> afield. That would explain the discrepancy of the cargo bay structure
> that
> were found in places not expected.
> 
> Will you engage in email exchange to discuss these items of safety? We
> are
> on the same side, Mr. Wildey.
> 
> NTSB AAR 92/02 UAL 811 is the bedrock of facts, data, and evidence.
> The 26
> significant similarities to TWA 800 listed later can not be ignored.
> > Stator blade is the real item that proves more investigation to be 
> > done on
> > TWA 800: Engines are involved.
> > > Sudden loud sound is the linchpin to entire wiring/cargo door 
> > explanation
> > for four fatal 747s accidents. It matches other cargo door 
> > opening
> > explosive decompression accidents, including UAL 811.
> > > I earlier had said to you condensed water had fallen into chafed bare 
> > wires
> > in forward cargo hold, now it turns out some fluid did that very thing
> > in a
> > Boeing 737 and caused flight attitude difficulties. (This might 
> > explain
> > Silk Air 737 and other strange 737 accidents.)
> > > Please take some action, Mr. Wildey, there is enough real data in this 
> > email to justify an upgrade to Exhibit 15C, at least.
> > > Email me with technical questions if you wish, refer me to Dr. Loeb,
> > have
> > someone as knowledgable as you are contact me for discussion. I am
taking action by writing to you with results of my thousands of hours of research motivated by my near death experience in a sudden night fiery fatal jet airplane crash. These discrepancies in the structural breakup sequence are vitally important and must be resolved and any corrections made, if needed.

Does the outward peeled fuselage skin, the outward bulge at aft midspan latch of forward cargo door, the red paint markings above the cargo door, and location of door area pieces of debris indicate that the door opened in flight? And that the cause of door opening in flight was the explosion of the CWT?

It's interesting that all the doors in the area operated abnormally, the nose landing gear doors, the maintenance door in wing, and of course, the big one, the forward cargo door. That lower lobe has failed
Time for some success.

Regards,

John Barry Smith
408 659 3552

Mr. James Wildey: "The Safety Board has received your letter to the Chairman, dated December 30, 1997, concerning the possibility that the TWA 800 accident was related to an in-flight opening of a cargo door. As conveyed to you in previous letters we have sent you, the Safety Board believes that sufficient facts have been gathered to rule out this possibility."

FAA: "While no one scenario has been categorically proven to the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward
explosion, generally accepted to be caused by the explosion of the CWT.
Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident. Mr. Neil Shalekamp, Manager.

NTSB: "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill." James Wildey II

UAL 811 was an aged high flight time early model Boeing 747 which took off in low light running late and during climb experienced a sudden initial event near the leading edge of wing in fuselage which left a short sudden loud sound on the cockpit voice recorder, an abrupt power cut to the
flight
> data
> recorder, (14) foreign object damage to starboard engine #3,
> (15) more
> severe inflight damage on starboard side, (16) at least nine
> never
> recovered bodies, (17) port fuselage side forward of the wing
> relatively
> undamaged, (18) shattered, torn, and frayed skin in forward
cargo door
> area
> on starboard side, (19) unusual paint smears in forward cargo
doors
> area,
> (20) rupture appearance of skin at aft midspan latch of the
forward
doors,
> (21) outward peeled skin on upper forward fuselage, (22)
vertical
> fuselage tear lines forward of the wing and aft of forward cargo
doors,
> (23)
> had hinge stay attached to detached top piece of forward cargo
doors,
> (24)
> cargo door opened in flight, and (25) destruction initially
thought to
> be
> have been caused by a bomb but (26) later conclusively ruled
out.
>
> So was TWA 800.
>
AAIB Aircraft Incident Report No: 1/98 (EW/C95/10/4)

Synopsis
The incident was notified promptly to the Air Accidents Investigation Branch (AAIB) by the operator and the investigation began that evening. The AAIB team comprised Mr D F King (Investigator-in-Charge), Mr P D Gilmartin (Operations), Mr C G Pollard (Engineering), Mr S W Moss (Engineering), Mr A N Cable (Engineering), Ms A Evans (Flight Recorders). The crew reported at 1330 hrs at Gatwick to carry out a post-heavy maintenance check, test flight on the aircraft.

The first officer (F/O) completed the external check, while the commander completed the 'Flight Deck Preparation' items of the aircraft checklist. A Standby (STBY) Rudder system check was carried out with no abnormalities noted and during taxi before take-off, the Yaw Damper indicator showed normal response to turns. When the aircraft was in straight and level flight at FL200 with an indicated airspeed of 290 kt, Autopilot and Autothrottle engaged and Yaw Damper ON, the
aircraft
> experienced roll/yaw oscillations. The Flight Data Recorder (FDR)
> showed
> that the Autopilot and Autothrottle were disengaged, and the commander
> reported that the Yaw Damper was switched OFF but the crew were unable
> to stop the oscillations. A MAYDAY call was broadcast at 1609 hrs. The
> crew had the impression that the bank angle would have continued to
> increase had opposite roll control inputs not been applied.
>
> >(b) Causal factors The investigation identified the following causal
> >>factors: 1 Contamination of the connector on the Yaw Damper
> >>Coupler,
> >>in the E&E
> >>Bay, by an unidentified fluid had occurred at some time prior to the
> >>incident flight and compromised the function of its pin to pin
> >>insulation.
> 
> >
> >
> >
> >
> >
> > barry@corazon.com
> > http://www.corazon.com/
> >
> >
> >
> >
Mr. Smith:

Thank you for your detailed E-mail message regarding the possibility of the forward cargo door opening in flight and possibly initiating the TWA 800 breakup. The Safety Board believes that there has been sufficient factual examinations of this portion of the airplane for our purposes of determining the probable cause of the accident, and we plan no additional trips to reexamine this structure. While I do not have the time to address each of the points raised by your letter, I would like to correct several obvious misconceptions that I noted.

If the nose section of the airplane hit the water rolled to the right, the skin above the window belt above the cargo door would enter
the water perpendicular to the water's surface. Therefore, the skin in this area could fold either inward or outward, with more tendency to fold outward the higher up the fuselage you go.

The midspan latches on the cargo door are for alignment purposes and carry only minor loads. There would be only minimal tendency for cracking to initiate in this area. If the door did split longitudinally in half as a primary event, I would expect each half to separate and be recovered with minimal damage, not completely shattered as we found. Similarly, if the door separated anywhere as an initial event, I would expect it to separate and be recovered with minimal damage. (The United 811 cargo door was broken in two, but contained very little overall damage.) The fact that the door pieces have so much damage is totally consistent with water impact, and totally inconsistent with early separation. (The nose landing gear doors that separated early have very little damage.) This basic and obvious fact is not going to change.

Rapid decompression of the lower lobe would never be expected to generate a forward load on the front spar web, because the area
behind
the web (between SWB3 and the front spar) is vented to the
atmosphere.
Therefore, a decompression in the cargo compartment would
only
neutralize the pressure loading on the front spar.

I hope my response answers some of your concerns.
Please know that the Safety Board has seriously considered the
possibility of the forward cargo door opening. However, at this
time we
believe that sufficient work has been done to reach our
conclusions.

Best wishes,

Jim Wildey
the possibility of the forward cargo door opening in flight and possibly initiating the TWA 800 breakup. The Safety Board believes that there has been sufficient factual examinations of this portion of the airplane for our purposes of determining the probable cause of the accident, and we plan no additional trips to reexamine this structure. While I do not have the time to address each of the points raised by your letter, I would like to correct several obvious misconceptions that I noted.

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I hope my response answers some of your concerns. Please know that the Safety Board has seriously considered the possibility of the forward cargo door opening. However, at this time we believe that sufficient work has been done to reach our conclusions.

Best wishes,
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Response to Chairman Hall's letter to Congressman Farr.

Date: Thu, 2 Jul 1998 13:33:30 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Response to Chairman Hall's letter to Congressman Farr.
Cc:
Bcc:
X-Attachments:
Sam Farr
Member of Congress
17th District, California
House of Representatives
Congress of the United States
1117 Longworth Bldg
Washington, DC 20515-2861

John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
United States Senate
241 Russell Senate Office Bldg
Washington, DC 20510-0303
James Hall  
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National Transportation Safety Board  
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National Transportation Safety Board  
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Bernard Loeb,  
Director of Aviation Safety  
National Transportation Safety Board  
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Thomas E. Haueter  
Chief, Major Investigations Division  
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John B. Drake  
Division Chief  
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David Mayer
NTSB Wreckage Database Manager
National Transportation Safety Board
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Washington, DC 20594

Thomas McSweeny
Director, Aircraft Certification Service
FAA National Headquarters
800 Independence Avenue, S.W.
Washington D.C 20591

Lyle Streeter
FAA AAI
Aircraft Accident Investigator
FAA National Headquarters
Dear Mr. Wildey,

July 2, 1998

Congressman Sam Farr sent me a letter on June 16th enclosing a letter to him from Chairman Jim Hall on June 8th discussing
TWA 800 and cargo door cause. The letter from Chairman Hall to Congressman Hall contains various inaccuracies which require clarification:

Chairman Hall, "...Mr. Smith expressed his belief that the failure or cargo door led to the accident."

Chairman Hall has misstated my 'belief.' My belief is a wiring short led to the accident. As NTSB states a wiring short led to center tank explosion led to the accident, I say a wiring short led to cargo door rupturing in flight leading to the accident. Cargo door did not 'fail'; it did what it was told to do, unlatch.

Chairman Hall, "...numerous letters..."

Yes, that's correct. Three hundred and thirty eight to NTSB officials since July 20, 1996, three days after TWA 800, all with same consistent explanation; hull rupture forward of the wing on the right side at cargo door area. After researching hull ruptures on high time 747s for seven years, it was readily apparent that TWA 800 matched the previous accidents, one of which was confirmed as wiring/cargo door caused, UAL 811.

Chairman Hall, "Examination of the wreckage has not revealed any evidence..."

This is the Chairman of NTSB's opinion about a probable cause and is same as the Chairman of NTSB's opinion in 1990 about the forward cargo door for UAL 811 in AAR 90/01 which was in error and corrected with AAR 92/02. The forward cargo door has opened and fooled before.

Chairman Hall, "The cargo doors were found with their
respective fuselage sections..."

Not accurate. Only 60% in pieces of the aft cargo door and only 20% in pieces of the forward cargo door were found, recovered and examined. Twenty percent of a door is not 'a door.'

Chairman Hall, "...the examination of the cargo door latches found that they were closed at the time of impact."

Not true. There are ten latches on each door and only eight of the forward door were examined because only eight were recovered. Above quote also implies some latches opened but not in flight. What is the status of the forward midspan latches? Found? Open or closed? Damaged? They are not in the wreckage database, they are not hung on wreckage reconstruction, and they are not discussed in the forward cargo door Exhibit 15C.

Chairman Hall, "Safety Board metallurgists and structures engineers have carefully examined the cargo door..."

Not true because it's impossible. Only 60% in pieces of the aft cargo door and only 20% in pieces of the forward cargo door were found so it was impossible to carefully examine the cargo doors. Missing from the forward cargo door recovery are two midspan latches, manual locking handle, eight viewing ports, two overpressure relief doors, and 80% of the door skin. Most of the forward cargo door is not in wreckage recovery database nor hung on wreckage reconstruction. Who is the 'metallurgist? Mr. Wildey? Who is the 'structures engineer'? Mr. Breneman? Asking someone who said something once to say it again is not an impartial confirmation of a questioned evaluation.

Chairman Hall, "...carefully examined...the latching
mechanisms..."

Not true. Only eight of the ten latching mechanisms were recovered to be examined. Two latches have not been examined at all.

Chairman Hall, "...carefully examined...the surrounding structure..."

Not accurate. Most of the surrounding structure is missing. Many nearby large red unusual paint markings were not evaluated.

Chairman Hall, "...found no evidence of pre-impact failure..."

Not supported opinion. There is much clear visual evidence of pre-impact failure with petal shaped rupture at aft midspan latch, outward peeled skin on side and belly, unilateral shattered fuselage in cargo door area, downward floor beams, and several large red paint markings between passenger windows only above cargo door.

Chairman Hall, "...no evidence...that the door had opened in flight."

Not true. A FAA structures engineer at one time agreed that paint markings and structural deformation indicated an outward explosion in cargo door area. There is much hard, real, and documented evidence below that forward cargo door ruptured/opened in flight.

1. right horizontal stab has red paint smear
2. stator blade in right horizontal stab behind engine number 3
3. inward crush top of cargo door
4. top of cargo door attached to hinge
5. petal shape of rupture area around aft midspan latch
6. missing pieces of forward cargo door include locking handle, latching pins, overpressure relief doors, midspan latches
7. rectangle visible of explosive decompression zone of outward peeled skin on right side forward of the wing on right side
8. downward movement of floor beams near cargo door
9. hoop stresses found
10. CVR sudden loud sound
11. FDR abrupt power cut
12. missing turbine blades in engine number 3.
13. soft body impacts on blades in engine number 3.
14. outward peeled skin near top of nose, under belly, and in cargo door area.
15. red paint smears above cargo door on white paint
16. soot on most blades of engine 3.
17. starboard side more damaged than port side
18. intact R2 door near shattered cargo door.
19. poly x is known to be susceptible to chafing and present
20. section 41 is known to be weak
21. history of cargo door openings in past in various airliners
22. EPR problems on aircraft before or during fatal flight.
23. fires in forward cargo hold in the past on Boeing 747s.
24. vertical tears in fuselage skin forward of the wing on the right side
25. singe marks on right side of fuselage show burnt skin, then abruptly at tear line there are no singe marks
26. red paint rubbed off revealing white paint underneath on skin above cargo door area
27. first pieces off plane came from forward cargo hold just forward of the wing
28. at least nine missing never recovered bodies, just fragments
29. initially thought to be a bomb
30. wreckage debris shows cargo door shattered in many pieces  
31. TWA 800 matched to AI 182, PA 103, and UAL 811.  
32. no soot on maintenance hatch  
33. no soot on front spar of center wing tank  
34. no burned bodies forward of the wing and very few burned at all  
35. aft cargo door sill, latches, and locks recovered  
36. forward cargo door sill, latches, and locks not recorded in database  
37. no orange zone pieces recorded in database  
38. no orange zone discussion in public record other than identification  
39. chafed to bare wires found in cargo door area  
40. wiring defects found on Boeing airliners  
41. water observed pouring out of forward cargo hold of a Boeing airliner, cargo holds have bilges.  
42. no soot on keel beam forward of the wing  
43. compression fractures right side forward of the wing  
44. tension fractures left side forward of the wing  
45. seats in the rows in the explosive shatter zone above cargo door are in red zone and not sooted  
46. aft cargo door sill sooted  
47. many witnesses said they saw downward streak that was red-orange  
48. NTSB official said possibility of forward door popping open was intriguing.  
49. FAA official said, then recanted, that paint smears and structural deformation indicated outward explosion.  

I again ask for a meeting with an NTSB representative to present my nine years of research for an impartial evaluation of the evidence derived from official governmental aviation agencies.
Sincerely,

John Barry Smith

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: My errors corrected

Date: Tue, 23 Jun 1998 08:45:10 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: My errors corrected
Cc:
Bcc:
X-Attachments:
Sam Farr
Member of Congress
17th District, California
House of Representatives
Congress of the United States
1117 Longworth Bldg
Washington, DC 20515-2861

John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
United States Senate
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James Hall  
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John B. Drake  
Division Chief  
Aviation Engineering Division  
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Al Dickinson,  
Lead Investigator, TWA 800
Ron Schleede,
Investigator, TWA 800
National Transportation Safety Board
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James F. Wildey II
National Resource Specialist
National Transportation Safety Board
490 L'Enfant Plaza, SW.
Washington, DC 20594

David Mayer
NTSB Wreckage Database Manager
National Transportation Safety Board
490 L'Enfant Plaza, SW.
Washington, DC 20594

Thomas McSweeny
Director, Aircraft Certification Service
FAA National Headquarters
800 Independence Avenue, S.W
Washington D.C 20591

Lyle Streeter
FAA AAI
Aircraft Accident Investigator
FAA National Headquarters
800 Independence Avenue, S.W
Dear Mr. Wildey,  June 23, 1998

NTSB just sent me a two page letter. It was indirectly from Dr. Bernard Loeb. The first page was a form letter from NTSB reporting that I had used the wrong zip code on my hand addressed letter to Dr. Bernard Loeb. The second page was a copy of the misaddressed letter which was my 13 March 1998 letter to everyone addressed above.
This recent letter from NTSB tells me much. It tells me Dr. Bernard Loeb received the letter all right because the correction came from NTSB which means NTSB received it all right and everyone in NTSB knows Dr. Bernard Loeb as the Director of Aviation Safety and point man for TWA 800. I assume that Director Loeb gives close scrutiny to my letters to catch a one digit zip code error from incorrect 20591 to correct 20594. I assume this is a way for Director Loeb to point out errors in my correspondence.

And he's right. It was an error. It may be trivial in this case but potentially catastrophic when flying. As a navigator I recognize a serious error and the lack of attention to detail in a wrong number. It is a mistake I shall remember always. Dr. Bernard Loeb has shown me the need to check my numbers. Accuracy is everything in aviation and one digit being wrong is enough to kill. It happened with a Korean flightcrewmember avoiding the digit '4' and putting in a different number into his inertial navigation computer which then led him, his plane and his passengers over enemy territory which led to a shootdown, KAL 007. It happened to me when hand addressing envelopes of hard copy letters to back up the electronic emails. I checked out the error and traced it to a mixup of zip codes between NTSB and FAA. NTSB is 20594 and FAA is 20591 and I mixed them up.

There is an additional error on my address to Dr. Bernard Loeb. I put "490 L'Enfant Plaza East SW" instead of the correct "490 L'Enfant Plaza SW."

The principle is the same: Errors kill and accuracy counts.

I shall follow the example of NTSB and recognize the error and
I may have made another error recently in regard to TWA 800: I said that the many large red paint marks between the passenger windows above the forward cargo door of TWA 800 wreckage were 'transfer marks'. I stated they were red marks from the red fuselage skin below coming up and smashing into the white and leaving the red paint on top, similar to UAL 811.

There is now serious dissent that states the many large red paint marks are red paint from overspray of the trim below. The red marks are revealed white paint between the passenger windows is peeled back, revealing the red underneath. Several painters of airliners give conflicting opinion. The conclusive evidence is on the wreckage of TWA 800.

I ask NTSB and Director Loeb, can you confirm the paint sequence for the many large red paint marks between the passenger windows as seen in URL http://www.corazon.com/redpaintsmearssoloprint.html and http://www.corazon.com/TWA800hullrupture.html? Are they red on top of white paint, or are they red underneath white paint? Is the red underneath or on top?

It's vitally important. If red is underneath white, then I have made another error and wish to correct it. If red on top of white then it appears that the red could have come from skin below opening up and slamming together causing paint transfer marks, thus confirming cargo door opened in flight.

There is no expense involved, only a short time for a metallurgist to climb up on a stepladder with a magnifying glass and look at the TWA 800 red paint marks.
As NTSB pointed out to me, numbers are to be accurate. I believe NTSB also respects numbers.

That's why eight is not ten. And never will be. That's why all ten of the forward cargo door latches must be recovered and examined and determined to have been operating normally before the cargo door is ruled out as culprit. That conclusive examination of all ten has not been done and that's why the forward cargo door can not be ruled out.

As NTSB told me to use the right numbers in my zip code, I ask NTSB to use the right numbers on the forward cargo door. There are ten identical latching pins and cams on that door and examining only eight is not good, not trivial, and wrong for NTSB.

For me to write NTSB zip code accurately is right for me. To check all ten latches is right for NTSB.

The two missing midspan latches that NTSB have not examined have been shown to carry loads as reported in AAR 92/02 where the aft midspan latch pin showed heat damage from hard contact. All ten latches are vital for proper operation of that door.

Only checking eight of ten is as bad as putting 20591 instead of 20594.

So, I acknowledge an error pointed out to me by NTSB and I remark on another error nearby, and corrected both.

I ask that NTSB do the same for themselves.
There is additional NTSB evidence which is perplexing if the center tank explosion as initial event is to be confirmed:

Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge." And same page: "A section of the structure outboard of H7 exhibited evidence of red paint transfer marks on the upper skin (H8); only the remnants of the shattered logo light window remain in the window frame."

Seat track, glitter, stator blade and red paint all had to come from up front because that's where they were. All of these items must have become embedded in the horizontal stabilizer in flight, because it's the only way they could have gotten there based upon the separation of nose and tail long before water impact. The only way for the stuff in front to get to the back in flight is for it to come out of the forward baggage hold. One very good way, a reasonable way, a way that's happened before, is for the forward cargo door to come open in flight and allow glitter contents of cargo bins, a seat track, and red painted door top to be blown aft. It also allows a fodded engine three to cause stator blade to be thrown out and back into right horizontal stabilizer.

A way to rule a repeat door opening event out is to examine the door and determine if it was functioning normally. That can not be done yet because only eight of ten latches have been recovered as well as on 20% of the door structure. Until door totally recovered it can not be totally ruled out. Until cargo door totally ruled out, TWA 800 investigation is not totally complete.
Examining many large red paint markings can assist in that determination. Are the red paint marks on top of the white paint or underneath the white paint between the passenger windows above the forward cargo door?

Sincerely,

John Barry Smith
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Carmel Valley, CA 93924
408 659 3552
barry@corazon.com
www.corazon.com
Citizen: USA
Major: US Army Retired
Pilot: Commercial, instrument rated, FAA Part 135 certificate.
Navigator: RA5C Vigilante
Owner: Mooney M20C
Survivor: Sudden night fiery fatal jet plane crash

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Red Paint Transfer Marks TWA 800 Cargo Door Area

Date: Fri, 12 Jun 1998 06:38:48 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Red Paint Transfer Marks TWA 800 Cargo Door Area
Thomas E. Haueter  
Chief, Major Investigations Division  
National Transportation Safety Board  
490 L'Enfant Plaza East, SW.  
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Al Dickinson,  
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Bob Breneman,
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Renton, WA 98055-4056

Dear Mr. Wildey and Official Persons who feel responsibility in explaining TWA 800,

Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 34, A section of the structure outboard of H7 exhibited evidence of red paint transfer marks on the upper skin (H8); only the remnants of the shattered logo light window remain in the window frame.

The above details a red paint transfer mark on the right horizontal tail surface of TWA 800 directly aft of the red painted trim in cargo door area. This area shows missing red paint clearly in NTSB photo displayed at URL <http://www.corazon.com/redpaintsmearssoloprint.html>

The NTSB photographs are clear in color and detail. The TWA 800 reconstruction photograph shows abnormal green, white and red paint on the right side forward of the wing.

Normal TWA red trim paint scheme is seen at<http://www.corazon.com/twapaintpixweb.html> Only above the
forward cargo door of the reconstructed fuselage of TWA 800 is seen the abnormal red paint smears.

The sequence is thus: bare aluminum skin is cleaned, primed, base coat of white applied, then red trim on top of white, then decals. This sequence is basic painting for Boeing 747s and confirmed by aviation professionals.

It is not red paint trim on primer with overspray, mask off, then paint white base coat around the trim.

The red trim is always on top of white base coat and means that the many, red, and large red paint smears between the passenger windows are red paint transfer marks. The red paint marks are not red paint exposed when white above is worn away, it is always red on top of white, not underneath.

This is further proven by skin which has red paint missing and thus exposing white undercoat. This is seen at URL <http://www.corazon.com/TWA800hullrupture.html> The white is always underneath the red. The green is always underneath the white.

Additionally, the added red paint between the windows is next to the missing red paint in the trim above the cargo door. Red paint went from one area to another.

The many red and large red paint transfer marks above the forward cargo door of TWA 800 indicate the cargo door opened in flight. The precedent of cargo door paint transfer marks was set by UAL 811 as described in NTSB AAR 92/02, page 41.

The red paint transfer marks indicate the red door below
ruptured/opened in flight and slammed into the white paint above, removing the red trim paint and transferring it on top of the white paint. This is clearly seen between the passenger windows.

The red paint evidence coupled with the outward peeled skin on the side, and in the door area, and in the belly proves an explosive event occurred inflight in the cargo door area.

The downward crushed main floor beams confirm the explosive event. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."

The petal shaped outward bulge at the aft midspan latch of the forward cargo door pinpoints the location of the initial rupture of the hull of TWA 800 as seen at URL <http://www.corazon.com/petalbulge.html> The aft latch is missing, the door frame is curved outward, and surrounding skin is shaped circular.

The analysis of red paint markings and structural deformation indicating an outward explosion was briefly held by FAA Branch Manager Neil Schalekamp of Northwest Region in a letter to me on 30 Jan 1998. "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT."
The cause of the outward cargo door explosion being the center tank is refuted by the lack of soot on the few recovered forward cargo door pieces and other right side fuselage pieces. Exhibit 20A page 129. Fire and Explosion Group Factual Report. "RF2 C-004 No sooting No sooting RF3A-H These pieces are part of the forward main cargo door. Some have grimy corrosion inhibiting compound (CIC), but there is no apparent sooting. These pieces are part of the forward main cargo door. Some have grimy corrosion inhibiting compound (CIC), but there is no apparent sooting. RF4 B-103 No sooting No sooting RF5 A-071 No sooting No sooting RF6A B-2004 No sooting No sooting RF6B B-240 No sooting No sooting RF6C B-318 No sooting No sooting RF7 A-033 No sooting No sooting RF8A No sooting No sooting RF8B B-256 No sooting No sooting RF8C B-263 No sooting No sooting RF8D B-068 No sooting No sooting RF8E B-268 No sooting No sooting RF8F B-248 No sooting No sooting RF9A C-117 No sooting No sooting RF9B C-117 No sooting No sooting RF9C C-259 No sooting No sooting"

NTSB investigators also are intrigued by the aircraft forward door popping open in flight, an explanation supported by red
paint smears, outward peeled skin, downward floor beams, and petal shaped bulge at aft midspan latch. "NTSB investigators have suggested unofficially that the streaks the pilots saw could have been light reflections from the skin of the aircraft, tongues of flame from the airliner or the forward door of the aircraft popping open, a possibility that still intrigues investigators, the second official said." AW&ST 3/10/97

Basic NTSB generated evidence for TWA 800 in photos, text, sooting diagrams, tables, and drawings, a NTSB produced report AAR 92/02, and your visual interpretations of NTSB photograph at <http://www.corazon.com/redpaintsmearssoloprint.html> and on NTSB CD-ROM proves that the forward cargo door of TWA 800 opened in flight.

The evidence above proves the the cargo door was not all latched, all locked, and all intact at water impact, as previously believed based upon examination of only eight of the ten cargo door latches. Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

The cause of the door opening in flight is probably the same as UAL 811, as described in AAR 92/02; chafed wiring shorting on door unlatch motor based upon NTSB evidence for TWA 800 in Docket Exhibit 9A page 116: "Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft
end of the W480 bundle from station 570-900 were insulation cracks found."

NTSB agrees that a new explanation for the destruction sequence is possible based on new interpretations of the evidence such as shown by the red paint smears. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

The wiring/cargo door explanation for TWA 800 must be thoroughly investigated to rule in or rule out the reasonable conclusions reached by the careful analysis of red paint smears, outward peeled skin, downward floor beams, petal shaped bulge at aft midspan latch, and cracked to bare conductor wires discovered in TWA 800 by NTSB.

The wreckage of TWA 800 is the victim at autopsy. It is the victim saying look at me, I exploded in flight, right there at the aft midspan latch. Just like I did before in 1989 with UAL 811 and left paint smears, outward peeled skin, aft midspan latch rupture, sudden loud sound on the CVR and power cut to the FDR. Don't ignore me; don't deny me; do something about me.

Sincerely,

John Barry Smith
551 Country Club Drive
Carmel Valley, CA 93924
408 659 3552
Facts presented by NTSB about TWA 800 in exhibits, photographs, text, drawings, and testimony:

1. right horizontal stab has red paint smear
2. stator blade in right horizontal stab behind engine number 3
3. inward crush top of cargo door
4. top of cargo door attached to hinge
5. petal shape of rupture area around aft midspan latch
6. missing pieces of forward cargo door include locking handle, latching pins, overpressure relief doors, midspan latches
7. rectangle visible of explosive decompression zone of outward peeled skin on right side forward of the wing on right side
8. downward movement of floor beams near cargo door
9. hoop stresses found
10. CVR sudden loud sound
11. FDR abrupt power cut
12. missing turbine blades in engine number 3.
13. soft body impacts on blades in engine number 3.
14. outward peeled skin near top of nose, under belly, and in cargo door area.
15. red paint smears above cargo door on white paint
16. soot on most blades of engine 3.
17. starboard side more damaged than port side
18. intact R2 door near shattered cargo door.
19. poly x is known to be susceptible to chafing and present
20. section 41 is known to be weak
21. history of cargo door openings in past in various airliners
22. EPR problems on aircraft before or during fatal flight.
23. fires in forward cargo hold in the past on Boeing 747s.
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25. singe marks on right side of fuselage show burnt skin, then abruptly at tear line there are no singe marks
26. red paint rubbed off revealing white paint underneath on skin above cargo door area
27. first pieces off plane came from forward cargo hold just forward of the wing
28. at least nine missing never recovered bodies, just fragments
29. initially thought to be a bomb
30. wreckage debris shows cargo door shattered in many pieces
31. aft portion of forward door which includes aft midspan latch and locking handle missing from recovery effort
32. no soot on maintenance hatch
33. no soot on front spar of center wing tank
34. no burned bodies forward of the wing and very few burned at all
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36. forward cargo door sill, latches, and locks not recorded in database
37. no orange zone pieces recorded in database
38. no orange zone discussion in public record other than identification
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40. wiring defects found on Boeing airliners
41. water observed pouring out of forward cargo hold of a Boeing airliner, cargo holds have bilges.
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43. compression fractures right side forward of the wing
44. tension fractures left side forward of the wing
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46. aft cargo door sill is sooted
47. many witnesses said they saw downward streak that was red-orange
48. NTSB official said possibility of forward door popping open was intriguing.
49. FAA official said, then recanted, that paint smears and structural deformation indicated outward explosion.
50. initial event time was 20:31:12 at 13700 on 17 July 1996 eight miles off coast of Long Island.

Reasonable conclusions derived from facts above:
1. water in forward cargo bay.
2. chafed bare wire touched by water.
3. electrical short occurs.
4. forward door motor turns on to unlatch position.
5. aft midspan latch of forward cargo door partially unlatches.
6. pressurized hull ruptures at aft midspan latch.
7. cargo door tears into pieces, some pieces stay with nose, some don't.
8. shiny metal pieces spin away reflecting evening sunlight and perceived as red-orange streak to observers far away.
9. explosive decompression occurs shattering cargo door area forward of the wing on right side exposing twenty foot by forty foot hole in nose producing sudden loud sound on CVR.
10. 300 knots slipstream tears weakened nose off.
11. ejected debris is ingested by starboard engines which catch fire.
12. wing and wing fuel tanks; engines, tail, and fuselage fall and
disintegrate on way down.
13. fiery starboard engine ignites fuel vapor clouds from disintegrating tanks, including center tank.
14. fireball observed on the ground.
15. water impact of wreckage, cargo bay material first to hit water.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Inspect cargo door wiring too.

Date: Fri, 5 Jun 1998 01:44:09 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Inspect cargo door wiring too.
Cc:
Bcc:
X-Attachments:
Sam Farr
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House of Representatives
Congress of the United States
1117 Longworth Bldg
Washington, DC 20515-2861

John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
United States Senate
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Thomas McSweeney
Director, Aircraft Certification Service
FAA National Headquarters
800 Independence Avenue, S.W
Washington D.C 20591

Lyle Streeter
FAA AAI
Dear Mr. Wildey and Official Persons who feel responsibility in explaining TWA 800,

5 June 1998

There are cracked wires to the bare conductors in the cargo door area of TWA 800 as described by NTSB Systems Exhibit 9A,
"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found." Page 47 also states, "Evidence of arcing or short circuiting was found in the fuselage of N93119, (TWA 800) in addition to what was found in the wiring from the raceway below the left cabin floor and near the forward wing spar.

That's a fact and NTSB told me so. To be prudent, determine if the forward cargo door unlatch motor power on wire is among those cracked to the bare wires located by NTSB in TWA 800. NTSB did it before with UAL 811 in AAR 92/02 where a bare chafed wire turned on the forward cargo door unlatch motor. There is a precedent of bare wires in that area causing a fatal accident in a high time Boeing 747. It would be prudent to rule out that event happening again by checking the bare wires discovered by NTSB in TWA 800 wreckage in cargo door area to see if it is the door unlatch motor wire.

True power always wants to know if it may be wrong and immediately take steps to confirm or rebut. True power knows error is weakness and will immediately correct the error to become strong again. Fake power ignores any evidence of error. It is weak and will fail. NTSB discovers the cause and makes recommendations to FAA. FAA orders the manufacturer to fix the problem. The problem is old cracked wiring. I come to elected officials, NTSB, and FAA officials because only you have to power to persuade the manufacturer to replace defective, old, and chafed wiring if necessary and it is necessary.
Very many, very red, and very large red paint smears exist on TWA 800 above the forward cargo door area on top of normal white paint in between the passenger windows. That's a fact and NTSB showed it to me by presenting the TWA 800 reconstruction photograph in which the many, large, red paint smears are clearly evident. <http://www.corazon.com/TWA800hullrupture.html> A precedent has been set of paint transfer marks in that area by UAL 811 as described in NTSB AAR 90/01 and AAR 92/02. <http://www.corazon.com/811page42paintondoor.html>

It would be prudent to confirm or rule out the red paint smears indicating an open cargo door in flight or not. One way would be to examine the cargo door hinge for overtravel impression damage, another precedent set by UAL 811 in NTSB in AAR 92/02. <http://www.corazon.com/811reportcontentpage.html>

There is outward peeled skin high up on the right side of TWA 800, also more outward shattered skin on the belly, and most of all, there is outward peeled skin forward of the wing on the right side, centered around the outward petal shaped bulge at the aft midspan latch of the forward cargo door. That's a fact and I know that because NTSB presented the photograph of TWA 800 wreckage reconstruction and described the outward peeled skin in NTSB exhibits.

Main deck floor beams above the forward cargo hold were broken downward in UAL 811 during the explosive decompression. That also happened in TWA 800. An explanation was offered by Mr. James Wildey of NTSB: Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "The initial opening of the fuselage lower lobe (e.g. LF6A) would have the
expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."

The red paint smears and the outward peeled skin strongly indicate the forward cargo door opened in flight, an opinion shortly held by Mr. Fred Schalekamp of FAA:

30 Jan 1998 letter from Neil Schalekamp, FAA, to JBS: "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT."

That's a fact and NTSB and FAA told me so in a letter and shown in sooting diagrams in exhibits. To not see the very red, very many, and very large unusual paint smears, and to not see the outward, not inward, peeled skin is to defy reality. The red smears, downward floor beams, and the outward skin are there and strongly indicate cargo door opened in flight based on physics and precedent.

The forward cargo door did open in flight, but not by the overpressure of a center tank explosion because the cargo door pieces were unsooted, just like the forward pieces of the center fuel tank.

What else could cause the forward cargo door to open in flight? There is a precedent, UAL 811, as described in NTSB AAR 90/01 and AAR 92/02 in which a high time Boeing 747 suffered a hull rupture in flight forward of the wing which left a sudden loud sound on the CVR and an abrupt power cut to the FDR,
paint transfer marks in cargo door area, and outward peeled skin, all caused by chafed to bare wire conductor in the cargo door area. <http://www.corazon.com/811reportcontentpage.html>

TWA 800 had a hull rupture forward of the wing which left a sudden loud sound on the CVR and an abrupt power cut to the FDR, paint transfer marks in cargo door area, outward peeled skin, and chafed to bare wire conductor discovered in cargo door area.

That is enough of a match to justify inspection of cargo door wiring in early Boeing 747s irrespective of other corroborative evidence of faulty Poly-X wiring discovered in Boeing airliners under NTSB and FAA orders.

Bare shorted wires have also caused fires in forward cargo holds of Boeing 747s before.

NTSB Exhibit 9C, Attachments to the Systems Group Factual Report page 44, 45, 46. "1996, burning smell in forward cargo compartment, found damaged wiring shorted to ground, charring found.

B. Oct 12, 1996, Wire bundle arcing and resultant fire at aft bulkhead of forward lower lobe cargo hold on 747-200 freighter."

It would be prudent to inspect cargo door wiring in the forward cargo hold of early 747s since that wiring has been shown to be faulty in general, early Boeing airliner wiring has been shown to be faulty in particular, UAL 811, and faulty cargo door area wiring has shown up in the same area on a new fatal accident, TWA 800.
A solution to the mystery of the ignition source of the fireball and center tank fire may well be a foded and on fire engine number 3 igniting disintegrating wing fuel tanks thousands of feet lower and seconds later than the initial event.

TWA 800 engine number three shows foreign object damage, fire, and uncontainment in the NTSB powerplant report and the structures report.

Exhibit 8A, page 11, paragraph 3, discussing results of engine 3 disassembly, "Of the 46 fan blades in the fan rotor, 21 blades with complete or partial airfoils and 6 root sections were recovered. All of the fan blades had sooting on the convex airfoil surfaces. Most of the full length airfoils were bent rearward and the tips outboard of the outer midspan shroud were bent forward slightly. About half of the fan blades had impact damage to the leading and trailing edges. Almost all of the impact damage to the airfoils could be matched to contact with the midspan shroud on an adjacent blade. One full length blade had four soft body impacts along the leading edge and a partial airfoil had a soft body impact, which had some streaking extending rearward."

Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

A prudent action would be to rule in or rule out the precedent of UAL 811 applied to TWA 800. A risky action is to ignore many large red paint smears, downward broken floor beams, and much outward peeled skin and their clear implication of cargo door
open in flight. The red paint smears will not fade away; they will always be many, large, and red in the photographs on the NTSB CD-ROM. The floorbeams will always be broken in Exhibit 18A. The outward peeled skin will always be shattered outward on the belly, the upper fuselage, and around the aft midspan latch of the forward cargo door in the photographs of TWA 800 on the NTSB CD-ROM. Engine number three will always be sooted, blades missing, and have soft body impacts as shown by NTSB Exhibit 8A.

A more prudent action is to ground all Boeing 747s with Poly-X wiring for total inspections and replacement of that wiring. A total wiring inspection casts the net wider to catch faulty wiring. By inspecting all the wiring to include the fuel tank wiring, the yaw damper wiring, and the known previously faulty cargo door power wiring, all wiring can all be cleared as intact and pose no danger of shorting on, as has happened before fatally.

I understand the difficulty and turmoil the grounding would cause. Boeing would have much work to rewire the planes if necessary. If not feasible, new airliners would have to be built and the grounded ones used for parts, similar to what the Navy has done with their Poly-X F-14 Tomcats.

Am I a traitor? Does my belief of a wiring cargo door fault for TWA 800 and other early 747s hurt my country? Specifically, the Northwest quadrant which has an economy derived from the design, manufacture, and selling of 747s.

Here's my answer to myself on that one. No, I am not a traitor, I am a patriot. Here's why.

Seattle is successful and must remain so. Seattle is successful
because nearby is built successful airplanes. Successful airplanes are the best selling ones. The best selling ones are the most made ones. The most made ones are the ones that make the most money. The ones that make the most money are the ones that fly the most. The ones that fly the most are the safest ones. The safest airplane is the most successful airplane. Period.

So, to present an explanation for an unsafe event, the crash of TWA 800, an early Boeing 747, is a good thing to do, even if proven wrong later. The goal is to makes safe airplanes which will fly the the most and be sold the most and be made the most, thereby keeping our country's economy thriving.

My personal goal is to prevent death by preventing airplane crashes by preventing hull ruptures in flight on early 747s by preventing cracked bare wires shorting on the door unlatch motor thereby allowing the aft midspan latch to rupture and allow the middle of the forward cargo door to burst open causing a large explosive decompression which allows the 300 knot slipstream to tear nose off. This inner goal was determined by the selfless action of my pilot who saved my life in a sudden night fiery fatal jet plane crash years ago and which I have never forgotten.

It is the duty of aviation professionals to strive to explain TWA 800. And yet, this loyal citizen is rebuffed when presenting to NTSB derived evidence of a supplemental explanation to TWA 800. Why is that?

If I can't have a real conversation with NTSB or FAA officials regarding TWA 800, here is an imaginary one that sums up the past two years.

JBS: "Hello, NTSB, I'm answering your plea for public
assistance regarding the cause of TWA 800."

NTSB: "What do you want?"

"I believe the initial event is moisture meeting chafed to bare wire and shorting on cargo door motor to unlatch position causing rupture at aft midspan latch of forward cargo door in flight leading to thirty by forty foot hole of explosive decompression which allows 300 knot slipstream to tear nose off which leads to disintegrating aft fuselage, wings, and tail which ignite into fireball when fiery fodded engine number three meets vaporizing fuel thousands of feet lower and seconds later."

"No."

"There are many similarities to an event that happened before, UAL 811, and TWA 800."

"You're crazy. Who are you?"

"Commercial licensed pilot, instrument rated, 1000 PIC hours, Navy jet navigator, aircraft owner, FAA Part 135 certificate holder, avionics technician, and survivor of sudden night fiery fatal jet airplane crash talking about a sudden night fiery fatal jet airplane crash."

"Go away."

"The evidence of red paint smears, outward peeled skin, and petal bulge at aft midspan latch support conclusion forward cargo door opened in flight, just like UAL 811."

"I'm ignoring you and will not respond to further comments."
"You are safety aviation officials who say you turn over every stone, who check out every explanation, who really want to know what happened to TWA 800, regardless of cause. Listen to me; talk to me."

"You are a wacky guy on the internet, you are bothering the real investigators and getting in the way, you have been told over and over again in great detail that you are wrong and we are right, you don't have your basic facts straight about the door, you should check with us before you say your nonsense to others, and you are a flake and we don't like you."

"Maybe, but so what? The messenger's style is independent of the truth of his content. Moisture and shorted wiring caused the crash of TWA 800. Why do you not ask questions to me, as real investigators do, as I ask you?"

"We don't ask questions of citizens that we don't already know the answers to, we just make statements such as this: No, you're wrong, you're crazy, go away, we will not respond, goodbye, and thank you your for your interest in aviation safety."

Below is real:
10 March 1998 letter of John B. Drake of NTSB to JBS:
"We consider our correspondence on this subject to be complete. Should you continue to reiterate your position on this issue in future correspondence, you should expect no further response from the Safety Board."

30 Jan 1998 letter of Neil Schalekamp of FAA to JBS:
"Please note that this office will no longer be responding to your further inquiries about these same concerns, including your
February 6 and February 9 letters that I just received.

17 March 1998 letter of Jim Hall of NTSB to JBS: "We do not believe a meeting is necessary to further discuss this issue."

Summarized conversation between me and ordinary citizens who visit my web site:

Visitor: "What does NTSB and FAA say when you tell them about wiring/cargo door explanation for TWA 800?"

JBS: "They write that all cargo doors were all latched, all locked, and all intact at water impact, they have told me that over and over again and they will not respond to any further inquiries from me."

"What do they say about the red paint smears?"

"They pretend they don't exist except one FAA official who did but changed his mind and now pretends they don't exist."

"What do they say about the outward peeled skin?"

"They say it was caused by inward water impact."

"What do they say about the petal outward bulge at aft midspan latch of forward cargo door?"

"They pretend it does not exist except one FAA official who did but changed his mind and now pretends it doesn't exist."

"What do they say about the missing manual locking handle, the
two overpressure relief doors, the viewing ports, the torque tubes, the two pull-in hooks, the midspan latches, and the other eighty percent of forward cargo door skin?"

"They say they are unimportant."

"What do they say about the Orange Zone pieces, the possible mixup in cargo door sills, the unsooted pieces of center fuel tank, the thirty by forty foot shattered skin zone forward of the wing on the right side, the chafed to bare wire discovery in cargo door area, and the many significant matches to UAL 811?"

"Nothing. They say nothing. Well, actually they told me to go away, and stay away."

"Have you gone to your congressman?"

"Yes, Sam Farr, and he has asked many time to NTSB and FAA for information."

"What happened?"

"They wrote to him that the door was all latched, all locked, all intact at water impact, they have told me that many times, and thanked him for his interest in aviation safety."

"Did you contact any other elected politician?"

"Yes, Senator John McCain, jet plane crash survivor and Chairman of the Committed that oversees NTSB."

"What happened?"
"He reviewed my data and submitted it to his committee for review. He asked me to wait until the hearings. He asked the NTSB to meet with me to related my concerns about the forward cargo door of TWA 800."

"What happened?"

"The Committee on Commerce, Science and Transportation still has the matter under review, I waited until the hearings, I went to the hearings. The suggested meeting by Senator McCain between NTSB officials and me was refused by Chairman Hall of NTSB saying there was sufficient evidence to rule out the cargo door opening in flight, he has told me that many times in great detail and a meeting was not necessary."

"Have you tried the press?"

"Yes, I've had several radio and TV interviews. Some get airplay and some don't."

"Have you tried Boeing?"

"Yes, Boeing and McDonnell Douglas both contacted before the merger. The two safety officers were polite and referred me to NTSB. Boeing engineers referred me to the Public Relations office of Boeing. The Boeing Public Relations office referred me to the NTSB. NTSB told me to go away."

"Have you tried the internet?"

Yes, I have a 1200 page, 100 meg website which has been online since July, 1996 and visited about 70000 times, according to page counters."
"What are you doing now?"

"I'm continuing to write to appropriate officials presenting the evidence and trusting it will speak for itself. It's not going to go away."

"Have you tried calling them?"

"No, my wife and daughter were approached in my home by two armed federal agents within twenty four hours of me posting an email to Senator McCain about Air Force One crashing. Calling on the telephone out of the blue would be much too aggressive. Prior to the Secret Service interrogation, phone calls usually ended up with the official shouting and hanging up. So now I continue to write non-threatening, polite, full of facts letters and emails."

"Are you saying government public safety aviation officials in writing refuse to adequately respond to your request for a meeting to discuss facts, evidence, documents, photos, which clearly indicate a forward cargo door opening in flight on TWA 800?"

"Yes."

"They will not call you, write to you, or respond to polite letters with sources listed?"

"Nope."

"Are these the same guys that say safety is priority number one, they will turn over every stone, never give up to get a full
explanation, and respond to every public inquiry?"

"Yup."

"Who are you? A wacky guy on the 'net?"

"Maybe, although I use government AARs for sources, and I'm also a survivor of a sudden night fiery fatal jet airplane crash, a commercial licensed pilot, instrument rated, FAA Part 135 certificate holder, light aircraft owner, jet carrier navigator, avionics technician including radar operator, and a retired military officer in a converted garage with a computer and a phone line."

"And you've tried for almost two years to meet face to face with the public officials involved with TWA 800?"

"Yes."

What happened?

"Nothing yet. But I'm still trying. It's only been two years for TWA 800. The investigation is open and active. The evidence is not changing or going away."

And I am still trying:

Real facts presented by NTSB about TWA 800 in exhibits, photographs, text, drawings, and testimony:

1. right horizontal stab has red paint smear
2. stator blade in right horizontal stab behind engine number 3
3. inward crush top of cargo door
4. top of cargo door attached to hinge
5. petal shape of rupture area around aft midspan latch
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43. compression fractures right side forward of the wing
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45. seats in the rows in the explosive shatter zone above cargo door are in red zone and not sooted
46. aft cargo door sill is sooted
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48. NTSB official said possibility of forward door popping open was intriguing.
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50. initial event time was 20:31:12 at 13700 on 17 July 1996 eight miles off coast of Long Island.

Reasonable conclusions derived from facts above:
1. water in forward cargo bay.
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4. forward door motor turns on to unlatch position.
5. aft midspan latch of forward cargo door partially unlatches.
6. pressurized hull ruptures at aft midspan latch.
7. cargo door tears into pieces, some pieces stay with nose, some don't.
8. shiny metal pieces spin away reflecting evening sunlight and perceived as red-orange streak to observers far away.
9. explosive decompression occurs shattering cargo door area forward of the wing on right side exposing twenty foot by forty foot hole in nose producing sudden loud sound on CVR.
10. 300 knots slipstream tears weakened nose off.
11. ejected debris is ingested by starboard engines which catch fire.
12. wing and wing fuel tanks; engines, tail, and fuselage fall and disintegrate on way down.
13. fiery starboard engine ignites fuel vapor clouds from disintegrating tanks, including center tank.
14. fireball observed on the ground.
15. water impact of wreckage, cargo bay material first to hit water.

I may not be alone: "NTSB investigators have suggested unofficially that the streaks the pilots saw could have been light reflections from the skin of the aircraft, tongues of flame from the airliner or the forward door of the aircraft popping open, a possibility that still intrigues investigators, the second official said." AW&ST 3/10/97

Regarding the Aviation Week and Space Technology article quoted above, the following is supplied: <http://
Monica Warnock
Washington Bureau
Aviation Week & Space Technology

Dear Ms. Monica Warnock,

21 May 1998

You wrote to me:

You must remove these articles and any other Aviation Week copyrighted material from your website immediately, or we will consider legal action.

I replied: Consider it done. And not because you threatened me, but because you may be right."

Ms. Warnock, I now believe you to be wrong.

I'm putting the 10 March 97 Aviation Week and Space Technology article in dispute back up on my web site at www.corazon.com at one minute after midnight on 1 June 1998.

Here's why: The content is everything and the content of the article is very, very important. I agree with the content. AvWeek agrees with content. The public officials quoted in your article agree with the content. The content quotes a public NTSB official who says that the cause of TWA 800 may have been forward door popping open. It also said the streak seen before TWA 800 crash may have been reflection off the skin of aircraft. I agree with that. It is very important. Let us call it the door pop streak article.

Ms. Warnock, you have done your job well by searching the web
for Avweek articles. You found one. You then followed orders and directed it be removed. It was removed. The problem is now above your level of authority. So I direct my comments to your boss: Mary Francis Koerner, the Manager of Bureaus.

Will you please see that this letter goes to her?

Dear Ms. Koerner, I am told several things:
1. Get the door pop streak article off my web site.
2. I should ask permission to put AvWeek articles on web site.
3. Permission will be denied.

I asked permission. It was denied. You were right.

You have done all you can do. The problem is now above your level of authority. I assume you would refer me to 'The Lawyers.' I direct my statements to the lawyers.

Will you please see that this letter goes to them?

Dear AvWeek lawyers:

Ah, copyright, don't you love it?

My name is John Barry Smith. I have a 1200 page, 100 meg website at www.corazon.com mainly devoted to high time Boeing 747 accidents in which the hull ruptures in flight forward of the wing. It contains mostly government scanned in aviation accident reports, AARs, and occasionally copyrighted material from media, such as yours.

Please note, let us stipulate:
1. My site is non profit. I have not made a penny on anything related to that website. In fact, much of my money has gone out, nothing has come in, a problem as my wife will attest.

2. It is research oriented with airplane crash related comments, investigations, reports, pictures, and text.

3. I give full and clear credit to the sources I quote. AvWeek was clearly stated as the author of the door pop streak 10 Mar 97 article in question. In fact, that is very important, that's why I quote clearly and give credit to Aviation Week by scanning in the entire article instead of paraphrasing, which would be quicker to download but not have the authority of the best aviation magazine on the planet, Aviation Week and Space Technology. And I omitted the advertising on the pages, too.

Now for argument:

1. I stole nothing from you.
2. It's fair use.
3. I can publish that article without your permission if certain conditions are met, and are: Non profit, small parts used, and credit given.

"Fair use and implied licenses.
Fair use is a legal license to use others' work, whether they approve or not. It constitutes one of the most important, and least clear cut, limits to copyright. The basic problem is that words like "fair" or "reasonable" cannot be defined with the precision non-lawyers (or many law students) would like. Until 20 years ago, fair use did not appear in U.S. legislation, but it now occupies about half of the copyright statute. In the U.S., partial or limited reproduction of another's work may be permitted under
this doctrine. On the one hand, fair use offers an especially liberal defense to uses that advance public interests such as education or scholarship. On the other hand, it is unlikely to be available if one fails to credit the original artist or author. It is not apt to be available to those who profit or interfere with original artists' or authors' ability to derive income from their works."

" 1998 Franklin Pierce Law Center. All rights reserved." (I hope I have fair use to quote the above.)

I believe I advance the public interest in aviation safety, I credit the original speaker, the reporter, and the magazine, and I do not profit from it. I have fair use.

Conclusion: It will take a Judge to order me to remove the 10 March 97 AvWeek article from my website after it is put back up on 1 June 1998 or to permit me to continue to post it.

So, Lawyers, the problem is above your level of authority. I turn my attention to the Managing Editor:

Will you please see that this letter goes to him?

Dear Managing Editor,

What's the beef? You and your reporter, David Fulghum, have done a fine piece of work. You have pinpointed the cause of a mystery crash now under current investigation, TWA 800. It was the door popping open in flight. The NTSB official you quoted was correct. The streak was the skin spinning away reflecting evening red orange sunlight to observers below. The official was correct and he was quoted correctly by your aviation reporter. The implications of the truth you printed are profound. The cause
now leads to chafed wiring shorting on cargo door unlatch motor and allowing rupture at aft midspan latch of forward cargo door which opened in flight. Exactly as has happened before with UAL 811 as described in NTSB AAR 92/02. The 300 knot slipstream tore the nose off TWA 800 because the explosive decompression shatter zone was much bigger on TWA 800 than on UAL 811, as shown by NTSB reconstruction photo of TWA 800 wreckage.

I encourage you to do a follow up story on the wiring/cargo door explanation as described on the website in question, www.corazon.com. Mr. Fulghum and Mr. McKenna are familiar with the details of TWA 800 and wiring cargo door explanation.

Attached:

1. Correspondence between AvWeek Ms. Warnock and me.

2. Three .jpgs of the images published on website of 10 March door pop streak article.

3. Recent email to Government officials regarding this matter. Please note accurate numbers and sources given.

So, I must publish your copyrighted material, the 10 March 97 article on my website at URL http://www.corazon.com/800avweekintrigue.html on June 1, 1998.

I'm at email barry@corazon.com or 408 659 3552 or 551 Country Club Drive, Carmel Valley, CA 93924.

I encourage discussion regarding this matter. It's a hot story even though almost two years old. Wiring is the main culprit, not the
door, not the center tank. NSTB is in the right church but the wrong pew. Wiring is the problem and it's in places other than the fuel tank tubes. It's in the cargo door unlatching motor circuits.

Cheers,
John Barry Smith

From: monica_warnock@mcgraw-hill.com
Date: Thu, 14 May 98 10:24:37 -0500
To: <barry@corazon.com>
Subject: Aviation Week
Mime-Version: 1.0

To: barry@corazon.com

Dear Sir,

Your website "http://www.corazon.com/800avweekintrigue.html" contains several scanned-in pictures of the Aviation Week & Space Technology article "ANG Pilot: TWA Hit By Object," March 10, 1997. Our records do not show that you requested permission to use these articles on your website.

Aviation Week & Space Technology is covered by copyright law which states that permission must be granted before our material is used. Your website is in violation of this law. You must remove these
articles and any other Aviation Week copyrighted material from your website immediately, or we will consider legal action.

Sincerely,
Monica Warnock
Washington Bureau
Aviation Week & Space Technology
monica_warnock@mcgraw-hill.com
(202)383-2314

To: monica_warnock@mcgraw-hill.com
From: John Barry Smith <barry@corazon.com>
Subject: Request permission to present article on website.
Cc:
Bcc:
X-Attachments:

> To: barry@corazon.com
> Dear Sir,
> Your website "http://www.corazon.com/800avweekintrigue.html" contains several scanned-in pictures of the Aviation Week & Space Technology article "ANG Pilot: TWA Hit By Object," March 10, 1997. Our records do not show that you requested permission to use these articles on your website.

Dear Madam, 14 May 1998
A thousand pardons. I immediately request permission to reprint Aviation Week & Space Technology article "ANG Pilot: TWA Hit By Object," March 10, 1997 on my website, www.corazon.com. (Corazon is my wife's name.)

The reason I scanned in exact image instead of paraphrasing text was to be precise and show source, very important for a research paper.

Should my request be denied, I shall of course, immediately comply with your request and remove the article from my web site.

AWST is a fine magazine and one which I have read diligently for over thirty years. I have watched AWST's web site mature as time goes on. http://awgnet.com/awgnews.htm is on my bookmarks list and I check it first thing every morning. I'm in your database of subscribers. Keep up the good work!

Regarding this life and death matter of a sudden night fiery fatal jet plane crash about which I have published a 1200 page website presenting my shorted wiring opening forward cargo door in flight explanation to the general public in a non profit effort:

1. You surely understand I can not alter my website just on an unsolicited email out of the blue from:

> Monica Warnock
> Washington Bureau
> Aviation Week & Space Technology
> monica_warnock@mcgraw-hill.com
> (202)383-2314
The absence of title indicates your request may be personal in nature and not official. Please confirm your official title which corresponds to your request that I delete an article from AWST from my site. You may be spoofing me and my asking for credentials is prudent and an established protocol.

2. Your response indicates an interest in the subject of TWA 800. Could you refer a reporter to me so I can present my wiring/cargo door explanation to him/her? I would appreciate the opinion of an aviation professional regarding my nine years of amateur research into hull ruptures of hour high time Boeing 747s. Your reporter, David Fuhlgum, in the referenced article, was able to elicit important material from NTSB officials regarding TWA 800; the forward door may have popped open in flight, and the streak may have been pieces of the aircraft reflecting evening sun. I am able to amplify those observations by an anonymous NTSB 'second official' using NTSB documents and photographs. It's a good story and one worthy of AWST's interest. FAA, NSTB, and Boeing are all saying wiring in older Boeing airliners is fraying and shorting causing problems, and so am I, long before the officials came to the realization.

3. >or we will consider legal action.

Why, O why did you threaten me? Your first contact, out of the blue, and it contains a threat of 'legal action'. What does that mean? I don't think it means a good thing. It just sets a wrong tone. Is politeness gone from even presentations about a plane crash?

4. >Your website is in violation of this law.
Whoa! You are calling me a criminal? Just like that? I'm breaking the law? I'm a lawbreaker? This is very disturbing. Maybe that's the way AWST works with the big boys who only respond to threats, not to polite requests with explanation attached. I'm not a big boy. I'm a retired military officer working out of a converted garage in California. I don't like anybody telling me I'm breaking the law unless it's a policeman, judge, or jury. And I still don't like it, but I obey. I really can't tell my friends that I changed my cherished web site because of a strange unauthenticated email from some babe named Monica at McGraw-Hill, now can I? I mean, am I a man or a mouse?

See, a threat always turns a pleasant conversation into stressful one. Squeek, squeek.

To review:


2. Please to show credentials, madam.

4. Refer reporter to me regarding a subject that you feel strongly enough to want to affect with correspondence, TWA 800.

5. Keep up the good work covering aviation subjects around the world.

Cheers,
Dear Mr. Barry,

I am an editorial assistant in the Washington Bureau of Aviation Week & Space Technology. I work for Mary Francis Koerner. She is the Manager of Bureaus and she is the official contact for Reprints & Permission. We will periodically search the web for Aviation Week on outside websites and that is what brought me to your site.

Unfortunately, at present, Aviation Week & Space Technology does not allow its material to be reprinted on any websites other than our own.

We appreciate your interest in Aviation Week & Space Technology; however, we must ask that you remove the article from your website, as
you have indicated you are willing to do.

My interest in this regard is not related to TWA800 but protecting the magazine in general. Many people are not aware of the rules regarding copyright on the internet. You may reference the section "Photocopy and Rights & Permission" on the Contact Us page of Aviation Week if you have any future requests for permission.

James McKenna would be the best editor to send your correspondence to regarding TWA 800. He is located in the Washington bureau: 1200 G Street, NW Suite 922, Washington, DC 20005. (202) 383-2332.

I will mail you a hard copy of this letter on Aviation Week & Space Technology letterhead to satisfy any concerns you might have about my identity. Thank you for your understanding.

Monica Warnock
Editorial Assistant, Washington Bureau
Aviation Week & Space Technology

To: monica_warnock@mcgraw-hill.com
From: John Barry Smith <barry@corazon.com>
Subject: Re: Request permission to present article on website.
Cc:
Dear Mr. Barry,

I am an editorial assistant in the Washington Bureau of Aviation Week & Space Technology. I work for Mary Francis Koerner. She is the Manager of Bureaus and she is the official contact for Reprints & Permission. We will periodically search the web for Aviation Week on outside websites and that is what brought me to your site.

Dear Ms. Monica,

Thank you for your prompt reply. I am saddened by the denial to present the AWST article on my web site. I shall search through it and delete it. Do I need permission to post your email in its place to explain why the article was deleted? I should explain why the article was removed to squelch any conspiracy coverup nonsense that pervades this TWA 800 investigation.

Unfortunately, at present, Aviation Week & Space Technology does not allow its material to be reprinted on any websites other than our own.

So sad.

We appreciate your interest in Aviation Week & Space Technology;
however, we must ask that you remove the article from your website, as
> you have indicated you are willing to do.

As soon as I am finished with this upcoming TV interview about wiring/cargo door explanation, I will. The TV station is KOMO-TV, Channel 4, ABC, in Seattle Washington and the arrive within the hour. I'm preparing for it so am unable now to find page, delete, change links, upload it to server right now. But how long to I have? Is 48 hours OK?
>
> My interest in this regard is not related to TWA800 but protecting the
> magazine in general. Many people are not aware of the rules regarding
> copyright on the internet. You may reference the section "Photocopy
> and Rights & Permission" on the Contact Us page of Aviation Week if
> you have any future requests for permission.

Protecting the magazine? Well, OK, if you say so. I feel that quoting AWST in a non profit website about aviation safety helps AWST, but what do I know.
>
> James McKenna would be the best editor to send your correspondence to
> regarding TWA 800. He is located in the Washington bureau: 1200 G

Thank you very much, ma'm, and I shall. I shall say you referred
me, is that OK?
>
> I will mail you a hard copy of this letter on Aviation Week & Space
> Technology letterhead to satisfy any concerns you might have about my
> identity. Thank you for your understanding.

Fine, can I put that on my website?

Let me get back to you on this. I will delete offending article and then send you URL of the new page so you can confirm I have cleansed the dirty deed.

Cheers,
John Barry Smith

> Monica Warnock
> Editorial Assistant, Washington Bureau
> Aviation Week & Space Technology

From: monica_warnock@mcgraw-hill.com
Date: Thu, 14 May 98 14:47:54 -0500
To: <barry@corazon.com>
Subject: Re[2]: Request permission to present article on website.
Mime-Version: 1.0

Mr. Smith,

I will mail your letter today. When it arrives, you are welcome to
place it on your website. We understand that you are busy right now-
as long you are able to delete the pages by next Friday, that's fine
with us. The complete URL is
<http://www.corazon.com/800avweekintrigue.html>
If you do contact Mr. McKenna, you may tell him I referred you. Again,
thank you for your interest in Aviation Week.

Monica Warnock
Editorial Assistant, Washington Bureau
Aviation Week & Space Technology

To: monica_warnock@mcgraw-hill.com
From: John Barry Smith <barry@corazon.com>
Subject: Done
Cc:
Bcc:
X-Attachments:

Dear Ms. Warnock,

> You must remove these
> articles and any other Aviation Week copyrighted material
from your
> website immediately, or we will consider legal action.

Consider it done. And not because you threatened me, but because you may be right.

http://www.corazon.com/800avweekintrigue.html

is the URL which now has deleted article. Completed 6:57PM 14 May 97, nine hours after your request. The TV interview went
swimmingly. In fact, the interviewer from KOMO TV ABC Seattle, asked that I send him an email of the article in question. He was interested to hear about your request.

I just want you to know that you have made an old man very very sad. I shall have to research the web, as is my wont, to find out for sure if the copyright laws exist to keep non profit websites from fairly using one article of a magazine to support an aviation safety hypothesis. I make no money from this site, on the contrary, it costs me money to keep it up. The site is 1200 pages deep with on one page assigned to article. The goal of the website is aviation safety, a common goal with Aviation Week. The officials quoted on the article are public officials whose comments are public.

It seems to me that permission should not be necessary for me to put your article on my website as long as I give credit to the author and make no money from it.

It seems to me that when permission was requested to put the article on my website, permission should have been granted.

You said 'protect your magazine,' as motive for requesting I delete the article. Protection from whom? Me? Aviation Week needs protection from me? I am a retired guy working out of a converted garage with a computer and a modem. You have nothing to fear from me, we are on the same side, aviation safety.

Regardless, the excellent article by David Fulghum in the March 10, 1997 issue has been deleted at your request. Should it become apparent that I do have the fair right to use your article under conditions which I fulfill, then, pop! up it goes again. I shall let you know in advance so you may attempt to dissuade me
if you wish. It just seems that a guy ought to be able to pull out old magazine articles to quote from when he's trying to persuade visitors of an aviation safety point. In case I'm wrong, and I'm never wrong, I have erred on the side of safety and complied with your request.

Cheers,
John Barry Smith

>  Mr. Smith,
>  I will mail your letter today. When it arrives, you are welcome to place it on your website. We understand that you are busy right now-
>  as long you are able to delete the pages by next Friday, that's fine
>  with us. The complete URL is
>  <http://www.corazon.com/800avweekintrigue.html>
>  If you do contact Mr. McKenna, you may tell him I referred you. Again,
>  thank you for your interest in Aviation Week.
>
>  Monica Warnock
>  Editorial Assistant, Washington Bureau
>  Aviation Week & Space Technology

DAVID A. FULGHUM/WASHINGTON

Two New York Air National Guard pilots, with the best view of the crash of TWA Flight 800 last July, are disagreeing about what they saw immediately
before destruction of the Boeing 747-131 jetliner.

One believes the airliner was struck by a fast-moving object coming from the east, while the other saw only a fiery trail from the west.

However, both believe a violent explosion ripped the aircraft apart, propelling some of its passengers high enough that they did not hit the water's surface until 3-4 min. after the initial explosion.

Maj. Frederick C. Meyer, pilot of an HH-60 helicopter from the ANG's 106th Rescue Wing, has just been freed from an FBI gag order preventing him from giving interviews about the 1996 disaster off Long Island, N.Y. The copilot, Capt. Christian Baur, remains under FBI restrictions not to speak about the accident. But two officials familiar with his testimony told Aviation Week & Space Technology in detail what he told investigators.

In the days immediately after the accident, before being ordered not to speak, Meyer discussed his initial impressions with news media (AW&ST July 29, 1996, p. 32). Last week, he chose Aviation Week as the first news organization to hear a detailed account of his recollections and his testimony to federal investigators.
Meyer and Baur were in one of the wing's two aircraft operating north of the crash site. The helicopter was operating over Long Island about 12 mi. north of the TWA crash site. Baur, the copilot, was at the controls practicing instrument approaches. The crew was awaiting darkness so they could begin training with night vision goggles.

The key point on which the two pilots disagree is whether a streak of light appeared from the opposite direction of the flight of TWA 800 (which was flying from west to east after takeoff from Kennedy Airport), a possible indication of an intercepting missile or some other object.

Meyer's attention was first called to the area of the sky where the accident occurred "by a streak of light moving from my right (west) to my left (east)," the same direction as the TWA flight, he said.

Baur's account differs on this point. According to the two officials who have heard both pilots' accounts, Baur, on the left side of the cockpit, saw a streak moving from left to right toward the approaching TWA aircraft before the initial explosion.
"Almost due south [of the helicopter], there was a hard white light, like burning pyrotechnics, in level flight," Baur told investigators from the National Transportation Safety Board, FBI and a Federal anti-terrorist task force. "I was trying to figure out what it was. It was the wrong color for flares. It struck an object coming from the right and made it explode."

Baur's first impression was that there had been a midair collision, possibly between two light aircraft that tow banners along the beach.

"They had witnessed these aircraft come very close to each other at that time of day, and that's what they assumed," the second official said.

NTSB investigators have suggested unofficially that the streaks the pilots saw could have been light reflections from the skin of the aircraft, tongues of flame from the airliner or the forward door of the aircraft popping open, a possibility that still intrigues investigators, the second official said.

Meyer could not actually see the aircraft, but only the streak, and he admits that Baur, a younger man, has better eyesight. Moreover, Meyer adds, "Whatever Chris saw on the left side I didn't see because he
blocked my view." Baur disputes this, saying that the explosions and crash were virtually dead ahead of the aircraft.

The helicopter was executing a missed approach and was about halfway down Runway 24 at the Francis S. Gabreski International Airport at Westhampton Beach, N.Y. It had started a climbing left turn to the south when the accident occurred. The Sun had not yet set and the sky was still bright.

According to Meyer, the streak was about 15-20 deg. above his line of sight and perhaps 15 deg. left of the aircraft's centerline.

"I don't know if it was a missile that struck the airliner," Meyer said. "Nothing at that moment said 'missile' to me. I spent a number of years in Vietnam and had seen missiles fired, some of them at me. But, that was 25-year-old missile technology, which left smoke trails. I understand today that they are made with smokeless rocket fuel and don't leave trails. What I saw was a streak of light, not a smoke trail."

The streak of light that Meyer saw made a very shallow, gradually descending arc. He points out that he never saw the actual airframe of the
TWA 747

within the streak or subsequent explosions or smoke trails. It was virtually
developed to the trajectory of a meteor, with only a slight curve. But unlike
a meteor, the streak was red-orange in color, he said.

Meyer observed the descending streak for 3-5 sec. Then there was what Meyer
describes as a hard, very sudden, yellowish-white explosion that looked
identical to the detonation of an antiaircraft shell. He did not suggest an
antiaircraft weapon was fired at TWA Flight 800, however.

"It left a cloud of smoke just like a flak explosion does," Meyer said. "One
to two seconds later, there was a second, hard explosion almost pure white in
color. The position of that explosion appeared to be slightly below and
behind where one would have anticipated the streak of light to have gone. The
trajectory at that point appeared to be slightly bent down and slowed."

A new detail in Meyer's story was that almost immediately there was a third
explosion and fireball. Meyer doesn't remember if there was an explosion and
fireball or if the third explosion turned into the fireball.

"That was a soft explosion unlike the first two," Meyer said. "It
began as a tiny point and it grew very rapidly into a huge fireball four times the diameter of the Sun. I was dumbstruck."

Baur also saw three explosions. But he contends that they started from left (east) and went to right (west). He said the explosions created a "huge waterfall of flame that cascaded down," the first official said. "The column of flame was being whipped around violently. First it was tumbling, and then it refined itself into a spiral. The explosions were all before the cascade of flame began."

In the helicopter, Baur spoke first, asking if it was pyrotechnics. ANG operations that night were to have included flares dropped by a HC-130 transport aircraft. The crew then called the Gabreski tower.

"We said we'd observed a fireball south of the field and we would like clearance to the beach to investigate," Meyer said. Baur actually made the call and reported a possible midair collision, the second official involved in the investigation said.

The crash time has been variously reported as being from 8:31 to 8:45 p.m.,
Meyer said. He believes the earlier time is more likely to be correct although he can't be sure.

Baur continued to fly the helicopter during the search while Meyer functioned as copilot and primary communicator. As they approached the crash site, after about 4 min. of flight, debris was still falling so they slowed to avoid being hit.

"As they got closer, within two or three miles, Baur could see the aircraft body, not tumbling, but in a vortex almost like inside a tornado," the second official said.

Meyer made another revelation that was the result of long reflection after the accident.

"I was looking ahead . . . as we approached the crash site," Meyer said. "I saw some debris at 1,200-1,300 ft. falling at terminal velocity and fuselage fragments tumbling at 40-50 mi. per hour. The things falling at high speed were bodies still strapped in their seats. That is logically inconsistent if they came from the same explosion at the same time. On reflection, I have concluded that the bodies must have been blown upward before
they came down.
That indicates a violent explosion."

On this point, the two pilots' accounts agree, the officials said.

"Debris was falling like snow," according to Baur's testimony.
"Among the
particulate there was metal and paper, some of it glowing.
Through all of
that, things would come racing through -- two or three high-
speed objects
like sacks of potatoes. I believed them to be bodies that had been
blown upward." 

The pilots' opinion differ from the conclusion of inspectors that
all the
passengers were in the fuselage when it ripped apart from
aerodynamic forces.

In an attempt to debunk the most egregious coverup and
conspiracy theories,
Meyer and other ANG officials remain adamant that their unit
was not part of
any larger, undisclosed, multiservice operation. Operations the
night of the
crash were standard training flights to maintain currency with
night vision
goggles, rescue operations and in-air refueling.

The HH-60 flight was to be of about two hours' duration and
would not extend
more than 2 mi. off the Long Island southern coast. The HC-130
would drop
flares, rafts and a para-rescueman and later refuel the helicopter in a communications-out, lights-out operation.

"No other people of other services were on the base at the time," Meyer said. Nor were there indications of the operations of drone aircraft, another theory that has surfaced as the possible cause of the crash. "No, there would have been some kind of notice."

AW&ST 3/10/97

Until the streak is adequately explained, the missile explanation will always be possible. I say missile explanation will always be could be, but wasn't. The evidence refutes every missile explanation suggested event. Likewise for meteor and bomb explanations, they will always be could have been, but weren't.

The center tank did catch fire and there was a fireball, so center tank explanation will always be could have been and was, the only issue is when.

The wiring/ cargo door explanation explains the streak, refutes the bomb and meteor, and supplements the center tank explanation.

The wiring/cargo door explanation for TWA 800 is the more correct, more complete explanation.

I urge that Boeing 747s with Poly-X wiring be grounded until wiring is checked in cargo door areas known to have been faulty
in the past.

I again request to meet with NTSB officials to present my wiring/cargo door explanation.

Sincerely,

John Barry Smith
551 Country Club Drive
Carmel Valley, CA 93924
408 659 3552
barry@corazon.com
www.corazon.com
Citizen: USA
Major: US Army Retired
Pilot: Commercial, instrument rated, FAA Part 135 certificate.
Navigator: RA5C Vigilante
Owner: Mooney M20C
Survivor: Sudden night fiery fatal jet plane crash.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Wiring/cargo door evidence from US government documents

Date: Fri, 29 May 1998 04:12:28 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Wiring/cargo door evidence from US government
documents
Cc:
Bcc:
X-Attachments:

Sam Farr
Member of Congress
17th District, California
House of Representatives
Congress of the United States
1117 Longworth Bldg
Washington, DC 20515-2861

John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
United States Senate
241 Russell Senate Office Bldg
Washington, DC 20510-0303

James Hall
Chairman,
National Transportation Safety Board
490 L'Enfant Plaza East, SW.
Washington, DC 20594

Robert Francis II
Vice Chairman
National Transportation Safety Board
490 L'Enfant Plaza East, SW.
Washington, DC 20594
Bernard Loeb,  
Director of Aviation Safety  
National Transportation Safety Board  
490 L'Enfant Plaza East, SW.  
Washington, DC 20594

Thomas E. Haueter  
Chief, Major Investigations Division  
National Transportation Safety Board  
490 L'Enfant Plaza East, SW.  
Washington, DC 20594

John B. Drake  
Division Chief  
Aviation Engineering Division  
National Transportation Safety Board  
490 L'Enfant Plaza East, SW.  
Washington, DC 20594

Al Dickinson,  
Lead Investigator, TWA 800  
National Transportation Safety Board  
490 L'Enfant Plaza East, SW.  
Washington, DC 20594

Ron Schleede,  
Investigator, TWA 800  
National Transportation Safety Board  
490 L'Enfant Plaza East, SW.  
Washington, DC 20594

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Manager
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Transport Airplane Directorate
1601 Lind Ave. S.W.
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Neil Schalekamp
Manager, Propulsion & Mechanical Systems and Cabin Safety
Dear elected, appointed, and employed US government officials involved with TWA 800 investigation, 29 May 1998

Gentleman, I respectfully address all as if this were a cyberspace meeting and it is my turn to speak. Most of us have exchanged letters, emails, conversations in person or telephone calls in the past. The case for wiring/cargo door opening in flight as an explanation for the TWA accident grows stronger every day with evidence such as this:

Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:
- Abrasion of the insulation in bundles installed in high vibration areas.
(This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)
Random flaking of the topcoat.
-Insulation radial cracks in tight bend radii.

Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor.

The Systems Exhibit 9A continues on same page 47, "Evidence of arcing or short circuiting was found in the fuselage of N93119, (TWA 800) in addition to what was found in the wiring from the raceway below the left cabin floor and near the forward wing spar.

The Systems Exhibit 9A continues, page 116: "Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

(Please note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811. Water has been seen pouring out of a forward cargo bay of a Boeing airliner. Water and leaking electricity make a powerful conductor. Both are known to exist in Boeing airliners.)

NTSB Exhibit 9C, Attachments to the Systems Group Factual Report, page 44:
"Response: There was one reported wire insulation abrasion on the 747 in 1996. There operator reported that a burning smell was noted during cargo loading in the forward cargo compartment. Cargo loading system wiring was found damaged and shorted to ground below the cargo floor at station 650, below the aft right corner of a large ball mat. A wiring loom "p" clip was found broken enabling the wire to chafe against structure. A hole was found burned through the bottom angle of the cargo floor cross member, where the wiring clip attached, and charring was evident in the surrounding insulation blanket. Repairs were made."

Page 44: "Response: There were seven reported wiring fires on the 747 in 1996."

Page 45: "f. 747-200 reported on October 12, 1996
Wire bundle arcing and resultant fire at aft bulkhead of forward lower lobe cargo hold on a 747-200 freighter. This occurred with the airplane on the ground, during post C-check functional test. Note: Portions of the damaged wire bundles were forwarded to Boeing for evaluation in determining the cause of the damage. The results of the analysis indicated the primary conductor(s) sustained mechanical or thermal damage prior to the application of electrical power."

Page 46, "g. 747-400 reported on November 1, 1997, (see response to question 1)
There was one reported wire insulation abrasion on the 747 in 1996. There operator reported that a burning smell was noted during cargo loading in the forward cargo compartment. Cargo loading system wiring was found damaged and shorted to ground below the cargo floor at station 650, below the aft right corner of a large ball mat. A wiring loom "p" clip was found broken
enabling the wire to chafe against structure. A hole was found burned through the bottom angle of the cargo floor cross member, where the wiring clip attached, and charring was evident in the surrounding insulation blanket. Repairs were made."

Page 57, Letter from Commander Naval Air Systems Command to National Electrical Manufacturers Association, 1 Oct 82, "As you know, the problems with poly-x wire are well known to headquarters and its use had been curtailed."

FAA Aircraft Certification Service Mission Statement:
http://www.faa.gov/avr/air/hq/mission.htm
"Aviation Safety Begins With Safe Aircraft
The Aircraft Certification Service is responsible for the safety of civil aircraft. The inherent safety of an aircraft is a function of its design integrity and its manufacturing quality. It is the mission of the Aircraft Certification Service to promote safety by:
Prescribing safety standards governing the design, production quality, and airworthiness of civil aeronautical products;
Administering design, production quality, and finished product certification programs in compliance with the prescribed safety standards;
Monitoring safety performance, and acting to provide continued operational safety of aircraft;
Working in partnership with aviation safety authorities of other countries to continuously improve the safety of the international air transportation system and achieve international harmonization of aircraft certification standards and practices.
Our program priorities are:
FIRST: Continued operational safety including surveillance.
SECOND: Safety standards, policies, and procedures.
THIRD: Type, production, and airworthiness certification."
Text of 1 May 98 letter from Congressman Farr:

"Dear Mr. Smith:
Thank you for contacting me recently regarding your ongoing interest in the forward cargo door of TWA flight 800. I appreciated hearing from you. I am, of course, glad to help, and am therefore in touch with the appropriate government agency on your behalf. I will write to you again as soon as a response is available, but please let me know if there is anything further that I can do for you in the interim.

Sincerely,

Sam Farr
Member of Congress

Text of 12/19/86 email Senator McCain:

Dear Mr. Smith,

Thank you again for contacting me with your concerns regarding the potential hazards involving Boeing 747s.

As you know, I have passed the information you sent to Chris Paul and he has informed me of your findings. I have since forwarded the material you sent to the Commerce, Science and Transportation Committee for their review.

Again, thank you for contacting me. I am always glad to have the opportunity to be of assistance.
Sincerely,
Excerpt of 4 Mar 98 letter from Senator John McCain to me: "I have received your letter regarding the forward cargo door of TWA Flight 800, and your interest in meeting with someone at the National Transportation Safety Board (NTSB) relating your concerns. I have contacted the NTSB on your behalf, about your concerns. I have asked for a prompt response to be sent directly to you."

FAA and NTSB and manufacturers are taking efforts to inspect fuel tank wiring on all airliners. Cargo door wiring on Boeing 747s should also be inspected. A wiring caused inadvertent opening of the forward cargo door of TWA 800 in flight should also be investigated.

It's prudent.

1. Check known faulty Poly X wiring in cargo door areas of early 747s for chafed to bare wires.

2. Figure out explanation of red paint smears, outward peeled skin, and petal bulge at aft midspan latch of forward cargo door of TWA 800.

3. Attempt to locate missing eighty percent of forward cargo door by either finding it in Orange Zone, Calverton hangar, or from the bottom of the ocean.

4. Meet face to face with a citizen, as the suggestion of Senator McCain, to discuss and consider real evidence as discovered in
research of NTSB and FAA documents regarding wiring/cargo door explanation for TWA 800.

Following the example of Congressman Farr of open discussion of TWA 800 and the inclusion of relevant correspondence in letters, I have put all your correspondence to me on my web site www.corazon.com. All emails and scanned letters are seen at <http://www.corazon.com/correspondence.html>

Democracy and the internet in action.

Regards,

John Barry Smith
551 Country Club Drive,
Carmel Valley, CA 93924
408 659 3552
barry@corazon.com

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Orange zone/door wiring

To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Orange zone/door wiring
Cc:
Bcc:
X-Attachments:
Sam Farr
Member of Congress
17th District, California
House of Representatives
Congress of the United States
1117 Longworth Bldg
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John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
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Bob Breneman,
Aerospace Engineer,
Federal Aviation Administration
Transport Airplane Directorate, ANM-100
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Dear Mr. Wildey,

21 May
1998

The missing eighty percent of the forward cargo door of TWA 800 may be in the Orange debris field. The retrieved items have tag numbers 9000 to 9999:

Public Docket SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 5, "In addition, an area 2.7. nautical miles in radius, centered at 40 degrees 38 minutes 54 seconds North, 072 degrees 40 minutes 23 seconds West, was defined. The portions of this area that did not already lie in either the Red, Yellow or Green zone were designated the Orange Zone. The center of this zone corresponds to the last secondary radar return from the aircraft."

"The database created to track recovered parts is known as the TAGS database. A series of metal tags were issued to be attached to the recovered parts as durable identification tags. The metal tags were colored one of six possible colors."

"Orange Recovered from areas other than Areas 1, 2 or 3 during the trawling operation."

"9000-9999 Issued by the trawlers working the western half of
the Orange zone."

Gentlemen, please note there are no Orange Zone pieces in the TAGS database. There is no mention anywhere of the pieces which were found in the Orange zone by trawlers and issued 9000 series metal identification tags. Eighty percent of the forward cargo door is missing. The NTSB Trajectory Study Exhibit, page 50, shows pieces from the forward cargo bay were the first to leave TWA 800 and left at the same time as the last secondary radar beacon was returned. It is very likely that the missing pieces of the forward cargo door are in the Orange zone and may have already been retrieved and tagged with 9000 series tags.

Where are the Orange zone pieces recovered from TWA 800? What pieces were they? Where did they come from on the aircraft? Where are the missing eighty per cent of the forward cargo door?

I direct the questions for answers to Mr. David Mayer, the person in charge of the wreckage database.

The larger point is this, chafed wiring to the core is reported on TWA 800 in NTSB Public Docket Exhibit 9A page 116:

"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

Please note that BMS13-42A is known faulty Poly-X wiring.
Cargo door location is FS 560-670 and cracked wires are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811.

Fuel tank wiring is shown to be chafed to bare wire. The TWA 800 NTSB document shows cargo door area wiring is chafed to bare wire also. FAA and NTSB officials are taking efforts to inspect fuel tank wiring. Cargo door wiring should also be inspected, especially since cargo door wiring is a known killer of nine in UAL 811 accident.

There's more reason to inspect cargo door wiring in 747s as stated in NTSB Exhibits:


These are real reports of real events showing real danger. They are reported to you, Mr. McSweeny.

To be blind to the red paint smears above the cargo door of TWA 800 is not right; your rods and cones respond to color the same as mine. Those red paint smears indicate door opened in flight, just like paint smears indicated door opened in flight for UAL 811. Are they not there? Are there not many? Are they not red?

I see them and Mr. Schalekamp of FAA saw them, so I know they exist as well as being in pictures on the NTSB CD-ROM of
TWA 800. They are not going to fade away with time.

The forward cargo door opened in flight for TWA 800. To disregard paint smears, outward peeled skin on the side and bottom of fuselage, and the petal shaped outward bulge at the aft midspan latch of the forward cargo door is very strange, it's not right. It's not worthy of NTSB.

It's one thing to be forceful in prosecuting the center tank as the initial villain, but it's another thing to ignore a previous killer of nine that left very similar evidence to this crime as in another crime.

To check the cargo door wiring as well as the fuel tank wiring is wise and prudent. To not do so is reckless in the face of compelling evidence. I direct that opinion to Dr. Loeb.

A citizen has done much research into high time Boeing 747 accidents involving hull ruptures in flight. I ask that I be allowed a meeting during which I may present evidence for consideration and discussion to government aviation safety officials.

I pose that request to Congressman Farr and Senator McCain. It is apparent the aviation officials themselves will not comply without orders from above. I need help.

To me, the following is reasonable and prudent:

1. Check known faulty Poly X wiring in cargo door areas of early 747s for chafed to bare wires.

2. Offer explanation of red paint smears, outward peeled skin, and petal bulge at aft midspan latch of forward cargo door of
TWA 800.

3. Locate missing eighty percent of forward cargo door by either finding it in Orange Zone, Calverton hangar, or locating it on the bottom of the ocean.

4. Meet with citizen, as the suggestion of a Senator, to discuss and consider real evidence as discovered in research of NTSB and FAA documents regarding wiring/cargo door explanation for TWA 800.

Will you please be reasonable and prudent?

I ask that question of all.

Respectfully,
John Barry Smith
551 Country Club Drive,
Carmel Valley, CA 93924
408 659 3552
barry@corazon.com

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Cracked wiring found in TWA 800 cargo door zone.

Date: Tue, 12 May 1998 04:38:18 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Cracked wiring found in TWA 800 cargo door zone.
Sam Farr
Member of Congress
17th District, California
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Congress of the United States
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John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
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Dear Mr. Wildey, NTSB and FAA Officials involved with TWA 800 investigation, 12 May 1998

Good work finding cracks in frayed wire in Boeing airliners and taking such quick action to investigate and confirm. As the mechanic reported frayed wires detected, I report frayed wires detected. Please take the same decisive action to investigate and confirm. I ask that you expand your investigation into frayed wiring to Boeing 747s based upon the following discovery of frayed to the core wiring in TWA 800.

"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found." NTSB Public Docket Exhibit 9A page 116:

Please note that BMS13-42A is known faulty Poly-X wiring.
Cargo door location is FS 560-670 and cracked wires are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811.

Other wiring events in 747 forward cargo holds:
A. 1996, burning smell in forward cargo compartment, found damaged wiring shorted to ground, charring found.
Source: NTSB Exhibit 9C, Attachments to the Systems Group Factual Report page 44, 45, 46:

Please expand chafed Poly X wiring checks to Boeing 747s in the cargo door areas.

To review:

A. Examine the extensive wreckage evidence to consider as an explanation: Wiring short from bare wire to door unlatch motor to door rupture at aft midspan latch resulting in explosive decompression of thirty foot by forty foot hole in the nose of TWA 800 on the right side forward of the wing. The weakened nose would then be torn off by the 300 knot slipstream.

B. Check the cargo door wiring as described in NTSB Safety Recommendations Rprt_Nbr: A-91-83 and -84
(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);
(2) the conduit support bracket and attached standoff pin on the
upper arm of the forward lift actuator mechanism;
(3) the flexible conduit for the presence of cracking in the convoluted innercore.

C. Check the cargo door wiring as described in NTSB AAR 92/02 UAL 811 cargo door accident:
Plug P3 and Plug P4 at a distance between three to four inches from plug pin tips. The P4 damage location may correspond to wire bundle clamp positions. These areas are where the chafed bare wires shorted on the door latch actuator motor to the un latch position.

D. Examine for wiring cracks five feet of the aft end of the W480 bundle from station 570-900 as described in TWA 800 Public Docket Exhibit 9A, page 116.

E. Check for damaged wiring in forward cargo compartment as described in NTSB Exhibit 9C.

Regarding the recent response of Shelly Hazle of NTSB with the below excerpt:

"For example, Mr. Smith claims that there are 10 latches on the cargo door and that the Board only discusses eight in the above mentioned report. While a superficial description of the door might imply that there are 10 latches, Mr. Smith is, in fact, incorrect in implying that they all hold the door onto the fuselage. The eight at the bottom of the door, which were discussed in the report actually hold the door closed - the other two, one on each side of the door are merely "alignment latches" and do not hold the door closed."

If you believe that four eight foot slices into a large sausage
shaped pressurized hull do not need 'latches' then you are beyond reason. Please be reasonable. There are four eight foot slices in a 747 hull, two each for each cargo door. All four slices have one midspan latch to latch the door closed by its latching action of latching cam around the latching pin. One latch for eight feet of slice. And it has no locking sector to stop the latching cam from becoming unlatched around its latching pin when the door unlatch motor turns on when cracked Poly X wiring shorts, as it has done exactly before. That one midspan latch cam around the latching pin may be sufficient provided there is no effort to unlatch it. If there is, it unlatches slightly and internal 3.5 pressure differential ruptures door at aft midspan latch of the forward cargo door, as it has done before. As the photograph of TWA 800 shows with outward peeled skin, red paint smears, and outward petal shaped bulge at aft midspan latch, that aft midspan latched and ruptured cargo door in flight, as it has done before.

Latches latch. All ten latches in each cargo door are essential to hold door closed. All midspan latches have not been recovered to be examined. The master locking handle has not been recovered to determine manual locking status.

Cracked wiring causes bad things to happen. You are checking the fuel tank explosion consequence, please check the cargo door opening in flight consequence. You now know that cracked to the bare core wiring was found in TWA 800 cargo door zone. You know that cracked wiring caused cargo door to open in flight before causing fatalities. You know that cracked wiring has caused fires in the forward cargo bay before, very close to center fuel tank. Please check out the cracked wiring caused forward cargo door to open in flight explanation for TWA 800.

I ask again for NTSB officials to meet with me so I can relate my
concerns about the forward cargo door of TWA Flight 800.

Very Respectfully,

John Barry Smith  
551 Country Club Drive,  
Carmel Valley, CA 93924  
408 659 3552  
barry@corazon.com

From: John Barry Smith <barry@corazon.com>  
Date: September 6, 2009 12:03:09 AM PDT  
To: FAA  
Subject: Fwd: Locate forward cargo door for TWA 800

Date: Thu, 30 Apr 1998 03:09:06 -0800  
To: Wildey  
From: John Barry Smith <barry@corazon.com>  
Subject: Locate forward cargo door for TWA 800  
Cc:  
Bcc:  
X-Attachments:  

Sam Farr  
Member of Congress  
17th District, California  
House of Representatives  
Congress of the United States  
1117 Longworth Bldg  
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Bob Breneman,  
Aerospace Engineer,  
Federal Aviation Administration  
Transport Airplane Directorate, ANM-100  
1601 Lind Ave. S.W.
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Dear Mr. Wildey, 29 April 1998

Will you please meet with me so I can relate my concerns about the forward cargo door of TWA Flight 800? It's very important.

Serious confusion exists as to the location of the suspect ten latches, ten latching cams, and eight locking sectors of the forward cargo door of TWA 800. Conclusions about location and status of door parts in official exhibits and letters are totally contradicted by other official NTSB documents.

One NTSB official in charge of wreckage identification, David Mayer, recently said the forward cargo door sill is in three pieces and gave reference numbers, RF3A for the aft two latches, locks and sill; RF3G for the mid latches, locks and sill; and RF3H for the forward latches, locks and sill.

However:
RF3A in database has no reference to sill, latches and locks. RF3G in database describes the piece as cargo door hinge and has no reference to sill, latches and locks. RF3H in database is described as forward portion of lower right cargo door and has no reference to sill, latches, and locks. There is no reference in the database to any forward cargo door sill, latches or locks. The pieces of the forward cargo door in the database match the actual pieces hung on the wreckage reconstruction. The photograph of the reconstruction shows the keel beam, pieces of the door, the door hinge, but the sill, latches and locks are apparently absent. Exhibit 15C states forward cargo door sill is in one piece, not
three.
Personal correspondence from an FAA official, Bob Breneman, who examined a cargo door sill, declared it to the forward door sill and all latched and locked, said it was in one piece, not three.

Why are there no references to forward cargo door sill, latches and locks in the wreckage database and yet the conclusion made that it was all latched and locked at water impact?

An explanation is possible: Mixup with the aft cargo door sill and latches:

The aft cargo door sill was found in one piece, registered in the database and had the latches and locks attached. The aft and forward cargo door sills are the same shape and size and function the same.

How does one distinguish between two identical pieces of shattered, twisted and dirty pieces of metal? A mistake is plausible.

Most of the very important pieces of the forward door are still missing and include the manual locking handle, two overpressure relief doors, two midspan latches and viewing ports.

Regardless of status of lower door sill latches and locks, the damage start location is the aft midspan latch of the forward cargo door. This is shown by the outward petal shaped bulge in the metal door frame. It is shown as outward explosion by the outward peeled skin above cargo door. It is shown by the red paint smears between the passenger windows above cargo door. It is shown by the absence of most of the cargo door skin and most of the complex mechanisms in the door. The aft midspan
latch area has the petal shaped outward bulge indicating an explosive decompression rupture. None of the midspan latches has been recovered, not the two from the forward door nor the two from the aft door. All of the forward cargo door material around the aft midspan latch is missing from database and from wreckage reconstruction.

There is enough doubt about the status of locks and latches in the forward cargo door to initiate a thorough examination and evaluation of a forward cargo door opening in flight for TWA 800. It was the prime suspect early on and it is still the prime suspect.

The evidence of paint smears, twisted outward metal, and shape of explosive shattered outward zone proves cargo door area opened in flight. The cause of that opening may then be determined.

Regarding the recent response of Shelly Hazle of NTSB with the below excerpt:

"For example, Mr. Smith claims that there are 10 latches on the cargo door and that the Board only discusses eight in the above mentioned report. While a superficial description of the door might imply that there are 10 latches, Mr. Smith is, in fact, incorrect in implying that they all hold the door onto the fuselage. The eight at the bottom of the door, which were discussed in the report actually hold the door closed - the other two, one on each side of the door are merely "alignment latches" and do not hold the door closed."

There are 'alignment' devices in the door already, they are called, 'pull-in hooks', one hook on each side. The midspan latches do
exactly that, latch. And they had to latch an eight foot slice in a pressurized hull against 38115 pounds of internal pressure for TWA 800. Proof that midspan latches latch is UAL 811 that has forward midspan latch pin showing no damage yet the aft midspan latch pin showing extensive heat damage during the forward cargo door opening event. In fact, it may have been the 'latching' action of that aft midspan latch that held that door closed for the 1.5 seconds described in NTSB AAR 92/02 before door opened fully that allowed sufficient decompression so that only a ten foot by twenty foot piece of fuselage skin was ripped off, instead of the thirty by forty foot hole the other three planes had, thus allowing UAL 811 nose to stay on and the others to come off.

NTSB implies in the quote from Ms. Hazle that the two midspan latches have not been recovered but, not to worry, they are not important, but they are not in the database and NTSB tacitly admits they have not been recovered by saying they are not important anyway.

Latches latch. All ten latches in each cargo door are essential to hold door closed.

To the claim by NTSB and FAA officials that they have responded to my concerns in great detail numerous times, the attached excerpts reveal the few times I been responded to, and always at the behest of Senator John McCain or Congressman Sam Farr. The one detail is the reiteration of the NTSB explanation of center tank as initial event with no discussion of cargo door except to conclude that eight latches latched means all latched. The few NTSB opinions about the cargo doors are untrue and easily refuted with NTSB documents, exhibits, and photographs.
Two officials, Neil Schalekamp and David Mayer were forthcoming at first. Then, within days, both refused to talk further with an inquiring member of the public. Mr. Mayer, after being told to by Dr. Bernard Loeb, refused to even repeat public docket information he had said several days earlier.

Many high resolution pictures were taken in May 1997 of the forward cargo door in the wreckage reconstruction by Mr. Jan Staller for the New York Times but all photographs were kept by NTSB, the New York Times magazine has none. There are none of those high resolution photographs of the cargo door area in the NTSB CD-ROM which has many pictures of the TWA 800 reconstruction.

This is a civilian airliner accident during peacetime in US territorial waters with an incomplete public docket. To silence Neil Schalekamp of FAA and David Mayer of NTSB about data in the public docket is wrong and suspicious. To refuse to meet with me to discuss a safety matter supported by NTSB documents at the request of Senator McCain is strange. For Mr. Schalekamp of FAA and Mr. Drake of NTSB to point blank tell me they will not respond to me, a citizen speaking about aviation safety to safety officials, is very irregular, even negligent of their safety responsibility.

Total forward cargo door references in the wreckage database:

B250 RF3A Stringer with attached cargo door.
B008 RF3B Stringer with floor beam.
B250 RF3C Stringers with rear top portion of forward cargo door.
B189 RF3D Stringers with top right corner of forward cargo
door.
B221 RF3E Small section upper forward cargo door.
B001 RF3F Stringer.
B007 RF3G Cargo door hinge, 2 rollers.
B2017 RF3H Forward portion lower right forward cargo door.

Missing items of forward door: Lower cargo door sill, eight bottom latches, eight bottom pins, eight locking sectors, two midspan latches, two midspan pins, eight viewing ports, two overpressure relieve doors, manual locking handle, torque tubes, and approximately seventy percent of door skin.

Total aft cargo door references in the wreckage database:

C122  RF45A  Aft cargo door lower sill latches and locks.
C1080 RF45E  Aft cargo door surround.
C644  RF45F  Piece of cargo door.
C2133 RF45G  Aft cargo door fragment.
C111..............Aft cargo door cutout 
...........RF54E  Forward lower corner of aft cargo door cutout.
C2155 RF98  Outer frame aft cargo door panel (aft upper main cargo door sill)
C2162.............Aft cargo door doorstep.
C2252 RF30A  Stringer aft cargo door hinge.
TG1.................Cargo door 7'x3'x1'.

Missing items of aft door: midspan latches, manual locking handle, torque tubes, viewing ports, two overpressure relieve doors, approximately twenty percent of door skin.

References to forward cargo door sill from FAA:
29 Oct 97 letter from Mr. Wojnar/Pederson/Breneman to JBS:
"In addition, the door latches at the bottom of the door were still
attached to the fuselage lower sill structure. This indicates the door was in the 'latched and locked' position at the time of impact with the water." "However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the right side. This is additional verification that the forward cargo door had not opened in flight or separated from the airplane."

18 Nov 96 letter from Mr. McSweeny/Kirkpatrick, FAA, to Congressman Farr:
"The Federal Aviation Administration (FAA) has no evidence that door failures played a role in the TWA flight 800 accident."

30 Jan 1998 letter from Neil Schalekamp, FAA, to JBS:
"While no scenario has been categorically proven to be the cause, it is believed, based upon available data, that the center wing tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

"You may not agree with the reasoning of the official accident investigators, but I want you to understand the evidence to date indicates that the CWT explosion preceded any fuselage breakup, including damage to the forward cargo door."

19 Feb 1998 letter from Mr. Neil Schalekamp to JBS:
"The theory of an explosive decompression, due to a sudden
opening of the forward cargo door was one theory that was examined. However, it has been determined that this did not occur. Based upon the existing evidence, the National Transportation Safety Board, (NTSB), the agency in charge of the accident investigation, believes that the probable cause of the accident was a center wing fuel tank (CWT) explosion, due to an internal fuel tank ignition source. The FAA agrees with the NTSB on this matter.

You apparently believe that the forward cargo door precipitated the accident scenario by initially separating from the airplane. The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the plane impacted the ocean."

References about forward cargo door from NTSB:
24 Oct 1997 letter from Chairman Hall, NTSB to Congressman Farr:
"Please be assured that our team has examined all of the structure recovered from TWA flight 800, approximately 95%--including all of the cargo door mechanisms and structures. Early on in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors."

20 November 1997 Letter from Peter Goelz of Sandy Hentges of Congressman's Farr's office:
"As Congressman Farr was advised by letter dated October 24, 1997, early in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching
mechanisms on the doors."

19 December 1997 letter from Chairman Hall, NTSB to JBS:
"However, to repeat, the investigation of the accident involving TWA flight 800 has revealed no evidence to suggest that a failure of a cargo door precipitated the event."

12 January 1998 letter from Jim Wildey, NTSB, to JBS:
"The Safety Board has received your letter to the Chairman, dated December 30, 1997, concerning the possibility that the TWA 800 accident was related to an in-flight opening of a cargo door. As conveyed to you in previous letters we have sent you, the Safety Board believes that sufficient facts have been gathered to rule out this possibility."

10 March 1998 letter from John B. Drake, NTSB, to JBS:
"As we have stated in numerous previous responses, the investigation team has gathered sufficient facts to rule out this possibility."

17 March 1998 letter from Chairman Hall, NTSB, to JBS:
"As stated in our most recent letter dated March 10, 1998, the TWA flight 800 investigative team has gathered sufficient facts to rule out this possibility of an in-flight opening of a cargo door. We do not believe a meeting is necessary to further discuss this issue."

Responses to JBS regarding further communications:
10 March 1998 letter of John B. Drake of NTSB to JBS:
"We consider our correspondence on this subject to be complete. Should you continue to reiterate your position on this issue in future correspondence, you should expect no further response from the Safety Board."
30 Jan 1998 letter of Neil Schalekamp of FAA to JBS:
"Please note that this office will no longer be responding to your further inquiries about these same concerns, including your February 6 and February 9 letters that I just received."

17 March 1998 letter of Jim Hall of NTSB to JBS:
"We do not believe a meeting is necessary to further discuss this issue."

The above rejections directly contradict NTSB's recent statements on their website:
Most Wanted Transportation Safety Improvements
"...a program to increase the public's awareness of, and support for, action to adopt safety steps that can help prevent accidents and save lives."

I'm a member to the public, I'm aware and support action to adopt safety steps that can help prevent accidents and save lives.

There is urgency according to my numbers:

June 23, 1985, AI 182, nose off at forward cargo bay, 329 dead.
No forward sill recovered.
March 10, 1987, PA 125, forward cargo door open in flight, 0 dead. Latches unlatched on forward sill.
December 21, 1988, PA 103, nose off at forward cargo bay, 270 dead. No forward sill status reported.
February 24, 1989, UAL 811, forward cargo door open in flight, 9 dead. Latches unlatched on forward sill.
June 13, 1991, UAL preflight, uncommanded aft cargo door open on ground. 0 dead. Latches unlatched on aft sill.
July 17, 1996, TWA 800, nose off at forward cargo bay, 270
dead. No forward sill listed as recovered.

AI 182 to TWA 800 is approximately 3993 days.  
Approximately 666 days between events.  
Approximately 649 days since TWA 800.  
Approximately 17 days to go, from April 29 to May 15.  
65 days minimum; four years and eleven months for maximum between events.  
0 deaths to 329 deaths as consequence.

The law of averages indicates an uncommanded opening of a starboard side cargo door will occur on an early model Boeing 747 with varying consequences from three months after July 17th, 1996 to June 23, 2001 with the mean occurring on May 15th, 1998. The airline with the most Boeing 747s, 41, and the oldest average at 19.9 years, is Northwest Airlines.

It would not be unusual for a NWA early model 747 to have an uncommanded cargo door opening with varying consequences in the next few months.

Quick action needs to be taken now. Search, locate, retrieve, and examine the complete forward cargo door of TWA 800 to include the sill, all ten latches, all eight locks, manual locking handle, viewing ports, overpressure relief doors, torque tubes, and missing skin.

While waiting for the recovery effort to produce the forward door sill, latches and locks:  
A. Examine the extensive wreckage evidence to consider as an explanation: Wiring short from bare wire to door unlatch motor to door rupture at aft midspan latch resulting in explosive decompression of thirty foot by forty foot hole in the nose of
TWA 800 on the right side forward of the wing. The weakened nose would then be torn off by the 300 knot slipstream.

B. Check the wiring as described in NTSB Safety Recommendations Rprt_Nbr: A-91-83 and -84
(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);
(2) the conduit support bracket and attached standoff pin on the upper arm of the forward lift actuator mechanism;
(3) the flexible conduit for the presence of cracking in the convoluted innercore.

C. Check the wiring as described in NTSB AAR 92/02 UAL 811 cargo door accident:
Plug P3 and Plug P4 at a distance between three to four inches from plug pin tips. The P4 damage location may correspond to wire bundle clamp positions. These areas are where the chafed bare wires shorted on the door latch actuator motor to the unlatch position.

For NTSB officials to refuse to talk with the missile or meteor proponents for TWA 800 is understandable based on the evidence and lack of precedent. To refuse to talk with the wiring/cargo door proponent is not understandable based on the wreckage evidence and the precedent of faulty wiring and previously opened inflight forward cargo doors in early model Boeing 747s.

To discuss in a meeting the wiring/cargo door explanation is reasonable and understandable. Please be reasonable and understanding.
Very Respectfully,

John Barry Smith  
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Carmel Valley, CA 93924  
408 659 3552  
barry@corazon.com

From: John Barry Smith <barry@corazon.com>  
Date: September 6, 2009 12:03:09 AM PDT  
To: FAA  
Subject: Fwd: Sill confusion

Date: Mon, 27 Apr 1998 05:32:27 -0800  
To: Wildey  
From: John Barry Smith <barry@corazon.com>  
Subject: Sill confusion  
Cc:  
Bcc:  
X-Attachments:  
Dear Mr. Wildey, 27 April 1998

NTSB is now saying, from the hangar tag person, David Mayer, that the forward lower sill latches and locks were recovered but in three pieces and the latches were latched and locked. He gave reference numbers of RF 3A, 3G, and 3H for the sill pieces.

Problems:
1. Nowhere in wreckage item database is any mention of forward sill or latches and locks on any of the thirteen forward cargo door pieces listed.
2. The given reference numbers are contradicted by the database:
a. 3A is under the belly away from door.
b. 3G is described as cargo door hinge, nine feet away from bottom sill.
c. 3H is described as stringer with cargo door attached.

3. 80% of door still missing, including midspan latches and manual locking handle.
4. Bottom sill latches and locks not visible in photo reconstruction of TWA 800.
5. Aft cargo door sill latches and locks are specifically named in database as one piece.
6. Exhibit 15C refers to forward 'lower door sill' as one piece and not pieces.
7. If door intact at water impact then most of door should be recovered in same area, not most missing.

Confusion reigns!

Regardless, door opened in flight as shown by red paint smears, outward peeled skin, petal bulge at aft midspan latches, missing midspan latches, and most of door missing from expected location.

>Although Mr. Smith does display some knowledge of the Boeing 747, he has
>a basic misunderstanding of the facts. For example, Mr. Smith claims
>that there are 10 latches on the cargo door and that the Board only
>discusses eight in the above mentioned report. While a superficial
>description of the door might imply that there are 10 latches, Mr. Smith
>is, in fact, incorrect in implying that they all hold the door onto
The eight at the bottom of the door, which were discussed in the report actually hold the door closed - the other two, one on each side of the door are merely "alignment latches" and do not hold the door closed.

This is nonsense. Proof is UAL 811 that has forward midspan 'latch' 'alignment' pin showing no damage and the aft midspan 'latch' 'alignment' pin showing extensive heat damage. In fact, it may have been the 'latching' action of that aft midspan latch that held that door closed for the 1.5 seconds described in NTSB AAR 92/02 before door opened fully that allowed sufficient decompression that only a ten foot by twenty foot piece of fuselage skin was ripped off, instead of the thirty for forty foot hole the other planes had, thus allowing UAL 811 nose to stay on and the others to come off.

Is there not enough missing parts, enough confusion about what is what, enough history to do a thorough investigation of that forward door?

What more is needed to prod safety investigators into asking questions, checking out the contradictions, and resolving the discrepancies once and for all? This is a known killer of nine people. It is worth the effort.

Four cargo doors ruptured/fractured in flight at aft midspan latch of forward cargo door as shown by official text, drawings, and photographs, AI 182, PA 103, UAL 811, and TWA 800.
Will someone please check out the total door and not just the 20% recovered?

There is urgency.

I invite checking my numbers. From tomorrow as zero, April 28th.

June 23, 1985, AI 182, nose off at forward cargo bay, 329 dead. No forward sill recovered.
March 10, 1987, PA 125, forward cargo door open in flight, 0 dead. Latches unlatched on forward sill.
December 21, 1988, PA 103, nose off at forward cargo bay, 270 dead. No forward sill status reported.
February 24, 1989, UAL 811, forward cargo door open in flight, 9 dead. Latches unlatched on forward sill.
June 13, 1991, UAL preflight, uncommanded aft cargo door open on ground. 0 dead. Latches unlatched on aft sill.
July 17, 1996, TWA 800, nose off at forward cargo bay, 270 dead. No forward sill recovered, possibly pieces.

AI 182 to TWA 800 is approx 3993 days.
Approx 666 days between events.
Approx 649 days since TWA 800.
Approx 17 days to go. From April 29 to May 15.
65 days minimum, four years and eleven months for maximum between events.
0 deaths to 329 deaths as consequence.

So, law of averages says an uncommanded starboard side cargo door will open on an early model Boeing 747 with varying consequences from trivial to severe within three months of July 17th, 1996 to June 23, 2001 with the mean occurring on May
15th, 1998. The airline with the most 747s, 41, and the oldest average at 19.9 years, is Northwest Airlines.

So, a NWA 747 has uncommanded cargo door opening in May 1998 if the law of averages is enforced. I'm working on stopping that from happening.

Sincerely,
John Barry Smith

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Retrieve Door!

Date: Wed, 22 Apr 1998 12:45:26 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Retrieve Door!
Cc:
Bcc:
X-Attachments:

Sam Farr
Member of Congress
17th District, California
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Congress of the United States
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Washington, DC
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Chairman, Committee on Commerce, Science, and Transportation
United States Senate
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Neil Schalekamp
Manager, Propulsion & Mechanical Systems and Cabin Safety Branch
Transport Standards Staff
Transport Airplane Directorate, ANM-100
1601 Lind Ave. S.W.
Renton, WA 98055-4056

Bob Breneman,
Aerospace Engineer,
Federal Aviation Administration
Transport Airplane Directorate, ANM-100
1601 Lind Ave. S.W.
Renton, WA 98055-4056

Dear Mr. Wildey and US government officials involved with the TWA 800 investigation,
A. You know the forward cargo door of TWA 800 is very important:
1. You checked it first as the wreckage was brought into Calverton hangar for the very thing I say happened then and say now, unlatching in flight of the latching cams, specifically, the aft midspan latch.
2. The forward cargo door has unlatched several times before, one with fatal consequences, UAL 811, which has many significant matches of evidence including a sudden loud sound on the cockpit voice recorder and an abrupt power cut the Flight Data Recorder.

B. You know you don't have the forward cargo door main pieces to include the lower sill, latches, and locks, manual locking handle, overpressure relief doors, and the two midspan latches.
1. They are not listed in the wreckage database of items recovered.
2. They are not hung on the wreckage reconstruction in Calverton hangar.
3. They are never referred to correctly in any TWA 800 exhibits.

C. You know you made a misidentification mixup of aft cargo door sill latches and locks for the forward cargo door sill latches and locks.
1. They are both identical shaped and sized.
2. The aft door sill was found in the aft fuselage and aft cargo door pieces debris field.
3. The forward cargo door sill was not found in the nose and forward door parts debris field.
4. The misidentification was made in haste, under pressure, and
is an understandable human error.

D. You know you need to have the forward cargo door sill, all latches and locks as well as manual locking handle.
1. It is necessary for a thorough examination of the hull rupture of TWA 800 that came apart first as shown by trajectory study and wreckage database, forward of the wing on the right side in the forward cargo bay.
2. The results of the examination of the forward cargo sill, latches and locks, and manual locking handle can change the entire probable cause of the TWA 800 accident, as was shown by the corrected AAR of UAL 811 after door was retrieved.

E. You know where it is:
1. There is extensive radar data that shows hundreds of small items that were ejected from TWA 800 and tracked to ocean surface.
2. The currents are known.
3. The winds are known.
4. The wreckage database shows latitude and longitude of various cargo door pieces and other items to leave first.
5. Forward door sill is probably within these one minute geographical coordinates of a box: 40:37:50 latitude north up to 40:38:50 degrees, minutes, seconds north by 72:39:20 west longitude over to 72:40:20 degrees, minutes, seconds of west longitude. This one mile square datum box estimate is based on NTSB wreckage database items plotted out and NTSB trajectory study items studied.

F. You know how to get it.
1. Thousands of items have already been recovered using known retrieval procedures.
2. US Navy dredges and recovery ships as well as personnel are
available to continue their previous work.

G. You know what to do with it when you get it.
1. Examine the ten latches for unlatching around the latch cams.
2. Examine the latch pins for heat damage.
3. Examine the paint for transfer marks from fuselage.
4. Examine for outward peeled skin.
5. Examine for outward petal shaped rupture/bulge at aft midspan latch.
7. Examine for bare chafed wires.
8. Correlate found latitude/longitude location and incorporate in breakup sequence.
9. Match door latches, skin, cams, locking sectors, overpressure relief doors, viewing ports, torque tubes, and paint to similar evidence of same items in NTSB AAR 92/02.

H. You know when to get it.
1. As soon as you knew you did not have it.
2. As soon as you knew you need it.
3. As soon as you knew how to get it.
4. As soon as you knew where to get it.

That time was two weeks ago. Every day that goes by with no forward door sill latches and locks recovered and examined is compounding the understandable error of judgment into nonunderstandable error of negligence.

When an outfielder misjudges his position and a ball whizzes by him next to the line, a run scores and he may get an error.

When safety officials and other officials responsible for the lives of the citizens misjudge their position and an accident occurs,
someone dies and they may get an error.

When the outfielder consistently misjudges his position and refuses to act to correct his misjudgment even when told by coaches, fans, and the media, and a ball whizzes by him and a run scores, he is released from active duty or retired.

When safety officials and other officials responsible for the lives of the citizens they are sworn to protect continue to misjudge their position and refuse to act to correct the misjudgment even when pointed out by elected officials, newspapers, and an informed and experienced citizen, and an accident occurs, they are prosecuted for criminal negligence.

Why the difference? One is a game and the other is real life.

I have been in a sudden, night, fiery, fatal, jet airplane crash. It is no game. It is real life.

If the carrot of satisfaction of a job well done by thoroughness of an investigation into TWA 800 does not sway you into action, then the stick of punishment may.

As a former Naval Flight Officer who has flown low level navigation missions through Italy in training, I strongly disagree with the US prosecution for negligent homicide of the flight crew who misjudged their position and cut the cable. Apparently top level US government officials are sending a message to others in service that they are held accountable for screwups even while under orders and on duty. The crew and senior officers tried to cover it up but were quickly found out.

Quick action needs to be taken now. Search, locate, retrieve, and
examine the complete forward cargo door of TWA 800 to include the sill, all ten latches, all eight locks, manual locking handle, viewing ports, overpressure relief doors, torque tubes, and missing skin.

While waiting for the recovery effort to produce the forward door sill, latches and locks:
A. Examine the extensive wreckage evidence you do have to consider as an explanation wiring short from bare wire to door unlatch motor to door rupture at aft midspan latch resulting in explosive decompression of thirty foot by forty foot hole in the nose of TWA 800 on the right side forward of the wing. The weakened nose would then be torn off by the 300 knot slipstream.

B. Check the wiring as described in Safety Recommendations Rprt_Nbr: A-91-83 and -84
(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);
(2) the conduit support bracket and attached standoff pin on the upper arm of the forward lift actuator mechanism;
(3) the flexible conduit for the presence of cracking in the convoluted innercore.

C. And check the wiring as described in NTSB AAR 92/02:
Plug P3 and Plug P4 at a distance between three to four inches from plug pin tips. The P4 damage location may correspond to wire bundle clamp positions. These areas are where the chafed bare wires shorted on the door latch actuator motor to the unlatch position for UAL 811 as described in NTSB AAR 92/02.

Retrieve Door! Time's a wastin'!
Sincerely,

John Barry Smith
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Carmel Valley, CA 93924
408 659 3552
barry@corazon.com

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Retrieve forward cargo door sill of TWA 800

Date: Mon, 20 Apr 1998 01:57:59 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Retrieve forward cargo door sill of TWA 800
Cc:
Bcc:
X-Attachments:

Sam Farr
Member of Congress
17th District, California
House of Representatives
Congress of the United States
Washington, DC

John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and
Transportation
United States Senate
Washington, DC

James Hall
Chairman,
National Transportation Safety Board

Robert Francis II
Vice Chairman
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Bernard Loeb,
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Washington DC 20594

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Transport Airplane Directorate

Darrell Pederson,
Assistant Manager
Federal Aviation Administration
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Neil Schalekamp
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Transport Airplane Directorate, ANM-100
1601 Lind Ave. S.W.
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Bob Breneman,
Aerospace Engineer,
Federal Aviation Administration
Transport Airplane Directorate, ANM-100
1601 Lind Ave. S.W.
Renton, WA 98055-4056

Dear Mr. Wildey,

20 April 1998
Please do what good investigators do, go back to the crime scene and look for more evidence that should be there. You have NTSB documents that reveal you don't have all of the TWA 800 wreckage and you have NTSB documents that reveal the missing cargo door sill is very important. So, I suggest, ask, insist, demand that you go back to the scene, look for it, find it, and get it. Call out the dredgers. Everyone will understand, it's what happens in thorough investigations, and TWA 800 is certainly going to be that.

To make a human error of hasty confusion over two identical shaped and sized objects such as the aft and forward cargo door sills of Boeing 747s is understandable and forgiven when corrected.

To not correct error when detected is inhuman and not forgiven.

The error of cargo door mixup was reported to you on April 8th and subsequent days. It is now April 20, twelve days later, almost two weeks, a hundred eternities to pilots, and still no effort is apparent to retrieve door.

What is going on? Time's a wastin'!

Wiring to be checked for bare wire chafing in TWA 800 and location to search for forward cargo door follow:

Plug P3 and Plug P4 at a distance between three to four inches from plug pin tips. The P4 damage location may correspond to wire bundle clamp positions. These areas are where the chafed bare wires shorted on the door latch actuator motor to the unlatch position for UAL 811 as described in NTSB AAR 92/02. Water
also entered the door switches because water poured out of the switches when retrieved from the ocean.

Location on ocean floor to search, find, retrieve, examine, and determine ten latch status and eight locking sector status of forward cargo door of TWA 800: Forward door sill is probably within this one minute geographical coordinates of a box: 40:37:50 latitude north up to 40:38:50 degrees, minutes, seconds north by 72:39:20 west longitude over to 72:40:20 degrees, minutes, seconds of west longitude. This one mile square datum box estimate is based on NTSB wreckage database items plotted out and NTSB trajectory study items studied.

All radar track anomalies in NTSB Exhibit 13A of objects leaving TWA 800 should be plotted to ocean surface and searched at that spot.

There is much radar data on TWA 800 and the forward door can be tracked to 300 foot depth ocean probable location, just as was done with UAL 811 in which NTSB AAR 92/02, page 26, describes the procedure to track, search, locate, and retrieve the forward cargo door from the ocean floor. Radar returns, wind data, and ocean currents were used to retrieve the door from 14,200 feet on the first pass. Seven dives later they had the pieces of the forward cargo door from which the true cause of the inadvertent opening in flight as chafed bare wiring shorting on door motor to unlatch position was revealed.

The below information is from the NTSB investigator who helped locate the forward cargo door of UAL 811 in 1990:

Date: Sat, 17 Aug 1996 12:52:15 -0700
From: wmor@ix.netcom.com (William M. O'Rourke)
Subject: UAL81
To: barry@corazon.com
Status:

JBS:

I'll try to answer your questions here re. UAL81 but the answers may not be the ones you're looking for.

1. Ron Schleede was the Chief of the Accident Investigation Division at the time of the accident and oversaw much of the on-scene investigation. He is highly experienced and a reliable investigator. He started his career with the NTSB at the Denver Field Office after flying F-100's with the USAF.

2. I never saw the actual door but was informed that it was in two pieces versus the single (entire) door we based our calculations on. I learned that the USN utilized our estimate of impact point & time and applied their detailed knowledge of under water current data. The result was that they drew a 5 NM box around a point they calculated would have been the resting place of the door. Their ship then entered at the NW corner of the box steaming on a track towards the SE corner. At about the half-way point, on the first run, they located the debris field on the ocean floor in approximately 14,000 feet of water.

3. I DID NOT SEE ANY BLIPS! What I did see was a computer printout of FAA and USN FACS FAC ground based radars which
listed all primary & secondary (transponder) returns covering the area we specified in our data reduction request.

Since the Navy's FACSFAC processor (computer) was more state-of-the-art than the FAA system, plus it had more feeds, we utilized the USN data for the most accurate data presentation.

From the data in the printout, we could not tell which target was the door or which was debris. Further, we had no way of telling which was which. What the printout did tell us was whether it was a long-run length or short-run length target. Generally, you could say that a long-run target is a strong target while the short-run length was a weak target. However, the difference twixt the two is actually more of radar cross section of a target. As an example, picture a billboard of 15 feet high, 30 feet wide and 6 inches thick. If you look at the billboard staright on, you see its full 15x30 foot area or an object with a surface area of 450 sq. feet. However, when you view the same billboard from end-on, you see an object with a total area of 7.5 square feet. Hence, an excellent example of the primary difference between a long & short run length target.

With respect to the UAL81 incident, we were very lucky in that while the flight was climbing out of HNL, a WX ballon was also on its way up. This gave use very accurate winds which enabled us to validate winds aloft info recorded on the DFDR. The largest
problem I had was to correlate the various timing involved from all of the data sets. Since the most accurate timing source was the FAA's ARTCC tapes, we had to adjust FAA & USN radar data, CVR, DFDR, NWS, and FAA tower tapes to one single time base.

The above are the same techniques we used in reconstruction of flight tracks of accident incident aircraft as well as the Shuttle Challenger accident.

Although my primary job was as an ATC investigator at the NTSB, I got stuck with doing radar data since I had a radar background going back to 1957 as a GCI controller, a brief stint on RC-121D's, TDY to a DDR and DER as well as TDY to VP-26 while at NQX (ASP-20).

If you give me your snail-mail address, I send you a copy of the Factual Report - Radar Reconstruction, that I completed on this case. I think I still have a copy of it around here somewhere.

I retired from NTSB in May 1991 after 34-years and do not even have a copy of the amended UAL811 report. I do know that they had to amend the report based on the information the recovered door revealed.

Mike O'Rourke
wmor@ix.netcom.com

Below letter discusses the efforts to get door examined.

From: Chris Hinch <chris@dcc.govt.nz>
To: "barry@corazon.com" <barry@corazon.com>
Barry

Hang in there.

I was on a computer graphics team that developed computer animation sequences for a documentary about UAL811. The animation sequences showed how the door latching mechanisms work for the cargo door in question.

At that time, the official story was that a ground handler had damaged the latching mechanism and/or not closed the door properly. The father of a New Zealand teenager killed on the flight argued against this, and as a result, the TVNZ documentary was commissioned, presenting his theory that an electrical failure initiated the door opening sequence with the 'L' shape of the locking latches making them susceptible to deformation.

In order to create the animation sequences, we had to study and understand the issues involved. We then predicted that if the door was found, what the relative positions of the cams and interlocks would be, and that the L locking bars would be deformed by the backdriven cams.

The documentary was rebuffed by United, who said that that they were aware, prior to the accident, that the L locks could be deformed by initiating the door open sequence while locked, and that a modification had been issued to strengthen them. As that
modification had *apparently* been fitted to 811, we were "therefore" wrong. In addition, local airlines said that a special 'strengthening' modification had been fitted to their fleet of B747's, "therefore" it was okay to keep flying.

But when the door was retrieved, the locks were deformed as predicted, and the cams were in the positions we predicted. Obviously, if fitted, the modification was not strong enough. This meant that it could happen again, and I was approached by TVNZ to say so on camera. I did so but did not realise the personal and professional cost that would occur as a result.

I was not aware that the NTSB had changed their position, and I cannot tell you the personal feeling of relief, vindication and resolution that I felt reading their revised executive summary at your web site. Thank you very, very much.

But now, the horrifying feeling that our words will continue to go unheeded, and that more people will die - especially when we hear airlines continuing to say that they are "okay" because they have fitted the "special" strengthening mod.

Can you confirm if 811 had the rivetted L plates modification added? Did 800? 103? Can you confirm or determine if any one has actually initiated the opening sequence on the ground, with the door fully closed, with the L plates modification fitted? Can Boeing/NTSB categorically demonstrate that the mod fitted will prevent deformation when the cams are backdriven?

I wish you the very very best of luck. Remain focused, persistent and rational in your arguments, and they cannot argue.

By the way - check 811's pilot statement (on record I believe)
that the only reason the aircraft didn't come apart underneath him was that he had just taken it off AP and let go of the controls at the point of event - he felt that fighting the aircraft (or trying to keep it straight, as the AP would have done) would have resulted in catastrophic failure.

In the other accidents, were they on AP?

Cheers
Chris Hinch
chris@dcc.govt.nz

Dear gentleman, the ball is in your court. You have the facts presented to you. It is time for your action. To not act and not correct error when given startling information indicating serious error in investigative thinking is wrong.

To review:
1. Why forward cargo door pieces including sill are important to recover. It is shown in NTSB AAR 92/02 that the forward door can unlatch in flight and kill passengers in an early Boeing 747.
2. Why cargo door sill of TWA 800 is aft door sill: Because it was found in the aft fuselage debris field in which other aft cargo door pieces were found.
3. Why forward cargo door sill is missing: It was not found in the forward cargo bay debris field in which other forward cargo door pieces were found, it is not listed in the entire wreckage database, and it is not hung on wreckage reconstruction.
4. Where is it: Forward door sill is probably within this one minute geographical coordinates of a box: 40:37:50 latitude north up to 40:38:50 degrees, minutes, seconds north by 72:39:20 west longitude over to 72:40:20 degrees, minutes, seconds of west longitude.
5. Where is wire chafed: Plug P3 and Plug P4 at a distance between three to four inches from plug pin tips. The P4 damage location may correspond to wire bundle clamp positions.

To repeat: Correct error of cargo door mixup. Retrieve forward door. Bring me into the investigation; I know a lot about the problem, I can help in this life and death matter. Question me. To use assets that are available is smart. To reject proven assets who volunteer to assist is wrong. I have been right since day one of the TWA 800 accident, I'm still right, and I will be right as new questions come up. Time is not on your side; I am.

Respectfully,

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Dear Mr. Wildey,

13 Apr 98

This letter is to confirm and explain the significance of the cargo door sill mixup for TWA 800.

The aft cargo door sill, latches and locks have been recovered. The forward door sill, latches and locks have not. The aft door sill, latches and locks are in the wreckage database as found on page 14 of 71, "C122, RF45A 40 39 47.00 latitude, 72 37 27. 90 longitude, aft cargo door- lower sill latches & locks."

The aft sill was found with companion aft cargo door skin in the terminal debris field as expected which is where the wings and rest of fuselage were found, far away from the nose debris field where the forward cargo door hinge and a few pieces of top forward door skin were found as expected, but no forward door latches and locks or sill found.

To repeat: The aft sill was found where it was expected, with other aft door skin in the expected location, wing and aft fuselage debris field. The forward sill was not found where it was
expected, with other forward door skin in the expected location, the nose field; it was not found at all.

When confronted with a cargo door sill, latches and locks in a crowded, noisy hangar deck floor with pieces of wreckage all around and time pressure for a conclusion, Mr. Breneman deduced the recovered door sill, latches and locks were from the forward door, not the aft. He was wrong. He did not check later to see what debris field it was found in. That would have confirmed it was the aft door sill as it was recovered from the same area of other aft cargo door skin and hinge. He would have continued looking for the forward cargo door sill and latches and would have confirmed they were missing. They were missing then and they are still missing twenty months later.

The aft door sill was confused as the forward door sill. It's an understandable mistake. They have the same size, shape and function. The wrong suspect, the aft door, was examined and found to be mostly innocent and released while the real suspect, the forward door, lies dormant and unexamined.

Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 1/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill," is now shown to be conclusively wrong because the forward door sill, latches and locks have not been recovered to be examined.

The forward door sill and latches and locks have not been recovered because they are not in the wreckage database of all the items recovered. They are also not in the reconstruction at Calverton. They are still out there on the ocean floor because
TWA 800 certainly had the forward cargo door sill, latches and locks on board and functioning normally when it took off the night of 17 July 1996.

To summarize: Aft cargo door lower sill, latches and locks found and recovered and examined. Forward cargo door lower sill, latches and locks not found, not recovered, and not examined.

The mixup has serious consequences.

The search for the forward cargo door of TWA 800 must be resumed, exactly as was done for UAL 811 in September/October of 1990, a year and a half after the initial event of inadvertent opening of the forward cargo door in flight over the ocean.

The investigation into TWA 800 must start from square one. As soon as the wreckage was brought into Calverton hangar, the forward door was sought out and examined by Mr. Breneman because it was suspected as having opened in flight. He was right to suspect that forward door, it has killed nine passengers already in a high time early model 747 that left a sudden loud sound on the CVR and an abrupt power cut to the FDR, exactly like TWA 800. Now that the wreckage reconstruction and database shows that 80% of the forward door is still missing, further investigation must be made to determine the status of latches and locks.

What would NTSB have done if the report from Mr. Breneman had come back correctly as forward cargo door sill and latches unrecovered and therefore latch status undetermined which means forward cargo door could have opened in flight? Continue
to look for the forward door, of course, and then look at the surrounding structure of the forward cargo door. NTSB would then see what can be seen now in the wreckage reconstruction: a large rectangular outward explosive decompression zone proven by structural deformation and paint markings, as Mr. Schalekamp described it; or red paint smears, outward peeled skin, and petal bulge at aft midspan latch of forward door, as I describe it; all indicative of forward door opening in flight, as it did for UAL 811 leaving similar evidence of structural deformation and paint markings as described in NTSB AAR 92/02.

While waiting for the forward door sill and latches to be found and retrieved, the assumption must be made that something unusual happened to the forward door for it not to have been found where expected, in the nose recovery field with the rest of the 20% recovered forward door parts such as top part of door and hinge. Eighty percent of forward door missing and not recovered after an extensive search indicates something seriously strange about that door. It was not all latched, locked and intact at water impact. If forward door had been intact, most of the pieces, including the sill, latches and locks, would have been found and recovered at the nose impact point and debris field, but they weren't. Door area shattered inflight from explosive decompression when door opened in flight. The nose tore off because of the 300 knots of slipstream pressed onto weakened nose with huge thirty by forty foot hole in it.

Once determined by reconstruction evidence that the forward door opened in flight, the cause of the opening will of course be investigated.

I offer the explanation of UAL 811: Chafed bare wire, poly X, known to be susceptible to chafing, shorted door motor on to
unlatch position. For TWA 800, the midspan latches had no midspan locking sectors to be strengthened so they went to partial unlatch position and allowed the 38115 pounds of internal pressure to rupture forward door at aft midspan latch. Evidence shows petal shaped rupture hole at that location on wreckage reconstruction and missing midspan latch.

Water in the cargo hold bypassed all the four power cutoff safety switches which FAA had assumed would prevent another cargo door opening from chafed wire only. Water got into the forward cargo hold of TWA 800 because a rain storm swept over it an hour before takeoff and the door may have been open then or the seals leaked when unpressurized on the ground. I have seen water pour out of a Boeing airliner forward cargo hold myself. There is a bilge in the cargo hold so water is expected, possibly from condensed water from humid air in hold suddenly subjected to cold air from conditioning or cold skin from outside air at altitude.

Other explanations for TWA 800 forward cargo door opening in flight will be offered of center tank blew it open, as Mr. Schalekamp of FAA opined, bomb as Mr. Kallstrom of FBI offered for so many months, or missile as the wackos still do, meteor by another, electromagnetic interference by another, or some other unknown reason. All should be considered.

Bare chafed wiring has shorted on a forward cargo door motor to unlatch position fatally before and it has happened again for TWA 800. That is my claim. NTSB has urged door wiring be checked in NTSB Safety Recommendation Brief Report Number A-91-83. That recommendation by NTSB should now be followed.
What to do? I offer my time and services again to government to assist in confirming the cause of TWA 800, as I have for the past twenty months. To reject my further offer of help is just as wrong as the past of ridicule, disparagement, and disregard that officials have given me.

Chairman Hall, Mr. Schleede, Ms. Hazle, Mr. Goelz, Mr. Breneman, Mr. Schalekamp and Mr. Drake have all delivered personal insults about me to elected leaders, media, and to me indicating I don't know what I'm talking about, I bother the officials with so many letters, I don't have my facts straight, and they have been very patient with me explaining why I am wrong about the forward cargo door in great detail, but still I persist and should be ignored.

None of my factual evidence has ever been rebutted, but only a generality of that forward door was checked, all cargo doors were latched and locked and door was intact at water impact was offered to inquiries by Senator McCain, Congressman Farr, and various media persons. A meeting requested by me and seconded by Senator McCain to relate my concerns about the forward cargo door with NTSB officials was rejected. The refusal to consider forward door opening in flight was based on a false premise, door sill, latches and locks recovered belonged to the front door. Wrong, they belonged to the back door.

A recent example shows the tone; the below from NTSB spokesperson Hazle to NTSB accredited newspaper reporter on April 8, 1998, five days ago, before door mixup detected and reported:
"Your proposed article is incorrect. First of all, Senator McCain did not request that the NTSB meet with Mr. Smith. The Senator asked that the Board respond to Mr. Smith's concerns, which we
have done numerous times and in great detail... Secondly, Mr. Smith is simply wrong. There is absolutely no physical evidence to support his personal theory that the forward cargo door came unlatched. Although Mr. Smith does display some knowledge of the Boeing 747, he has a basic misunderstanding of the facts. For example, Mr. Smith claims that there are 10 latches on the cargo door and that the Board only discusses eight in the above mentioned report. While a superficial description of the door might imply that there are 10 latches, Mr. Smith is, in fact, incorrect in implying that they all hold the door onto the fuselage. The eight at the bottom of the door, which were discussed in the report actually hold the door closed - the other two, one on each side of the door are merely "alignment latches" and do not hold the door closed."

Ha!

FAA and NTSB have made this cause of TWA 800 personal by attacking me, the messenger, instead of the message, door opened in flight. It's a mistake. It's as wrong as calling the back door the front door. And then continuing to repeat the erroneous conclusion when inundated with facts from a person who says check the door, check the door, over and over again, but never checking the actual door, is even more wrong.

Fortunately, no other early 747 has had another forward door pop open in flight in the twenty months since TWA 800, so only feelings are hurt so far.

I ask that the politicians reconcile the strained relationship between this citizen and government aviation officials. Mend the fences, start the healing process, bury the hatchet, let bygones be bygones. I'm willing; I can't do it alone; it takes two.
I continue to offer my help. I have nine years of research into this forward cargo door problem with early 747s. I am a crash survivor of a sudden night fatal jet plane accident. I'm a commercial pilot, instrument rated. I'm a retired military officer. Permit me to assist the official investigators in a volunteer capacity or make it official, just as long as my data, facts, and conclusions can be considered for a contribution to the probable cause of TWA 800. I am an ally. Call me an outside independent consultant. Whatever, but my input is essential.

Discovery of the forward door problem for TWA 800 is very important. This cargo door mixup leads to door open in flight for TWA 800. That leads to UAL 811. That leads to PA 103 and that leads to AI 182, all early model 747s that had hull rupture in flight forward of the wing leaving a sudden loud sound on the CVR and an abrupt power cut to the FDR. The implications of PA 103 and AI 182 not being bombs but wiring caused door openings are profound and affect the entire worldwide aviation industry. The consequences of that will require very high level government actions.

That's out of my league; my league is early 747 hull ruptures in flight. My ball park is four accidents. My inning is TWA 800. My time at bat is forward cargo door. My hit was it opened in flight. My home run is the cause was water on bare chafed wire to short door motor on to unlatch to rupture at aft midspan latch. The pitch was a curve ball of explosive decompression which mimics a bomb or fuel tank explosion.

The door mixup shows that it is time for NTSB to do it right the second time, just like UAL 811. This time without FBI interference. This time with time to think it over. Find the door
and in the meantime go on the assumption that a previous event happened again, even though it was not supposed to, TWA 800 forward door opened in flight from chafed wire short to door motor to aft midspan rupture.

The door mixup error is understandable; it was an unintentional human error of judgment between two identical looking items and understandable under the circumstances of urgent wreckage assembly and inspection at Calverton hangar shortly after the accident.

Forward cargo door opening is very good news for NTSB. It opens up the pathway, the first choice pathway, of forward cargo door opening in flight that was considered closed these many months, but now with the crucial piece of evidence, the lower sill, latches and locks which was blocking the pathway, being removed by explanation of aft, not forward sill, NTSB can now go down that first choice pathway.

And sure enough, the evidence retrieved in the meantime confirms that first pathway choice: there is no yet conclusively confirmed cause of the crash, although bomb, missile, meteor, and spontaneous center fuel tank explosion were seriously considered; streak is explained as shiny object spinning away reflecting red-orange evening sunlight; the shattered outward fuselage skin around the forward door looks exactly as expected if the door were to open in flight, paint markings are as expected if door were to slam upwards into fuselage above, the CVR and FDR data match another cargo door opening flight, and on and on; all facts, data, evidence compiled by NTSB investigators.

NTSB has produced the reports, data, and interpretations from which the forward cargo door opening in flight for TWA 800 is
explained. NTSB AAR 92/02 for UAL 811 is the bedrock document for cargo door explanation for TWA 800.

NTSB will show that solving airplane crashes is the most important goal and let the chips fall where they may. NTSB had the first official deduction for TWA 800, forward door opened in flight, and it was the right one. Confirmation was delayed while other agencies had a hack at it, but eventually, with a citizen's help, the first choice pathway was cleared of confusing debris.

NTSB recommended that the door wiring bundles be checked on early 747s. NTSB has determined Poly X wiring in early model 747s is suspect and subject to vibration caused chafing. NTSB compiled the exhibits for the public docket which assisted the citizen investigation so much. NTSB has the web site that publishes all the previous accident reports from which so much valuable research was derived.

The official credit for cargo door opening in flight explanation for TWA 800 will go to NTSB. It's their data, facts, and evidence. Success has many fathers; failure is an orphan.

The new investigation requires reexamination of those NTSB facts, data, and evidence, some of which are listed below:
1. horizontal stab has red paint smear
2. stator blade in right horizontal stab behind engine number 3
3. inward movement top of cargo door matches UAL 811
4. top of door attached to hinge matches UAL 811
5. petal shape of rupture area around aft midspan latch
6. missing pieces of locking handle, latching pins, overpressure relief doors, midspan latches
7. rectangle of explosive decompression zone of outward peeled skin on right side forward of the wing on right side
8. downward movement of floor beams near cargo door
9. hoop stresses found
10. cvr sudden loud sound matches NTSB Chart 12 UAL 811
11. fdr abrupt power cut matches UAL 811
12. TWA 800 matches UAL811 in twenty five similarities
13. TWA 800 matches PA 103 in many similarities
14. TWA 800 matches AI 182 in many similarities
15. red paint smears above cargo door on white paint
16. fire and fod in engine #3 for ignition source for fireball/center tank explosion on TWA 800, also missing blades.
17. starboard side more damaged than port side.
18. inflight objects hit same things such as right wing fillet in other other accidents
19. poly x is known to be susceptible to chafing and TWA 800 had poly x.
20. section 41 is known to be weak and TWA 800 did not have the retrofit to strengthen.
21. history of cargo door openings in past in various airliners including model and type of TWA 800.
22. EPR problems on aircraft before or during fatal flight.
23. fires in forward cargo hold in the past on Boeing 747s.
24. vertical tears in fuselage skin forward of the wing on the right side match UAL 811
25. singe marks on right side of fuselage show burnt skin, then abruptly at tear line there are no singe marks.
26. red paint rubbed off revealing white paint underneath above cargo door area
27. first pieces off came from forward cargo hold just forward of the wing
28. at least nine missing never recovered bodies, just fragments.
29. initially thought to be a bomb, just like AI 182, PA 103, and UAL 811
30. wreckage debris shows cargo door in pieces at water impact.
31. aft portion of forward door which includes aft midspan latch and locking handle missing from recovery effort as well as bottom sill latches and locking sectors.  
32. front spar of center tank found early in debris field is unsooted.

Actions to rule in or rule out forward cargo door involvement.  
1. Check hinge overtravel impression damage to match AAR 92/02.  
2. Check aft midspan latch pin for heat damage to match AAR 92/02.  
3. Check aft midspan latch for damage when located.  
4. Put door back together from smaller shattered pieces to clarify petal rupture at aft midspan latch.  
5. Determine lone 'stator blade' from which engine  
6. Check red paint matching from cargo door area to right horizontal stabilizer.  
7. Find chafed wire bundles to bare wire in forward cargo hold to match AAR 92/02.  
8. Search, find, and retrieve forward cargo door bottom sill, latches, and locks and examine for latch lock status.

The similarities between UAL 811 and TWA 800 are uncanny, even to both having to retrieve the door from bottom of ocean after tentative probable cause given. But this time the explanation of the forward door opening in flight will not require a new AAR, it will all be done in the first aircraft accident report.  

Please use my experience, knowledge, and aviation skills. My research has much to offer in this complicated matter. I know all the explanations very well and can rebut each while pointing to documentation, facts, data, and evidence to support each facet of the wiring/forward cargo door explanation.
I volunteer. Bring me on board.

Respectfully,

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NTSB Safety Recommendation Brief

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Rprt_Nbr: A-91-83  
Last Updated: 03-13-95

[O] On June 13, 1991, United Airlines (UAL) maintenance personnel were unable to electrically open the aft cargo door on a Boeing 747-222B, N152UA, at John F. Kennedy Airport (JFK), Jamaica, New York. The airplane was one of two used exclusively on nonstop flights between Narita, Japan, and JFK. This particular airplane had accumulated 19,053 hours and 1,547 cycles at the time of the occurrence.

Recommendations:

A-91-83. Issue an Airworthiness Directive applicable to all Boeing 747 airplanes with a flexible conduit protecting the wiring bundle between the fuselage and aft cargo door to require an expedited inspection of:
(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);

(2) the conduit support bracket and attached standoff pin on the upper arm of the forward lift actuator mechanism;

(3) the flexible conduit for the presence of cracking in the convoluted innercore.

Wires with damaged insulation should be repaired before further service. Damage to the flexible conduit, conduit support bracket and standoff pin should result in an immediate replacement of the conduit as well as the damaged parts. The inspection should be repeated at an appropriate cyclic interval.

On 08/04/98, at 21:25, Hazle Shelly <hazles@NTSB.gov> wrote:

> Dear Dr. Wills,
>
> Your proposed article is incorrect. First of all, Senator McCain did not request that the NTSB meet with Mr. Smith. The Senator asked that the Board respond to Mr. Smith's concerns, which we have done numerous times and in great detail.
>
> Secondly, Mr. Smith is simply wrong. There is absolutely no physical
>evidence to support his personal theory that the forward cargo door came 
>unlatched. In fact, there is considerable evidence to the contrary. As
>stated in the Metallurgist's Factual Report, Exhibit 15C (which, of
>course, is a public document and available at our web site
>www.ntsb.gov):
>
>Examination of the lower lobe forward cargo door showed 
>that all eight of the door latching cams remain attached (along with
>pieces of the door itself) to the pins along the lower door sill.
>
>Overall examination of the forward portion of the 
>airplane showed that sections 41 and 42 contained uniform crushing 
>damage that extended from S-39L across the bottom of the fuselage and up
>above the right side main cabin window belt to S-14R. This crushing 
>damage is consistent with the intact forward portion of the airplane 
>(including section 41 and 42) impacting the water with a right wing low 
>attitude. The lower lobe forward cargo door was in the crush area.
>
>Although Mr. Smith does display some knowledge of the Boeing 747, he has 
a basic misunderstanding of the facts. For example, Mr. Smith claims
that there are 10 latches on the cargo door and that the Board only
discusses eight in the above mentioned report. While a superficial
description of the door might imply that there are 10 latches, Mr. Smith
is, in fact, incorrect in implying that they all hold the door onto the
fuselage. The eight at the bottom of the door, which were discussed in
the report actually hold the door closed - the other two, one on each
side of the door are merely "alignment latches" and do not hold the door
closed.

We receive numerous inquiries from the public, many with their own
extensively developed theories, and we try to be responsive to all. You
are free to request copies of the correspondence between Mr. Smith and
the Safety Board, a prudent step, I believe, before publishing such an
article.

If you have further questions or concerns, please feel free to contact
us.

Sincerely,

Shelly Hazle
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Cargo doors mixed up by FAA for TWA 800

Date: Wed, 8 Apr 1998 02:33:07 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Cargo doors mixed up by FAA for TWA 800
Cc:
Bcc:
X-Attachments:

Dear Mr. Wildey, 8 Apr 98

Please may I have a meeting with aviation safety officials to present my findings? Please may I have discussion with you or your representative to display evidence. Please may I not be ignored and refused meetings with NTSB? Please may the facts, data, and evidence from my years of research have a change to be seen and heard by aviation safety officials?

The TWA 800 wreckage database reveals aft cargo door bottom sill, latches and locked were checked but not forward door! Bob Breneman, the FAA structural engineer who made the examination and concluded forward door all latched and locked, could not have examined the forward door latches and locks because they were not recovered. They are not in the database and they are not in the wreckage reconstruction in the hangar. The forward door is only 20% recovered and sill and latches are missing.
But in the terminal field (that includes the wings and rest of headless 747 fuselage and aft door) was found on page 14 of 71 of wreckage database, "C122, RF45A 40 39 47.00 latitude, 72 37 27. 90 longitude, aft cargo door- lower sill latches & locks."

Exhibit 15 C "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

So in the hangar jumbled with wreckage days after crash, as wreckage was brought in, Bob Brenerman of FAA looked at bottom latches of a cargo door and saw them locked and hastily said forward door all latched and locked. He got the two identical doors mixed up. He never corrected his error.

The forward door reconstruction shows all the pieces of those items found in database. Most of the forward door is missing in wreckage reconstruction and most of forward door is missing in database. The sill and latches and locks are missing in database and reconstruction. 80% of forward door is still out there someplace.

Aft door was not reconstructed in hangar as too far away from center tank. The aft door bottom sill, latches and locks were recovered. The two doors are identical in shape, function, and size. It was an honest error.

Mr. Wildey, not only has FAA and NTSB not examined the two midspan latches of the forward cargo door, they have not examined any of the ten latches and locks. There are not sufficient facts to rule out the inflight opening of the forward
cargo door in flight. The evidence shows it did by petal bulge, red paint smears, and outward peeled skin in door area.

Please check out the door mixup with Bob Breneman. It's all right to make an honest mistake, it's all right to rely on someone who gives you bad information, but it's not all right to let the error stand. There are no sill and latches of the forward door to examine, they were not recovered.

The history shows is was bare chafed wiring shorting the cargo door motor on to the unlatch position, just like UAL 811. Wiring is the big problem with early 747s but not for starting spontaneous center tank explosions. Wiring is a problem for shorting and turning cargo door motor on.

I ask again, sir, please may I have a meeting with aviation safety officials to present my findings? Please may I have discussion with you or your representative to display evidence. Please may I not be ignored and refused meetings with NTSB? Please may the facts, data, and evidence from my years of research have a change to be seen and heard by aviation safety officials?

Very Respectfully,

John Barry Smith  
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Carmel Valley, CA 93924  
408 659 3552  
barry@corazon.com  
www.corazon.com

Raw data below:
Here's some raw data of strange things that happened to 747s that could be traced to wiring shorts giving fire, motors on, doors opening, and instruments failing.

#15, PA103 is 44 Wire (Raychem Corp), Construction number 19646, 25 Jan 70, forward door

#16 PA 125 is 44 Wire (Raychem Corp), Construction number 19647, 121, pa, n740pa, 31 Jan 70, forward door.

#40 19779 747 151 24 Apr 70 fire aft cargo bay NWA

#72 19896 747 132 9 sep 70

#73 19677 747 131 n53111 15 sep 70 Iran lightning

#87 20108, 747-123 AA registration number 9669, 28 Oct 70 cargo door.

#89, UAL811-Poly-x (Raychem), Construction number 19875, 20 Oct 70, forward door

#101 19878 747 122 ual n4717u 7 dec 70

#115 20323 747 123 aa n9671 10 feb 71

#124 19959 747 237b vt ebd 8 mar 71 ai roll after to into sea, faulty instrument

#139, Poly-x, Construction number 19879, 122, ual, n4718u, 16 may 71, Aft door
Jim Wildey: "Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence. The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this 25 area."

Dear. Mr. Wildey, 7 Jan 97

New sequence, all happened before and all documented and now I put it together. Informally but factual.

Suggested new sequence for initial event.
Cold air from air conditioning pack flows into hot humid air of summer New York in forward cargo hold on old airplane that has not had Section 41 retrofit. Water condenses and runs down metal cargo door to pool near chafed wire. Wire is poly x which has chafed through sheath, through insulation, to bare wire from the long term vibration of flight of old airplane. The wire bundle is near clamp which does the wear. The wire bundle houses the EPR info and cargo door motor power and unlatch signal. The water shorts door motor to 'on' to ground and turns door motor on for just a few seconds. Latches try to unlatch. Bottom eight sectors stop the cams from unlatching because of AD 88 12 04. But the midspan latches have no locking sectors so try to unlatch. The torque tubes are stopped by the locking sectors from complete turning but turn enough through wear and tear of old plane to partial unlatch at aft midspan latch. Aft latch ruptures. Door opens. Big hole appears from explosive decompression. 300 knots tears nose off. Nose falls apart, rest of plane falls and disintegrates and fuel vapor and center tank explodes into fireball seconds later and thousands of feet lower when on fire engine number three or four ignites it.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: FAA/NTSB link to wiring/cargo door cause for TWA 800

Date: Wed, 1 Apr 1998 06:41:03 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: FAA/NTSB link to wiring/cargo door cause for TWA 800
Cc: 
Bcc:  
X-Attachments: 

Sam Farr  
Member of Congress  
17th District, California  
House of Representatives  
Congress of the United States  
Washington, DC  

John McCain III  
Member of Congress  
Chairman, Committee on Commerce, Science, and Transportation  
United States Senate  
Washington, DC  

James Hall  
Chairman,  
National Transportation Safety Board  

Bernard Loeb,  
Director of Aviation Safety  
National Transportation Safety Board  

Al Dickinson,  
Lead Investigator, TWA 800  
National Transportation Safety Board  

Ron Schleede,  
Investigator, TWA 800  
National Transportation Safety Board
James F. Wildey II  
National Resource Specialist  
National Transportation Safety Board  
490 L'Enfant Plaza East, SW.  
Washington, DC 20594

Thomas McSweeny  
Director, Aircraft Certification Service  
FAA National Headquarters

Lyle Streeter  
FAA AAI  
Aircraft Accident Investigator  
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Neil Schalekamp  
Manager, Propulsion & Mechanical Systems and Cabin Safety Branch  
Transport Standards Staff  
Transport Airplane Directorate, ANM-100  
1601 Lind Ave. S.W.  
Renton, WA 98055-4056

Bob Breneman,  
Aerospace Engineer,  
Federal Aviation Administration  
Transport Airplane Directorate, ANM-100  
1601 Lind Ave. S.W.  
Renton, WA 98055-4056
Dear Mr. Wildey,

April 1998

Senator McCain, you were absolutely right when you recently said about a GAO report, "I am very concerned that once again the FAA has fallen short by not fully utilizing its capabilities to help determine potential aviation safety and security problems." Well, honest agencies such as FAA and NTSB make honest mistakes, and honest agencies make honest corrections.

A motive has been discovered to explain why FAA Certification Service is so adament that the cargo door of TWA 800 did not open in flight. It's because they earlier said it couldn't happen. There is another motive for not examining the entire door before declaring it all latched and all locked and all intact at water impact which is the Certification Service saying that the eight locking sectors for the ten latches in the door were sufficient to keep door closed in flight when it originally certified the Boeing 747. And NTSB relied on FAA examination of TWA 800 door for belief it was all latched, all locked, and all intact until water impact.

Rprt_Nbr: A-91-84 states: "Since the issuance of this NPRM, the FAA has further reviewed the circumstances surrounding this door opening incident and has confirmed that an inadvertent in-flight opening of the cargo door cannot be caused solely by wire chafing. The FAA has determined that in addition to chafing at least four independent failures must also occur in order to drive the door latches to the open position. In light of these findings, the FAA determined that the requirements proposed by the NPRM were unnecessary."
FAA Aircraft Certification Service has thus said door was safe when designed but when it opened in flight anyway said it couldn't happen again after it was supposed to have been fixed. It was not safe when designed and it did happen again because the problems of water in hold and midspan latches not having locking sectors were not recognized at the time.

The attachment below details the sequence of NTSB asking that the wire conduits to the cargo doors of early Boeing 747s be inspected. It gives the FAA response that it couldn't happen, so the check was not necessary. It is NTSB saying cargo door could come inadvertently open electrically and FAA saying it couldn't. NTSB was well aware of the wiring problems involved with cargo doors of Boeing 747s and asked that the wiring be checked again. FAA demurred.

This NPRM attachment explains so much.

It explains why Bob Brenerman knew and went to forward cargo door as soon as wreckage was brought to Calverton within days. FAA knew there was a problem with doors and knew they could have caused problem as shown by circumstances of TWA 800: NTSB had previously said door may open in flight, FAA knew it had before, and TWA 800 looked like hull rupture at forward cargo door.

It explains why FAA was so quick to say door was not the problem when only bottom eight latches checked out of ten available and the rest of complex door parts ignored: FAA had said door opening could not happen and did not want to be wrong.
It explains why Mr. Wildey so readily agreed with FAA cursory examination and hasty conclusion door was all latched, all locked, and all intact at water impact: NTSB had said door might open in flight and was reassured by FAA saying it couldn't and NTSB accepted it. He does not want to be wrong.

It explains why Mr. Schalekamp so quickly retracted his statement of outward explosion of hull forward of the wing on the right side in the cargo hold area: FAA had said it couldn't happen and his evaluation of paint markings and structural deformation directly contradicted that appraisal. He does not want to say FAA is wrong.

It explains why Mr. McSweeny continues to state TWA 800 had no door problem while providing no evidence to support conclusion and ignores contrary evidence it did: He said it couldn't happen and does not want to be wrong.

It explains why FAA Northwest Region is the only FAA branch to go public agreeing with center tank as initial event: FAA Northwest Region desperately wants TWA 800 to not be a door opening in flight: They said it couldn't happen and do not want to be wrong.

It explains why Mr. McSweeny will not reply directly to knowledge that the midspan latches have no locking sectors and rupture appears at aft midspan latch: FAA certification service said midspan locking sectors were not necessary when certifying cargo door as acceptable as designed. He does not want to be wrong.

It explains why FAA and NTSB and Boeing all ignore possible cargo door involvement with TWA 800 and insist on
preposterous position of forward cargo door all latched, all locked, and all intact until water impact, contrary to visual proof of wreckage reconstruction of outward peeled skin, red paint smears, petal bulge at aft latch, and rectangular shatter zone in cargo door area: All said the door was safe when designed with only eight locking sectors; when it finally broke it was supposed to have been fixed; a door opening was not supposed to ever happen again; and recommended safety actions concerning wiring and the door were rebuffed. Cargo door opening in flight for TWA 800 may make them all wrong, unless center tank explosion blew it open. FAA, NTSB and Boeing do not want to be wrong. Nobody does.

All aviation safety persons in Boeing and government are now living a nightmare. Something, the cargo door, they said was safe when designed is now shown not to be so and resulted in a failure and fatalities, Pan Am 125 and UAL 811. Something that broke was supposed to have been fixed but wasn't and resulted in another failure, UAL preflight. Something that could have been checked, wasn't, and may now have resulted in more fatalities, TWA 800. That was horror preamble, this is the current nightmare: The wiring chafed short problem causing cargo doors to open in flight is still there on all early Boeing 747s still flying.

I am saying cargo door opening in flight could happen again and did with TWA 800. The new reasons, not known by FAA at the time, are that water in the cargo hold can bypass the four safety feature switches upon which FAA relied on to prevent the inflight opening and the midspan latches do require locking sectors.

The certification should not have been granted for the door with only eight locking sectors installed instead of ten possible. There is bias against believing door opened in flight at rupture at aft
midspan latch because FAA said the midspan latches were safe and did not require locking sectors. The latches required locking sectors then and still do now.

FAA said that door could not open by chafing alone relying on safety features all bypassed by water around the chafed wiring. Water and fluid are known to get into forward cargo hold by my personal viewing, by recent Bournemouth Boeing 737 AAIB incident report, the cargo hold has a bilge to hold the expected water, water condenses in the warm humid hold when subjected to cold conditioned air, two large potable water tanks are in hold, the seals are notorious for leaking, and a rain shower engulfed TWA 800 an hour before takeoff on the fatal flight.

The forward cargo door opened in flight for TWA 800, that is plain to see in the reconstruction photo of structural deformation and paint markings. What caused it to open is conjecture based on precedent and scant evidence. I agree with NTSB in A-91-83 and A-91-84 that the wiring in cargo door conduits is involved. To maintain door did not open in flight and the rectangular shatter zone forward of the wing on the right side of TWA 800 was all caused by water impact is untenable based on visual hard evidence of paint markings and structural deformation. Additional evidence for forward cargo door opening in flight is the petal bulge at aft midspan latch, the missing midspan latches, missing 80% of door material, the outward peeled skin, red paint smears, and the shape of shatter zone matches that of another cargo door opening in flight, UAL 811.

Mr. Tom McSweeney, I ask that you overcome those two biases of saying door was safe with only eight locking sectors and it could not open in flight again and conduct a thorough investigation of possible forward cargo door opening in flight for TWA 800.
Institutional memory is a strong factor in investigations and it's very difficult to admit error but in areas of life and death, pride must be overcome and objectivity sought. That door opening in flight has not yet been checked out as it should be.

Mr. Neil Schalekamp, you believed at one time the forward cargo door area did open outward in flight based on structural deformation and paint markings. Will you please inform Mr. McSweeny of your findings and conclusions.

Mr. Bob Brenerman, you examined the forward cargo door of TWA 800 and saw the bottom eight latches latched. Will you please tell Mr. McSweeny that you reported on only the eight latches and not the ten available, nor did you examine the manual locking handle, the overpressure relief doors, the viewing ports or the torque tubes.

Chairman Jim Hall, please note the NTSB was right on target by zeroing in on the wire conduits as stated in A-91-83 and A-91-84: "Evaluate the design, installation, and operation of the forward cargo door flexible conduits on Boeing 747 airplanes so equipped and issue, if warranted, an Airworthiness Directive for inspection and repair of the flexible conduit and underlying wiring bundle, similar to the provisions recommended in A-91-83." That is exactly what I would recommend after all these years of research into door openings of early 747s which tracked down the culprit to chafed wiring, a problem well known to the NTSB and FAA all this while. You were right to hold hearing on aging airliners and old wiring problems. Please follow your own recommendation and thoroughly investigate the wiring/cargo door rupture explanation for TWA 800.

Mr. Al Dickinson and Mr. Ron Schleede, would you follow
NTSB recommendation in A-91-83 and examine the flexible conduit protecting the wiring bundle between the fuselage and aft cargo door; specifically:
(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);
(2) the conduit support bracket and attached standoff pin on the upper arm of the forward lift actuator mechanism;
(3) the flexible conduit for the presence of cracking in the convoluted innercore.

Mr. Jim Wildey, your exhibit report of 15C remains the final official word on the forward cargo door status of TWA 800. Knowing that you based your conclusion of door all latched and all locked and all intact at water impact on information from the service which has a very strong bias that the door not open in flight, would you reevaluate your findings and conclusions to reflect the new evidence shown in TWA 800 wreckage reconstruction such as paint markings and structural deformation? Note that the midspan latches have no locking sectors to strengthen and water does get into the forward cargo hold in flight.

Mr. Lyle Streeter, can you set up a meeting with me and government aircraft safety investigators to discuss this issue of whether forward cargo door opened in flight or not for TWA 800? Phone, or letter, or email, or in person is fine, but the details in the evidence need to be talked about in a give and take session, not just letters back and forth with general conclusions. Although NTSB may have primary responsibility for investigating aircraft accidents, FAA Safety Office is now expected to be fully utilizing its capabilities to help determine potential aviation safety and security problems.
Gentleman, every single thing I say about the accident cause of TWA 800 and other Boeing 747s suffering hull rupture in flight forward of the wing on the right side which leaves a sudden loud sound on the CVR and an abrupt power cut to the FDR has happened before, is documented in government accident reports, and the danger known about by FAA and NTSB.

Wiring/cargo door explanation for TWA 800 is reasonable and worthy of a thorough investigation. It is not weird such as missile, bomb, or meteor, explanations which have been granted much consideration. Center tank explosion occurred but it was an effect of the wiring short, just as cargo door opening and engines being foddled, not the initial event but secondary.

Safety People, the unlikely happened, again. That damned cargo door opened in flight, as it did in 1987, 1989, and 1991 by your official count and again in 1985, 1988, and 1996 by my additional count.

It's a big problem and needs a big fix. Wiring is becoming chafed, meeting water and shorting, giving a petite mal of trivial electrical devices turning on or off and a grand mal seizure when the door motor turns on when it shouldn't.

Sincerely,

John Barry Smith
408 659 3552
barry@corazon.com
551 Country Club Drive
Carmel Valley, CA 93924
[O] On June 13, 1991, United Airlines (UAL) maintenance personnel were unable to electrically open the aft cargo door on a Boeing 747-222B, N152UA, at John F. Kennedy Airport (JFK), Jamaica, New York. The airplane was one of two used exclusively on nonstop flights between Narita, Japan, and JFK. This particular airplane had accumulated 19,053 hours and 1,547 cycles at the time of the occurrence.

Recommendations:
A-91-83. Issue an Airworthiness Directive applicable to all Boeing 747 airplanes with a flexible conduit protecting the wiring bundle between the fuselage and aft cargo door to require an expedited inspection of:

(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);

(2) the conduit support bracket and attached standoff pin on the upper arm of the forward lift actuator mechanism;

(3) the flexible conduit for the presence of cracking in the convoluted innercore.

Wires with damaged insulation should be repaired before further
service. Damage to the flexible conduit, conduit support bracket and standoff pin should result in an immediate replacement of the conduit as well as the damaged parts. The inspection should be repeated at an appropriate cyclic interval.

Responses:
FAA LTR DTD: 11/1/91

The FAA agrees with the intent of these safety recommendations and is considering the issuance of a notice of proposed rulemaking to address these issues. I will provide the Board with a copy of any document that may be issued.

NTSB LTR DTD: 11/27/91

These recommendations were issued as a result of the Board's investigation of an incident in which the rear cargo door on a Boeing 747-222B initially would not open electrically and then opened electrically without activation of the door open switches. Your letter indicates that the Federal Aviation Administration agrees with the intent of these recommendations and is considering the issuance of a notice of proposed rulemaking to address these issues. The Board urges the FAA to move expeditiously on the recommendations. Pending receipt of additional information concerning the action to be taken by the Federal Aviation Administration, the Safety Board is classifying Safety Recommendations A-91-83 and -84 as "Open--Acceptable Action."

FAA LTR DTD: 4/5/93

The Federal Aviation Administration (FAA) agrees with the intent of these recommendations. On February 18, 1992, the FAA issued a notice of proposed rulemaking (NPRM) applicable to
certain Boeing Model 747 series airplanes. This NPRM proposed to require inspection of the flexible conduit, wiring, and support brackets between the fuselage and the forward and aft cargo doors. Since the issuance of this NPRM, the FAA has further reviewed the circumstances surrounding this door opening incident and has confirmed that an inadvertent in-flight opening of the cargo door cannot be caused solely by wire chafing. The FAA has determined that in addition to chafing at least four independent failures must also occur in order to drive the door latches to the open position. In light of these findings, the FAA determined that the requirements proposed by the NPRM were unnecessary. On December 21, 1992, the FAA withdrew the NPRM. I have enclosed a copy of the notice of withdrawal for the Board's information.

Airworthiness Directive (AD) 90-09-06 (Docket No. 89-NM-148-AD) mandates the installation of a door warning switch located on the lock sector, as well as a reinforcement of the lock sector to ensure that the latches remain locked against backdriving of the latches by the latch power drive unit. Failure of lock sectors that are reinforced in accordance with AD 90-09-06 has been shown to be unlikely and, even in the event of such a failure, an indication by means of the door warning switch will warn the flightcrew of the problem. The modifications, tests, and inspections required in AD 90-09-06 provide an acceptable level of safety to preclude inadvertent actuation of the cargo door power drive unit and possible injury to maintenance or cargo handling personnel. I have enclosed a copy of the AD for the Board's information. The FAA believes that the current requirements of AD 90-09-06 address the full intent of these safety recommendations to preclude an uncommanded opening of the forward and aft cargo doors.
I consider the FAA's action to be completed, and I plan no further action on Safety Recommendations A-91-83 and -84.

NTSB LTR DTD: 11/8/93

The National Transportation Safety Board has reviewed the Federal Aviation Administration (FAA) response of April 5, 1993, to Safety Recommendations A-91-83 and -84. These recommendations asked that the FAA issue an airworthiness directive applicable to all Boeing 747 airplanes with a flexible conduit protecting the wiring bundle between-the-fuselage and aft cargo door to require an expedited inspection of:

1. the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);
2. the conduit support bracket and attached standoff pin-on the upper arm of the forward lift actuator mechanism;
3. the flexible conduit for the presence of cracking in the convoluted innercore.

The Board further recommended that wires with damaged insulation be repaired before further service. Damage to the flexible conduit, conduit support bracket, and standoff pin should result in an immediate replacement of the conduit as well as the damaged parts. The inspection should be repeated at an appropriate cyclic interval.

The Safety Board then asked, in Safety Recommendation A-91-84, that the FAA evaluate the design, installation, and operation of the forward cargo door flexible conduits on Boeing 747 airplanes so equipped and issue, if warranted, an airworthiness directive for inspection and repair of the flexible conduit and underlying wiring bundle, similar to the provisions recommended in Safety Recommendation A-91-83.
The FAA's April 5, 1993, response listed a number of findings of an FAA review of the circumstances surrounding the subject door opening. Among the findings, the FAA confirmed that an inadvertent inflight opening of the cargo door cannot be caused solely by wire chafing. Further, the FAA determined that at least four independent failures must occur to drive the door latches to the open position. The FAA also stated that failure of lock sectors that are reinforced in accordance with AD 90-09-06 has been shown to be unlikely and, even in the event of such a failure, the door warning switch would warn the flightcrew, of the problem.

Based on these findings, the FAA has decided that the requirements of AD 90-09-06 address the full intent of these recommendations-to preclude an uncommanded opening of the forward and aft cargo doors.

FAA staff has also expressed concern that the recommended inspections could result in damage to the wire bundle insulation during the intrusive inspection. Therefore, based on the level of redundancy that now exists to prevent inadvertent door opening in flight, the Safety Board has classified Safety Recommendations A-91-83 and -84 as "Closed-Reconsidered. The Board will closely monitor incidents related to the uncommanded opening of cargo doors on 747 airplanes to further document this position.

NTSB Safety Recommendation Brief

Data_Source: U.S. NTSB Safety Recommendations
Rprt_Nbr: A-91-84
Last Updated: 03-13-95
personnel were unable to electrically open the aft cargo door on a Boeing 747-222B, N152UA, at John F. Kennedy Airport (JFK), Jamaica, New York. The airplane was one of two used exclusively on nonstop flights between Narita, Japan, and JFK. This particular airplane had accumulated 19,053 hours and 1,547 cycles at the time of the occurrence.

Recommendations:
A-91-84. Evaluate the design, installation, and operation of the forward cargo door flexible conduits on Boeing 747 airplanes so equipped and issue, if warranted, an Airworthiness Directive for inspection and repair of the flexible conduit and underlying wiring bundle, similar to the provisions recommended in A-91-83.

Responses:
FAA LTR DTD: 11/01/91

The FAA agrees with the intent of these safety recommendations and is considering the issuance of a notice of proposed rulemaking to address these issues. I will provide the Board with a copy of any document that may be issued.

NTSB LTR DTD: 11/27/91

These recommendations were issued as a result of the Board's investigation of an incident in which the rear cargo door on a Boeing 747-222B initially would not open electrically and then opened electrically without activation of the door open switches. Your letter indicates that the Federal Aviation Administration agrees with the intent of these recommendations and is considering the issuance of a notice of proposed rulemaking to address these issues. The Board urges the FAA to move expeditiously on the recommendations. Pending receipt of additional information concerning the action to be taken by the
Federal Aviation Administration, the Safety Board is classifying Safety Recommendations A-91-83 and -84 as "Open-Acceptable Action."

FAA LTR DTD: 4/5/93

The Federal Aviation Administration (FAA) agrees with the intent of these recommendations. On February 18, 1992, the FAA issued a notice of proposed rulemaking (NPRM) applicable to certain Boeing Model 747 series airplanes. This NPRM proposed to require inspection of the flexible conduit, wiring, and support brackets between the fuselage and the forward and aft cargo doors. Since the issuance of this NPRM, the FAA has further reviewed the circumstances surrounding this door opening incident and has confirmed that an inadvertent in-flight opening of the cargo door cannot be caused solely by wire chafing. The FAA has determined that in addition to chafing at least four independent failures must also occur in order to drive the door latches to the open position. In light of these findings, the FAA determined that the requirements proposed by the NPRM were unnecessary. On December 21, 1992, the FAA withdrew the NPRM. I have enclosed a copy of the notice of withdrawal for the Board's information.

Airworthiness Directive (AD) 90-09-06 (Docket No. 89-NM-148-AD) mandates the installation of a door warning switch located on the lock sector, as well as a reinforcement of the lock sector to ensure that the latches remain locked against backdriving of the latches by the latch power drive unit. Failure of lock sectors that are reinforced in accordance with AD 90-09-06 has been shown to be unlikely and, even in the event of such a failure, an indication by means of the door warning switch will warn the flightcrew of the problem. The modifications, tests,
and inspections required in AD 90-09-06 provide an acceptable level of safety to preclude inadvertent actuation of the cargo door power drive unit and possible injury to maintenance or cargo handling personnel. I have enclosed a copy of the AD for the Board's information. The FAA believes that the current requirements of AD 90-09-06 address the full intent of these safety recommendations to preclude an uncommanded opening of the forward and aft cargo doors.

I consider the FAA's action to be completed, and I plan no further action on Safety Recommendations A-91-83 and -84.

NTSB LTR DTD: 11/8/93

The National Transportation Safety Board has reviewed the Federal Aviation Administration (FAA) response of April 5, 1993, to Safety Recommendations A-91-83 and -84. These recommendations asked that the FAA issue an airworthiness directive applicable to all Boeing 747 airplanes with a flexible conduit protecting the wiring bundle between-the-fuselage and aft cargo door to require an expedited inspection of:
(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination); (2) the conduit support bracket and attached standoff pin-on the upper arm of the forward lift actuator mechanism; (3) the flexible conduit for the presence of cracking in the convoluted innercore.

The Board further recommended that wires with damaged insulation be repaired before further service. Damage to the flexible conduit, conduit support bracket, and standoff pin should result in an immediate replacement of the conduit as well as the
damaged parts. The inspection should be repeated at an appropriate cyclic interval.

The Safety Board then asked, in Safety Recommendation A-91-84, that the FAA evaluate the design, installation, and operation of the forward cargo door flexible conduits on Boeing 747 airplanes so equipped and issue, if warranted, an airworthiness directive for inspection and repair of the flexible conduit and underlying wiring bundle, similar to the provisions recommended in Safety Recommendation A-91-83.

The FAA's April 5, 1993, response listed a number of findings of an FAA review of the circumstances surrounding the subject door opening. Among the findings, the FAA confirmed that an inadvertent inflight opening of the cargo door cannot be caused solely by wire chafing. Further, the FAA determined that at least four independent failures must occur to drive the door latches to the open position. The FAA also stated that failure of lock sectors that are reinforced in accordance with AD 90-09-06 has been shown to be unlikely and, even in the event of such a failure, the door warning switch would warn the flightcrew, of the problem.

Based on these findings, the FAA has decided that the requirements of AD 90-09-06 address the full intent of these recommendations—to preclude an uncommanded opening of the forward and aft cargo doors.

FAA staff has also expressed concern that the recommended inspections could result in damage to the wire bundle insulation during the intrusive inspection. Therefore, based on the level of redundancy that now exists to prevent inadvertent door opening in flight, the Safety Board has classified Safety Recommendations A-91-83 and -84 as "Closed-Reconsidered."
The Board will closely monitor incidents related to the uncommanded opening of cargo doors on 747 airplanes to further document this position.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Another exhibit with your name on it that doesn't make sense.

Date: Tue, 24 Mar 1998 01:56:15 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Another exhibit with your name on it that doesn't make sense.
Cc:
Bcc:
X-Attachments:
Dear Mr. Wildey, another exhibit with your name as part of authorship that the conclusions don't jibe with the raw data.

Really, how can you say no fire when there is soot in engine three? How can you say no uncontainment when 'stator blade' in right horizontal stabilizer, directly aft of engine number three, and blades missing from three? How can you omit conclusion of no FOD or not when 'soft body impacts' were in number three?

What is going on? Changing labels from red to yellow, eight latches mean ten latches, and now ignoring hard raw data. Not right. Needs explanation and the sooner the better. It's not going to go away. It's very important. I trust 'soft body' was not a real soft body. What was the 'soft body'?
Why not send engines to PW for real teardown and not cursory one in Calverton? Why was engine 3 disassembled further than others? Was soot external or internal.

Exhibit 8A rebuts center tank as initial event and strongly supports wiring/cargo door rupture explanation. To sit on this is wrong. To act to clarify contradictions is right.

And Chairman Hall just turned down a request for a meeting twixt me and NTSB, even at the request of Senator McCain, who personally asked NTSB to meet with me to relate my concerns about the forward cargo door of TWA 800.

Stifling new information and discovered evidence is not the way to conduct an ongoing aircraft investigation. It's being done incomplete and you can make it right.

TWA 800 investigation is the pinnacle of your career. Do it right. Be proud of it forever.

Sincerely,
John Barry Smith

NTSB Docket SA 516, Exhibit 8A, Powerplants Group Chairman's Factual Report,

Page 2, paragraph 2, "After the engines were recovered, they were transported to the former Grumman facility at Calverton, New York, for disassembly. The disassembly of the engines
commenced on August 12, 1996, in the presence of the Powerplants Group. The disassembly was completed on August 16, 1996."

Analysis by JBS>
1. Wrong to send to empty hangar, right to send to engine teardown facility. Wrong thing done in haste to examine engines at Calverton.
2. Five days for four engines? One day and a bit per engine is incredibly fast to disassemble one of the most complex and precise machines on the planet. It's not a bicycle. A forensic powerplant teardown is likely to require several man hundred hours per engine with several thousand hours of metallographic back up work. Additionally many specialized tools are required to do this. There should be many thousands of feet of tape or pictures. Haste is evident in a one day teardown per engine in an empty hangar with only one engine specialist present.

Page 2, paragraph 3, "The disassembly of the engines consisted of removing the cowling, external components, fan, and low pressure compressor (LPC) to expose the high pressure compressor (HPC), diffuser, combustor, high pressure turbine (HPT), low pressure turbine (LPT), and turbine exhaust cases. Engine No. 3 was disassembled further to remove and partially disassemble the HPC. The disassembly of the engines did not show any indications that any of the engines had sustained any uncontainments, case ruptures, fires, or penetrations."

Analysis by JBS>Why was only engine 3 disassembled further? What evidence was seen in No. 3 to warrant further investigation? Why were not the other three engines disassembled further? The four most important jet engines in an airplane crash in history were not given comprehensive
teardowns. The conclusion statement of no uncontainments is contradicted by other exhibit which states 'stator blade' was found in right horizontal stabilizer. The conclusion statement of no fires in any engines is contradicted later in this same report with raw data indicating sooting in engine number 3. The conclusion statement of no penetrations of any engine is contradicted by raw data in this report indicating soft body impacts on blades. The conclusion statement of everything normal in the engines is contradicted by photograph of TWA 800 engine retrieval showing forward stator stage missing and irregular FDR EPR readings.

Pages 16 through 22 discuss fuel samples which are mainly irrelevant in a discussion about engines and teardown results. 33% of engine report is not about engines but about favored NTSB explanation of center tank fuel explosion as initial event.

Exhibit 8A, Page 11, paragraph 3, discussing results of engine 3 disassembly, "Of the 46 fan blades in the fan rotor, 21 blades with complete or partial airfoils and 6 root sections were recovered. All of the fan blades had sooting on the convex airfoil surfaces. Most of the full length airfoils were bent rearward and the tips outboard of the outer midspan shroud were bent forward slightly. About half of the fan blades had impact damage to the leading and trailing edges. Almost all of the impact damage to the airfoils could be matched to contact with the midspan shroud on an adjacent blade. One full length blade had four soft body impacts along the leading edge and a partial airfoil had a soft body impact, which had some streaking extending rearward."

Analysis by JBS>Less than half of complete fan blades in the fan rotor were recovered, not the 95% recovered figure given by Chairman Hall about TWA 800 recovered wreckage. Only 58%
of the fan blades were recovered so it is very possible 'stator blade' found in right horizontal stabilizer was from engine number three directly in front. 'Almost all' of the 'impact damage,' was explained which implies some wasn't. All had soot. Soot means fire. Only engine number three had any sooting inside engine. One full blade and one partial blade had 'soft body impacts'. There is nothing normally soft inside a jet engine. Soft body impact means foreign object damage. FOD may mean fire. Fire means soot. Missing blades in engine and one found directly aft in right horizontal stabilizer means uncontainment. Uncontainment means engine not intact at water impact but inflight.

Analysis above on raw data gives conclusions engine number three alone had foreign object damage in flight, had fire, and had partial disintegration. Engine 3 was the only engine to give such evidence. Engine number three is next to forward cargo hold, an area known to give FOD to engine 3 when cargo door inadvertently opens in flight. A foddled and on fire engine number three could provide the mystery ignition source for the center tank fire/explosion/fireball.
Dear Mr. Wildey, 17 Mar 98

Below is an email to Chairman Hall in response to a letter from Senator John McCain regarding forward cargo door of TWA 800. After that is another email response to Mr. John B. Drake in response to a 10 Mar 98 letter he sent to me.

Both letters from me are being sent snail mail and I've already asked Dr. Loeb if he would relay the Chairman's letter to the Chairman. Could you do the same for Mr. Drake, Division Chief, Aviation Engineering Division, NTSB?

Should the meeting take place between NTSB and me, as Senator McCain suggests, could you be present? You have much to contribute about the wiring/cargo door rupture explanation I offer as a reasonable line of inquiry for TWA 800.

Sincerely,

John Barry Smith

Jim Hall
Chairman NTSB
National Transportation Safety Board
Office of the Chairman
490 L'Enfant Plaza, S.W.
Dear Chairman Hall,

17 Mar 98

I've just received a 4 Mar 98 letter to me from Senator John McCain stating, "I have received your letter regarding the forward cargo door of TWA Flight 800, and your interest in meeting with someone at the National Transportation Safety Board (NTSB) relating your concerns.

I have contacted the NTSB on your behalf, about your concerns. I have asked for a prompt response to be sent directly to you."

Chairman Hall, I interpret that to mean that Senator McCain wishes that the NTSB and I get together in a meeting to relate my concerns about the forward cargo door of TWA 800. That seems reasonable enough. To accurately and efficiently relate my concerns to NTSB, may I present the following suggestions:

I offer to travel to Seattle, Washington, from California to meet with NTSB officials in their offices. That's the closest office to me and previous government officials who have written to me regarding forward cargo door and TWA 800.

(From NTSB web site: NTSB Northwest Regional Office 8 a.m.-4:30 p.m.
19518 Pacific Highway South
Room 201
Seattle, Washington 98188)

The sooner the better; may I suggest Wednesday, April 1, 1998 in Room 201 of NTSB NW Regional Office at 8 a.m?
A meeting goal would be to discuss with me my concerns regarding the forward cargo door of TWA 800. My goal is to persuade NTSB that a reasonable line of inquiry, worthy of the same effort as that done for bomb, missile, and center tank, is the wiring/cargo door rupture explanation. The wiring/cargo door rupture concerns are:

1. water in forward cargo bay.
2. chafed bare wire touched by water.
3. electrical short occurs.
4. forward door motor turns on to unlatch position.
5. aft midspan latch of forward cargo door partially unlatches.
6. pressurized hull ruptures at aft midspan latch.
7. cargo door tears into pieces, some pieces stay with nose, some don't.
8. explosive decompression occurs shattering cargo door area forward of the wing on right side exposing twenty foot by forty foot hole in nose producing sudden loud sound on CVR.
9. 300 knots slipstream tears weakened nose off.
10. ejected debris is ingested by starboard engines which catch fire.
11. wing and wing fuel tanks; engines, tail, and fuselage fall and disintegrate on way down.
12. fiery starboard engine ignites fuel vapor clouds from disintegrating tanks, including center tank.
13. fireball observed on the ground.
14. water impact of wreckage, cargo bay material among first to land.

Every concern will be documented with US government and other official reports, exhibits, testimony, and charts. I will bring my laptop computer with internet access to reach NTSB TWA 800 website and other government sites for reference. All that
will be required is an outside phone line, some chairs, a table, and some good lighting.

The main concern, as is the main concern of all aviation safety persons, is that can happen again unless wiring/cargo door rupture explanation is ruled in or out by a reasonable line of inquiry by NTSB which is my goal of the meeting which Senator McCain has suggested take place.

Senator McCain mentions, 'someone' at NTSB to meet with me. May I suggest several persons to be invited to the meeting?

1. NTSB Chief of Northwest Region and staff that are available.
2. Mr. Breneman of FAA who has hands on experience with the forward cargo door of TWA 800 assisting NTSB at Calverton.
3. Mr. Neil Schalekamp of FAA who offered conclusion of evidence of TWA 800 being outward explosion at cargo door area but later changed mind.

It's far away but I certainly invite you, Mr. Chairman, and would be honored should you attend, as well as Dr. Loeb, Mr. Wildey, Mr. Drake, Mr. Dickinson, and Mr. Schleede, all of whom are very familiar with wiring/cargo door explanation and would contribute much to resolving my concerns about the forward cargo door of TWA 800. Also most helpful would be Mr. Lyle Streeter, the FAA link to NTSB. Mr. Streeter is a professional aircraft accident investigator whose opinions about aircraft accidents carry weight. If not able to attend in person, then email, phone and letters are available of course to us.

This meeting of minds is a very welcome opportunity to clear the air and resolve some differences of opinion about TWA 800 and it's cause. Harsh letters between NTSB and me have crossed
paths in the last few weeks. It's distracting from the mechanical explanation of TWA 800 which relies on facts, data and evidence which is what I shall address in the proposed meeting in Seattle.

I truly believe this meeting will be very fruitful, Mr. Chairman. Goals are to establish that the cargo door of TWA 800 opened in flight or did not, it's happened before to other 747s or has not, present new evidence which has shown up in wreckage reconstruction or has not; and therefore, a reasonable line of inquiry is the wiring/cargo door rupture explanation or it is not.

I will report back to Senator McCain with the evaluation of wiring/cargo door rupture explanation by NTSB in words a former US Navy carrier jet pilot will understand, which is to say, technical and makes sense.

Chairman Hall, NTSB and FAA went right to that suspicious forward cargo door of TWA 800 from day one. It's time to go back. There's a lot more there than meets the eye at first glance. The whole story is there. It answers your question of, "Why so few bodies burned?" The answer is basically, "They were not there to be burned. They were blown away by the first initial non-fiery explosive decompression and they were in the severed unburnt nose section. When the center tank finally did catch fire/explode, there were no passengers in front of the fiery explosion to be burnt."

To ask your question, sir, as you did about the unburnt passengers, is to understand the center tank as initial event does not ring all the way true. There is doubt about the actual initial event in your mind.
I can resolve it.

Respectfully,

John Barry Smith
551 Country Club Drive, 
Carmel Valley, CA 93924
408 659 3552
barry@corazon.com
www.corazon.com

John B. Drake
Division Chief
Aviation Engineering Division
NTSB
Washington DC 20594

Dear Mr. Drake,

17 Mar 98

Call me John B. I am in receipt of your 10 March 98 letter in which you state:
1. Investigation team gathered sufficient facts to rule out open
cargo door inflight.
2. Correspondence complete on open cargo door.
3. No more 'responses' from NTSB.

Well, well, well. What is an 'Aviation Engineer'? Is that a person who respects facts, data, evidence? Or is that a person who does what his boss tells him, "Write a letter to this guy and tell him we checked it out, it's over, and we're not talking to him anymore"?

Are you part of the investigation team? I don't think so. What do you know about the forward cargo door of TWA 800? I assume you know it has ten latches. Did you know that only eight of the ten have been checked? Did you know the entire examination/investigation of the forward cargo door of TWA 800 contains one sentence? Here it is:

Docket No. SA-516, Exhibit Number 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, page 1, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

So, eight is not ten. An aviation engineer would agree. So, 'sufficient' facts have not been gathered to rule out the possibility that one of the unchecked latches, the aft midspan, ruptured inflight leading to open cargo door.

Enclosed is a letter from Senator McCain to NTSB regarding my concerns about the forward cargo door. Correspondence about door is not complete.

It appears there will be some questions to me regarding my concerns so there will be a further responses from the Safety
Board about my position on this issue.

Your tone is distressing, Mr. Drake. It's a rude brushoff letter. It is unworthy of a senior aviation safety official to refuse to respond to a citizen about an aviation safety matter. I, of course, take no offense because you do not know me, you do not know about cargo doors, and you were doing your job as told you by your boss, Chairman Hall.

I invite your attention to the complex matter of wiring problems where things turn on when they shouldn't and strange consequences occur.

Here's the sequence for TWA 800:
1. water in forward cargo bay.
2. chafed bare wire touched by water.
3. electrical short occurs.
4. forward door motor turns on to unlatch position.
5. aft midspan latch of forward cargo door partially unlatches.
6. pressurized hull ruptures at aft midspan latch.
7. cargo door tears into pieces, some pieces stay with nose, some don't.
8. explosive decompression occurs shattering cargo door area forward of the wing on right side exposing twenty foot by forty foot hole in nose producing sudden loud sound on CVR.
9. 300 knots slipstream tears weakened nose off.
10. ejected debris is ingested by starboard engines which catch fire.
11. wing and wing fuel tanks; engines, tail, and fuselage fall and disintegrate on way down.
12. fiery starboard engine ignites fuel vapor clouds from disintegrating tanks, including center tank.
13. fireball observed on the ground.

All fourteen steps are well documented as having happened before and evidence shows happened to TWA 800.

If you would care to dispute me, use numbers and facts to refute any of the fourteen as being unlikely. I invite criticism using facts and numbers, not generalities as you gave me. It must be the engineer in me.

In your opening paragraph you refer to "...opening of a cargo door." It's not the nose cargo door, it's not the port main cargo door, it's not the port aft cargo door, it's not the bulk cargo door, it's not the starboard aft cargo door, it's the 'forward cargo door' as Senator McCain refers to it.

The contradiction between what you have been told and what you know now and I would hope, soon to learn, would lead a curious aviation engineer to some interesting conclusions about the cause of TWA 800, an active NTSB investigation now underway.

Please feel free to correspond, it is always a pleasure to talk about aviation safety, an issue close to my heart after surviving by seconds a sudden night fiery fatal jet airplane crash. Email is best, barry@corazon.com is my address and my web site at www.corazon.com has detailed examination of the wiring/.cargo door rupture explanation for TWA 800 and three others, Air India 182, Pan Am 103, and UAL 811, all similar and grouped together in NTSB Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, Chart 12, page 21.
I've included some correspondence on this wiring cargo door rupture matter between me and NTSB/FAA. There is one sentence that stands out,"'Please take note that this office will no longer be responding to your further inquires (sic) about these same concerns, including your February 6 and February 9 letters that I just received.'"

What is it that FAA and NTSB refuse to respond to cargo door problems? It can't be me; it has to be the evidence. The evidence just won't go away, even if the messenger does.

After all the insults are thrown I really would like to get down to facts, data, and evidence to rule in or rule out the catastrophic opening of the forward cargo door in flight on TWA 800.

After all, we are talking about a machine here, not a bank robbery or a love triangle. The metal responds to known physical laws, best known by an aviation engineer, which I am not and you are. Your factual opinions made by yourself about TWA 800 are respected by me, Mr. Drake, do you have some?

Sincerely,

John B. Smith
551 Country Club Drive,
Carmel Valley, CA 93924
barry@corazon.com
www.corazon.com
James F. Wildey II
National Resource Specialist
National Transportation Safety Board
490 L'Enfant Plaza East, SW.
Washington, DC 20594
Dear Mr. Wildey,
Dear Mr. Streeter,
Dear Mr. Schalekamp, and
Dear Mr. Breneman,

February 1998,

Thank you for each of your personal letters and emails to me. Your opinions are respected by me and therefore I carefully read your words, try to understand the thought, and analyze the
conclusions.

The most recent letter is from Mr. Neil Schalekamp, 19 February, 1998. Since we are all involved with safety and in particular TWA 800, I thought that I would include all of us in a presentation of some very basic evidence leading to conclusions.

I consider myself the open person and willingly share my letters with you and would expect the same from you. This is a professional aviation safety matter and precision, documentation, and frank discussion are required.

The primary question to be answered from this presentation is whether the significant damage in a crucial area of TWA 800 was an outward explosion or was the shattered skin inward and caused by water impact.

Basic evidence is to be derived from:
1. NTSB picture of TWA 800 reconstruction,
2. Testimony at public hearing on TWA 800.
3. Text from NTSB Exhibits on TWA 800.
4. Charts from NTSB Exhibits on TWA 800.
5. NTSB Aircraft Accident Reports.
6. Correspondence from Mr. Wildey, Mr. Streeter, Mr. Schalekamp, and Mr. Breneman.

Evidence discovered:
1. Red paint smears on white paint above forward cargo door.
2. Metal petal shape bulge at aft midspan latch of cargo door.
3. Outward peeled skin in various places forward of the wing on the right side.
4. Unburnt center tank maintenance hatch.
5. Downward bent floor beams in cargo hold area.
6. Hoop stress forward of the wing on the right side.
7. Red paint transfer on right horizontal stabilizer.
9. Red-orange streak reported by many eyewitnesses.
10. First pieces of TWA 800 to leave after initial event came from forward of the wing and from cargo hold.
11. Missing midspan latches from TWA 800 reconstruction.
12. Extensive significant matches with other 747 accidents.

Basic conclusions:
1. Fireball occurred between 5000 and 9000 feet.
2. Center tank exploded.

Basic conclusion to be determined:
Outward explosion forward of the wing on the right side in flight caused paint markings and structural deformation or nose all intact and damage caused by water impact.

Intermediate conclusions if outward explosion:
1. Door opened and slammed upwards and transferred red paint to white paint.
2. Pressurized hull rupture at aft midspan latch of cargo door.
3. Maintenance hatch separated before center tank explosion.
4. Decompression in cargo hold bent floor beams downward.
5. Door opened in flight which resulted in hoop stress.
6. Red painted pieces of door flew directly aft and struck right horizontal stabilizer.
7. Engine number three became damaged from debris ejected from cargo hold and disintegrated the forward stator section allowing a stator blade to fly directly aft and impale on the right horizontal stabilizer.
8. Maintenance hatch spin away fast from center tank and reflected evening red-orange sunlight and perceived as streak to
observers far away.
9. Serious event occurred forward of the wing on the right side.
10. Midspan latches status undetermined, missing, destroyed, or not hung.

Advanced conclusions if outward explosion:
1. Door opened in flight causing large explosive decompression rectangle which allowed 300 knot slipstream to tear nose off.
2. Center tank exploded when fiery exhaust from damaged number three engine center tank through three foot empty maintenance hatch hole.
3. Door opened why door motor turned on and tried to unlatch the twelve latches but the bottom eight held while midspan turned just enough to allow the 38115 pounds of internal pressure to rupture the latched area.
4. Door motor turned on when fluid, probably water, shorted bare chafed poly-X wiring to metal fuselage.
5. Wiring became chafed from excessive vibration in high time, high cycle Boeing 747s.

Basic Actions:
1. Fireball confirmed.
2. Center tank explosion confirmed.
3. Confirm outward explosion by confirming door opened in flight by examining door hinge for overtravel impression damage, midspan latch pins for heat damage, red paint in unusual places matched to red paint in door area, which can be matched to data in NTSB AAR 92/02.

Intermediate Action:
Confirm chafed wire by examining all wiring for chafing in forward cargo hold and adjacent main equipment bay of TWA 800.
Advanced Action:
Inspect all early model Boeing 747s for fluid and chafed wiring in electronic bays and cargo holds.

Now, to the 19 Feb 98 letter from Mr. Schalekamp.

Mr. Schalekamp, thank you for your thoughts on TWA 800. Let's go line by line:

NS>"It appears that you are determined to impose your theory about the events that led to this unfortunate accident upon the official investigators."

Well, sir, I'm flattered, would that I could.

It not me that is imposing anything; it is the evidence. The evidence is causing the sleepless nights, not me. The evidence apparently contradicts NTSB and FAA Northwest Region's opinion that center tank was initial event.
1. Red paint smears on white paint above forward cargo door.
2. Metal petal shape bulge at aft midspan latch of cargo door.
3. Outward peeled skin in various places forward of the wing on the right side.
4. Unburnt center tank maintenance hatch.
5. Downward bent floor beams in cargo hold area.
6. Hoop stress forward of the wing on the right side.
7. Red paint transfer on right horizontal stabilizer.
9. Red-orange streak reported by many eyewitnesses.
10. First pieces of TWA 800 to leave after initial event came from forward of the wing and from cargo hold.
11. Missing midspan latches from TWA 800 reconstruction.
12. Extensive significant matches with other 747 accidents.

I'm not making any of the evidence up. NTSB and FAA provided the evidence and it's real. It can be touched, heard, and seen.

You state Transport Airplane Directorate has responded four times to me, and thank you very much. A few more times and you will be tied with Senator McCain for personal responses to me regarding this most important safety matter. My Congressman has written ten personal letters to me, including the one on which was attached to a 26 September 1997 letter from Mr. McSweeny to my Congressman stating that he would get back to the Congressman within thirty days with a final reply, and that was five months ago. So, in a sense, Airplane Transport Directorate of Aircraft Certification Service owes one to the cargo door explanation.

NS> "Please take note that this office will no longer be responding to your further inquires (sic) about these same concerns, including your February 6 and February 9 letters that I just received."

Well, you're the manager, so 'office' means you. To say you received letters enough to read the dates and told me about them means you have already responded to them. To refuse to read or pass on extensive, detailed, supported by NTSB documents letters which come from a pilot and crash survivor which present an immediate safety threat to airplanes under your responsibility is an amazing attitude and contradicts your earlier statement, "Please be reassured that each of us within the FAA feels a deep responsibility to aviation safety and will take actions to correct an identified unsafe conditions." Refusing to read letters containing an identified unsafe condition (water meets chafed
wires) is an action but it does not correct the unsafe condition, it runs away and tries to ignore it.

Fear is why you are annoyed and worry is why you want the messenger to go away. And it's not me that brought the fear, it's the evidence. Mentally making me go away does not make the evidence go away. There will always be those many red paint smears above the cargo door that indicate outward explosion, then door opening and slamming upward leaving paint transfers, exactly like UAL 811 as stated in NTSB AAR 92/02. I have not made a weird explanation for some flimsy evidence. I have made a solid explanation with documentation based upon solid evidence. The paint smears are real. The stator blade will outlive us. The outward peeled skin will always be there, matching photographs of UAL 811 of same area and indicating outward explosion, just like UAL 811.

Hard, solid evidence:
1. Red paint smears
2. Bulge at latch
3. Outward peeled skin
4. Unburnt center tank hatch.
5. Downward floor beams
6. Hoop stress
7. Paint transfer on stabilizer.
8. Stator blade embedded in stabilizer.
10. First pieces to leave came from cargo hold.
11. Missing midspan latches

NS>"The theory of an explosive decompression, due to a sudden opening of the forward cargo door was one theory that was examined. However, it has been determined that this did not
occur."

Well, Mr. Schalekamp, questions:
1. Who examined the theory? I have evidence the door was only partially examined, that is, only eight latches checked and none of the other door mechanisms to include the manual locking handle, for heaven's sakes.
2. Who determined the explosive decompression did not occur? Bernard Loeb? It did occur, it's obvious by looking at the damage forward of the wing, and anyway, the center tank explanation requires explosive decompression of fuselage forward of the wing, and structure report Exhibit suggests explosive decompression bending floor beams downward. No one has ever determined explosive decompression did not occur forward of the wing on the right side. Who determined the door did not open in flight? Bernard Loeb? Who determined there was no outward explosion forward of the wing on the right side? Bernard Loeb? I know it wasn't you because you determined there was an outward explosion there. I hope the FAA does not get like the FBI or CIA with no accountability from anonymous public officials who give opinions about noseless 747s that can climb 3000 feet in 20 seconds. The Chief Theoretician for TWA 800 is missing in action; who is it? Bernard Loeb? What is his opinion about twisted metal and red paint and stator blade and hoop stress which offer clues to inward or outward force?

NS>"Based upon the existing evidence, the NTSB...believes that the probable cause of the accident was a CWT explosion, due to an internal fuel tank ignition source."

Well fine, but the issue here is not probable cause but outward explosion or inward damage from water impact on that crucial area of TWA 800. I don't understand the reluctance to say
outward explosion even though it agrees with center tank outward explosion nearby. I don't understand the reluctance to agree with me when I agree with you. You said outward explosion and I agree. It makes sense. It looks like it in the picture. The damage matches another outward explosion in a high time Boeing 747. The paint markings and structural deformation that I cite do indicate an outward explosion.

NS>"You apparently believe that the ...door precipitated the accident scenario by initially separating from the airplane."

Well, actually, I did think door started accident for eight years for high time 747 accidents that yielded a sudden loud sound on the CVR and an abrupt power cut to the FDR. Now I believe the door opening is preceded by latch rupture preceded by door motor on preceded by electrical short preceded by water onto bare chafed wire preceded by long term vibration and other stresses on the wires.

NS>"The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean."

Whoa! Not true! What evidence? There is no evidence showing door all latched and locked and all intact at water impact. There is great evidence showing outward explosion causing shattered skin which occurred before water impact. The door is not in one piece but many. Yes, the bottom 10% and the top 10% stayed with the nose. 20% is not the whole door. What evidence says it exploded outward? Your evidence, Mr. Schalekamp. Your statement, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to
be caused by the explosion of the CWT." What happened? Why the switch from outward explosion to inward damage from water impact? Why now say door all intact until water impact? The evidence is still there, it hasn't changed. The evidence from the reconstructed 747 airplane reveals that the forward cargo door is shattered from the outward explosion which left paint marks and structural deformation.

Mr. Schalekamp, Mr. Wildey, Mr. Streeter, and Mr. Breneman, let us look at the picture of the right side of TWA 800 reconstruction. Let us give an opinion based on the evidence. Is the shattered rectangle of about twenty feet wide and forty feet high forward of the wing an outward explosion or inward from water impact. It's a basic question. It's easy to answer with ample evidence one way and little the other. It is an important question which must be conclusively determined one way or the other. The implications are profound with far ranging consequences for safety.

NS>"You may not agree with the reasoning of the official accident investigators, but I want you to understand the evidence to date indicates that the CWT explosion preceded any fuselage breakup, including damage to the forward cargo door."

Well, sir, I want you to understand that right now I'm trying to sort out whether the shattered, outward peeled skin, red paint transfer marks, outward bulged metal at aft midspan latch, and missing 80 percent of cargo door area was caused by an outward explosion as you stated, or inward damage from water impact as you stated.

You can help me by telling me what evidence made you change your mind. I hope it was not an opinion from a senior who does
not know what an outward explosion looks like on a 747 but
does know what the accepted explanation is and is not going to
be swayed by new evidence or new interpretations of evidence.
This is life and death, not annual performance review.

There's no going back. Outward explosion is on the record. And
it's true. It is a very sad situation when truth is feared and
falsehoods embraced. Outward is true, inward is false. How do I
know? Because you told me, Mr. Schalekamp, that's how. Have
you changed your mind? Let me see the words, "Paint markings
and structural deformation do indicate inward damage from
water impact," instead of, "The paint markings and structural
deformation that you cite, do indicate an outward explosion,
generally accepted to be caused by the explosion of the CWT"

That would be a correction to your earlier conclusion of outward
explosion and would be considered a correction, the right way to
do things in an investigation. Not correcting previous conclusion
now said to be wrong is the wrong way.

You may think you are helping your boss by backing him up but
you do a serious disservice to him and your outfit by continuing
to permit him to think it was water impact inward damage which
it wasn't and not outward explosion damage which it was.

Where do bosses get their conclusions from? From you, that's
where. Chairman Hall thinks all the doors were all latched and
intact until water impact because Bob Breneman told Al
Dickinson, who told Jim Wildey, who told Bernard Loeb, who
told Jim Hall. Bob Breneman made the best conclusion possible
under the cramped rushed circumstances. Upon new evidence,
the completed reconstruction, it is time to modify initial
conclusion. To not modify conclusion because it is contrary to
the boss's opinion is not right. His opinion was formed by Transport Airplane Directorate and it can be changed by Transport Airplane Directorate. If it's true. Is it true? Was it outward explosion or inward water damage? One or other; in or out. Can't have it both ways. Either inward was right early on and still right. Or inward was right early on and now outward is more right based on hindsight and new evidence.

This cargo door/wiring problem in 747s is taking a toll of innocent bystanders, let's not join the crowd:
1. UAL 811 was said to be improper latching and blame fell on ground handler.
2. New AAR for UAL 811 after new evidence recovered, the door, may have embarrassed the original authors.
3. Captain Stacey of TWA thought he was doing the best thing to exonerate his company by giving a piece of wreckage for outside confirmation of missile. He has disgraced his airline and airline participation in future accident investigations will be distrusted.
4. Mr. Kallstrom wasted a year and a half and millions on a wild goose chase for bad guys. There was none. He retired.
5. Pump manufacturers and fuel probe manufacturers are suspected of starting an explosion that killed many. They didn't.
6. CIA analyst shows to the world a headless 747 climbing 3000 feet in twenty seconds, a climb rate of 6000 feet per minute. CIA opinion about aviation is now jeered.
7. Victim's families are filled with hate at imaginary terrorists or covering up US Navy instead of getting over their grief at satisfactory explanation of mechanical cause.
8. And now an FAA official looks at evidence and reaches reasonable conclusion and states it. But it is contrary to official policy so conflict arises. Loyalties and principles are tested.

Mr. Schalekamp, you had a choice when the conflict appeared.
You could have said, it was outward explosion because of evidence of paint markings and structural deformation and the outward explosion means there was an outward explosion. Period.

But instead you said FAA agrees with NTSB about initial event and "The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean."

You wrote a true thing from your heart and a later a false thing from your head. I explain the exasperated tone of voice in your 19 Feb letter as result of worry. You want to retract the previous statement and make things just the way they were because senior officials are displeased at your conclusion of outward because they say inward. You don't want senior officials displeased with you.

There is a fear of contradicting the boss in all of us. Then how does any boss become right once they were wrong? Or does the boss just stay wrong? He's corrected by supportive subordinates who point out to him on the photograph of reconstruction, Exhibit texts, and hearing testimony the following facts:

1. Paint smears
2. Bulge at latch
3. Outward skin peel
4. Unburnt hatch
5. Downward beams
6. Hoop stresses
7. Paint on stabilizer
8. Stator in stabilizer
9. Red-orange streak
10. Pieces from cargo hold in red zone.
11. Missing latches

The evidence is the problem with center tank as initial event, not me. The evidence is the problem with inward water caused damage explanation, not me.

If these new interpretations of evidence are not presented to senior officials, who will? Me? They give little weight to a citizen's conclusions. It has to be officials in the chain of command who have the ability to check out the new interpretations. The door hinge can be examined, the latch pins can be examined, the peeled skin can be examined. The evidence can be examined again to conclude whether it was outward or inward. It's a fork in the road of the TWA 800 investigation; which way to go? Inward goes to center tank as initial event, I know. It just ignores the huge shattered area forward on the right side. Outward goes to whatever. Outward acknowledges the area and the details inside it such as paint markings and structural deformation.

Inward or outward? It's a real conflict for Mr. Schalekamp and one which Mr. Breneman faced, Mr. Wildey faced, and Mr. Streeter is facing. Outward conclusion was given reasons and yet inward never has any. Inward never gives evidence or reasoning, just blind recitation of the official line: "The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean." A line based solely on the incomplete examination when only eight of the ten latches were checked and found latched.
So, life. We are tested in ways we never expected. To say two and two is four and then find out the boss says it's five and then to quickly change answer to five from four is a wrong answer. Opinions change. Sticking with the facts that stay the same is the right answer.

Here's some right answers that were said:

Mr. Streeter, "Wiring problems are still a potential area of concern."

Mr. Wildey, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward." The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

Mr. Breneman, "A further examination of the recovered wreckage showed that the upper door hinge was still attached to both the fuselage and the door. In addition, the door latches at the bottom of the door were still attached to the fuselage lower sill structure."

Mr. Schalekamp, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"
The evidence is real: paint, bulge, skin, hatch, beams, stress, stator, streak, and latches.

The people are real, Neil Schalekamp, Bob Breneman, Jim Wildey, and Lyle Streeter and John Barry Smith, 408 659 3552, 551 Country Club Drive, Carmel Valley, California, 93924, barry@corazon.com. Call me on the phone, write me a letter, send me an email, or come and visit. Anytime. I'm serious. I have the motivation to confirm the cause of a sudden night fiery fatal jet airplane crash because I narrowly survived one and I don't want it to happen again to anyone.

I'm not connected to any manufacturer, airline, government, or media. I'm a retired military officer. I have no power except to point out facts and suggest conclusions. I'm a free man with a just cause. I have no boss to answer to nor public to serve. I understand the reticence of those who do.

Mr. Schalekamp, you are the manager of a propulsion branch. Does not the discovery of a stator blade in the right horizontal stabilizer intrigue you? That discovery is very significant and justifies the exercise in wreckage reconstruction. The implications of that stator blade are profound. As FAA branch manager can you not read the NTSB Powerplant report to confirm it came from front stator stage of a P&W JTD-9, engine number three of TWA 800? If it did, then it disintegrated in flight and confirms your previous observation of outward explosion of fuselage skin which might have shoved the FOD into number three. Would you not want P&W as a party to the TWA 800 investigation in order to provide engine information as to what those four vacuum cleaners scooped up at time of initial event? Do you want to know what happened to TWA 800? To be so firm on water impact damage after center tank explosion when the
powerplant report and the wreckage plot reports have not been released to the public is not right. There are still many areas to be evaluated.

I know Northwest Region is on the record as favoring initial event as center tank explosion and has it's own pet theory for mystery ignition source. Now that you know about the stator blade, can you alter your explanation based on new evidence?

Mr. Breneman, as a structural engineer, what is your opinion about the outward or inward direction of the force that caused the shattered fuselage skin forward of the wing on the right side?

Mr. Wildey, you are a metal expert, what is your opinion of the direction of the force based on the metal evidence? Does the evidence of the red paint, bulge, outward skin, maintenance hatch, down beams, hoop stress, stator, streak, and missing latches indicate to you inward or outward?

Mr. Streeter, you are the safety expert, what is your opinion of the direction of the force which shattered, twisted, and tore that twenty foot wide and forty foot high section of fuselage skin of TWA 800?

Based upon the new faulty wiring revelations about 767s and 737s is it not reasonable for me to say it's a problem with 747s also? Especially when I point to NTSB AAR 92/02 for UAL 811 which had the exact faulty wiring problem I suggest started TWA 800.

Byron Acohido of Seattle Times told me after an interview he had with Dr. Loeb a year ago: (and nobody is lying)
"I, in fact, did grill several sources very hard about the forward cargo door evidence, including Bernie Loeb. Unless everyone involved is lying, (an assumption you'll no doubt make) there is nothing on the cargo door that indicates it came loose and was the initiating event. All locks and latches were found in proper positions.

According to Bernie Loeb, early information that the door was found in the red zone was incorrect. It was found in the yellow zone, along with all major parts of the forward fuselage section."

Well, you see, that's not true now. All locks and all latches were not found in the proper position. I know that for sure; only eight of ten were checked according to Mr. Breneman and Mr. Wildey. Pieces of the door and local area were found in the red zone and changed in status administratively after the fact. Mr. Wildey explained why that happened.

I use our words to try to find out what is going on; they may or may not be flattering but it's the only clue I have to the official thinking on the subject. I am open and expect my words to be discussed with others. I am quite prepared to support each statement with documentation and source. Good guys are open; bad guys are secretive; especially on a civilian airliner accident in peacetime in US waters. This bomb/missile FBI craziness has hurt the TWA 800 investigation with meddling and suppression of evidence. It's not right. It's intimidation.
UAL 811 was an (1) aged (2) high flight time (3) early model Boeing 747 (4) which took off in low light (5) running late (6) and during climb (7) experienced a sudden initial event near the leading edge of wing in fuselage which left a (8) short (9) sudden (10) loud (11) sound on the cockpit voice recorder, an (12) abrupt (13) power cut to the flight data recorder, (14) foreign object damage to starboard engine #3, (15) more severe inflight damage on starboard side, (16) at least nine never recovered bodies, (17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area on starboard side, (19) unusual paint smears in forward cargo door area, (20) rupture appearance of skin at aft midspan latch of the forward cargo door, (21) outward peeled skin on upper forward fuselage, (22) vertical fuselage tear lines forward of the wing and aft of forward cargo door, (23) had hinge stay attached to detached top piece of forward cargo door, (24) cargo door opened in flight, and (25) destruction initially thought to be have been caused by a bomb but (26) later conclusively ruled out.

And so was TWA 800.

These significant evidence matches must not be ignored but integrated into the TWA 800 probable cause for it to be conclusive.

The direction of force which shattered the right side of TWA 800 must be conclusively determined. Which way was it, inward or outward?

Sincerely,
John Barry Smith
551 Country Club Drive
Carmel Valley, CA 93924
408 659 3552
barry@corazon.com
www.corazon.com

Supporting documentation and statements below:

1. Date: 08 Jan 1998 16:04:05 -0500
   From: Lyle Streeter <Lyle.Streeter@faa.dot.gov>
   To: barry@corazon.com (IPM Return requested) (Receipt notification requested)
   Subject: Re: Wiring before door, door before center tank

   Mr. Smith - latest word in on the Cairo divert is that there was no fire,
   but a faulty detection system. Wiring problems are still a potential area
   of concern.

   I have passed your comments along to the investigators in TWA800.

   Lyle Streeter

2. "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB)."
3. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." This observation matches downward buckling as was reported in AAR 92/02, page 4, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward."

4. Evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. This observation coincides with AAR 92/02 which states on page 11, "The cargo door and its associated hardware are designed to carry circumferential (hoop) load arising from pressurization of the airplane."

5. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

6. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted
together in that sequence by the NTSB.

7. Testimony at TWA public hearing, Mr. Wildey, "Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence. The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this 25 area."

8. Mr. Neil Schalekamp of FAA, "While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

9. Chairman Jim Hall of NTSB, "However, to repeat, the investigation of the accident involving TWA flight 800 has revealed no evidence to suggest that a failure of a cargo door precipitated the event."

10. >Date: Wed, 05 Feb 1997 12:34:04 -0800
    >From: Donald Lawson <DLawson@mntry.nps.navy.mil>
    >To: barry@corazon.com
From the head of the NTSB team working TWA 800:

1. He personally, even again this morning, looked at all the doors from the airplane. All latches were either destroyed or in closed positions.

2. Nobody associated with the investigation is considering further a cargo/passenger door malfunction to be part of the probable cause of this accident. Door problems have been categorically ruled out because there is simply no evidence pointing to the doors (and latches).

11. Docket No. SA-516, Exhibit 15C, Section 41/42, Forward Cargo Door, dated 22 April 1997, with Mr. Al Dickinson, AS-10, listed as investigator and Mr. Wildey as author, states, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

12. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. Among all the charts of pieces of the plane coming off and when, there is one chart that shows the first to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. That item left even before the last ASR radar beacon to Islip radar. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward
cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-42R is shown to leave very early.

13. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

14. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

15. Mr. Breneman, FAA, "The nose section of the airplane impacted the water on the right side, causing severe hydraulic damage with the result that the door structure did not remain completely intact. However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the right side. This is additional verification that the forward cargo door had not opened in flight or separated from the airplane."

16. Chairman Hall of NTSB, "We are by no means finished. Our work will continue and we will spare no effort to determine the cause of the crash of TWA 800."

17. Chairman Hall of NTSB, "We're going to look for the needle in the haystack and go back over the 150 miles of wire that are there in the Calverton hangar, and see if that shows any evidence of arcing or other information that will lead us in the direction"
of a probable cause."

18. From: Dickinson Al <DICKINA@ntsb.gov>  
To: barry <barry@corazon.com>  
Subject: RE: mechanical crash cause  
Date: Thu, 19 Sep 1996 19:04:00 -0400  
Encoding: 129 TEXT  
Status:

Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been noted by the crew and recorded on the CVR. We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter. Thank you for your interest in aviation safety.

19. Mr. Wildey's testimony at public hearing: "This was brought to our attention, and the reason that we examined this was that three of the four nose landing doors had a red tag and were recovered from the earliest part of the debris field and, similarly,
around the nose landing gear area there were some fuselage pieces that were recovered that had a red tag on it and were supposedly recovered from the red « the red « earliest debris field.
Of course it became a very distinct question, well, what happened up there, how did these pieces, the fuselage pieces in the doors get into the red zone? Well, our group took this as a task to look at. We made a report on it and we determined that, for example, on the doors themselves that, yes, those doors apparently did come off the airplane. They had a lack of damage on them that was consistent with early departure. We developed some hypotheses and scenarios that could allow the doors to depart from the airplane very early in the sequence, and it is consistent with the factual observations we have made.
so, for the doors we said, yes, it appears as though we have a sequence that could account for the doors to come off early, and we also examined the fuselage pieces right around there that had red tags on them, and we looked at all the features we could find, and for the fuselage pieces around there we said we find no physical evidence to suggest that those particular pieces actually departed the airplane early on in the sequence.
I think, if I remember our report, we said we believed that those particular pieces should be treated as yellow zone parts because we don't find any way that they could possibly have come off the airplane early in the sequence and actually have been found in the red debris field.
Just as a side note, I am aware that the tags
on those particular fuselage pieces from around the nose area are the so-called 2,000 series tags, and that is not my area of expertise, but these are the "these tags had some questions about their pedigree, if you will. But, that is really not our concern. We are saying, and our group said that we don't believe those are red zone parts and we would treat those as yellow zone parts for the purposes of analyzing the break-up sequence."

20. Testimony of Mr. Wildey at public hearing, "First of all, the conclusions reached by the Sequencing Group eliminated a large scale structural problem away from the wing center section fuel tank. Specific areas that were eliminated as factors include the section 4142 fuselage joint in the forward cargo door. A report on these subjects is contained in Exhibit 15(c). The section 4142 fuselage joint is located in station 520 at the forward end of the reconstructed portion of the airplane, and you can see that right here (demonstrating). Although there have been some manufacturing alignment problems associated with this joint, the accident airplane contained absolutely no evidence of pre-existing weaknesses at this point, or that the joint separated in any manner before the nose section impacted the water relatively intact. Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence.
The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this 25 area."

21. MR. STREETER: Yes, Mr. Chairman. For Mr. Wildey, a couple of items here for clarification. Specifically out of the red area, were there any fuselage skins in that area that showed any type of hoop tension failure (inaudible).

WITNESS WILDEY: Yes, we tried to document that and it is contained within our report. One of the figures that I used did show this hoop tension type of fracture. That occurred at the initial point of the fuselage fracture at stringer forty right. There were also other areas where you could not see any evidence of a running fracture that we classified as -- basically, from pure hoop tension, but on either side of these other areas the fracture was running into it and then out of it in the other direction.

so, the only real area that we saw was associated with stringer forty « excuse me « yes, forty right where the fuselage cracking initiated as it came down through the front spar.

MR. STREETER: The one other area that was mentioned in your testimony regarding span-wise beam 3 failing in the forward direction, in Exhibit 18(a) you discussed where a portion of span-wise beam 2 was found in the red area.

Now, are there any inconsistencies of that,
or is that related to the fuselage opening up? My concern is, would you have expected span-wise beam 2 to end up elsewhere?

WITNESS WILDEY: Well, I don’t know if we had any expectations, or if you could really expect what would happen, because we just don’t really know. But, there was a manufacturing access door from span-wise beam 2 just behind span-wise beam 3, and this door was found in the red zone and had no soot or fire damage on it consistent with very early departure and with its recovery position.

It clearly indicates that this door separated as part of the initial event and was blown out as part -- as was span-wise beam 3 and the front spar, and came out through the same hole in the lower fuselage that was created in the belly skin just in front of the front spar.

CHAIRMAN HALL: What is a manufacturing access door? Can you describe that for us?

WITNESS WILDEY: It is a door that is provided in span-wise beam 2 for access during the manufacturing process. It is then rivetted up and you can’t really get in there after that.

There are other doors that are maintenance access doors that can be disassembled and reassembled.

This is a door that is rivetted back up during the manufacturing process and is not really there.

CHAIRMAN HALL: The approximate size of this piece?

WITNESS WILDEY: It is about two feet by three feet. It is an oval-shaped door.

CHAIRMAN HALL: Thank you.

WITNESS WILDEY: Did that answer your
question, Mr. Streeter?
MR. STREETER: I think so. The main thing I am trying to get at is, again, with that piece in that position, your group didn’t see any reason for that to cause any concern as far as your break-up sequence design, is that correct?
WITNESS WILDEY? Well, our sequence does take into account how this door « we list several possible ways for this door to have come off. I don’t know that we reached an absolute firm conclusion as to exactly how that happened, but surely during the initial explosion or shortly thereafter this door was broken from its perimeter, and we see significant evidence that the door was pushed in the forward direction after part of it failed and, so, it came out while there was still pressure behind it to push it out, so it is part of the initial event.
We do not see any evidence of a bomb or any kind of explosion features right on the door, itself. so, it appears that part of the door perimeter was ripped apart and then the pressure behind the door pushed it in the forward direction. It hit the top of the tank and then got blown out into the earliest portion of the recovery field.

22. Summary of Docket evidence:

1. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area
recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."

2. Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11 which discusses direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only.

3. Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

4. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

5. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted together in that sequence.

6. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. One chart that shows the first items to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-40R is shown to leave very early.
7. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

8. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

23. FAA web page states, "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB).

24. Specific suggestions:
1. Examine aft midspan latch pin for damage as was observed on UAL 811, NTSB AAR 92/02 page 33, "The forward midspan latch pin was relatively undamaged. The aft midspan latch pin had definite areas of damage. Both pins had wear areas where the cams would contact the pins during latching.
2. Examine the TWA 800 door hinge for damage as was observed in AAR 92/02, page 35, "Several areas on the hinge sections, such as the fuselage hinge sections, showed evidence of contact from the door during overtravel (See figure 14.) In addition the fuselage forward hinge sections were slightly bent." Figure 14 is on page 40 and shows photograph of the hinge overtravel damage.
3. Examine two midspan latches from forward cargo door for damage. The criterion for determining if latches latched was to check to see if still locked and attached to adjacent fuselage sill or frame. The bottom eight latches of TWA 800 door were
attached to sill so conclusion latched. The two midspan latches are unattached to frame so conclusion unlatched. The door frame is smooth where the aft midspan latch is supposed to be attached but isn't.

4. Examine forward and aft pull-in hooks of TWA 800 for compression and smearing damage as was observed in AAR 92/02, page 45.

5. Examine door and fuselage for paint transfer from one to the other as was observed in AAR 92/02, page 41. Red paint smears on TWA 800 on white paint between passenger windows above cargo door may have come from red paint on top of cargo door. The red paint smears are large and frequent only along the top of the cargo door area and not found on the other 460 feet of fuselage trim. This indicates door below opened outward and slammed upward into fuselage, giving overtravel over 143 degrees on the hinge and transferring red paint from door onto white paint between passenger windows. The opening door with hinge attached took red trim fuselage skin with it and that may have slammed upward also onto white painted skin. Red paint smears are not scraped away white paint revealing red underneath but red paint on top of white paint. White paint scraped away reveals green primer.

6. Examine outer skin contour of the upper door piece for inward crushing as was observed in AAR 92/02, page 41. Door blows outward and top of door smashes into fuselage above giving inward crushing not by water impact. Photo of TWA 800 top door piece shows such damage.

7. Examine master latch lock handle housing and trigger for position. AAR 92/02, page 41, found it relatively flush with door outer skin.

8. Examine floor beams again of TWA 800 to confirm statement in Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900,
880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." This observation matches downward buckling as was reported in AAR 92/02, page 4, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward."

9. Confirm evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. This observation coincides with AAR 92/02 which states on page 11, "The cargo door and its associated hardware are designed to carry circumferential (hoop) load arising from pressurization of the airplane." If cargo door was fully latched and intact until water impact then there should be no hoop tension fractures. If the door was missing in flight, hoop tension fractures could be expected to be found and they were on TWA 800 leading to conclusion door was missing in flight.

10. Confirm door frame of TWA 800 which abuts aft edge of door is curved outward in petal shaped bulge indicating outward force rupture. Aft midspan latch is unattached to aft midspan latch pin halfway up the door frame. Edge of door frame is smooth indicating door not missing by force but by unlatching of aft midspan latch.

11. Establish large round rupture hole in TWA 800 photo centered at aft midspan latch is in fact a hole or something otherwise.

12. Confirm outward peeled skin on TWA 800 upper skin as
shown in photograph which indicates outward force which matches AAR 92/02, page 6 photograph of peeled upper skin in same location.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Dear Mr. Wildey,

Date: Fri, 13 Mar 1998 08:08:05 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Dear Mr. Wildey,
Cc:
Bcc:
X-Attachments:

Sam Farr
Member of Congress
17th District, California
House of Representatives
Congress of the United States
Washington, DC

John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
United States Senate
Washington, DC

James Hall
Chairman,
National Transportation Safety Board

Bernard Loeb,
Director of Aviation Safety
National Transportation Safety Board

Al Dickinson,
Lead Investigator, TWA 800
National Transportation Safety Board

Ron Schleede,
Investigator, TWA 800
National Transportation Safety Board

Thomas McSweeny
Director, Aircraft Certification Service
FAA National Headquarters

James F. Wildey II
National Resource Specialist
National Transportation Safety Board
490 L'Enfant Plaza East, SW.
Washington, DC 20594

Lyle Streeter
FAA AAI
Aircraft Accident Investigator
FAA National Headquarters
800 Independence Avenue, S.W
Building FOB 10A, Room 838,
Washington D.C 20591
Dear US Government Officials involved with TWA 800, 13 March 1998

The TWA 800 wreckage database offers more proof that forward cargo door opened in flight and allowed starboard engines to become damaged. What the wreckage plot so far shows is that the door was not intact at water impact. It shows that the nose cut off point is somewhere in the explosive decompression rectangle shown by shattered skin on reconstruction photo. The cargo door is in that fuselage station zone of twenty feet wide of explosive decompression on right side. The door is nine feet wide by eight feet high. The missing portion in the reconstruction photo is about 80%. So it appears that what cargo door was found on the ocean bottom was hung on the wreckage model, all 20% of it.

Here's the mysteries:
1. Why so much wreckage with the identical lat/long positions to same accuracy to tenth of degree?
2. Where is the rest of the door including master latch lock handle, (a big mother about two feet long,) the rest of the latches, the viewing ports, the skin, torque tubes, pull in hooks, and the over pressure relief doors?
3. Only door material reported in Exhibit 15, trajectory study and now database is: eight latches locked to bottom sill and stayed with nose, and forward portion of door stayed with nose.
4. The hinge of cargo door was recovered, we can see it in photo, but where was it found?
5. It's as if the door is invisible. PA 103 never mentioned the forward door at all. And for 800: The trajectory study has no mention of door; the exhibit devoted to door area has one sentence covering only 80% of the latches; and the total wreckage database has only four references to it and those only refer to a forward 'portion', stringers, and a lift. The lift is about 2% of door, the portion is about 15%, and the stringer 34R and aft stringer 28R-43R are another 3%, so about 80% of the door is missing in reconstruction photo and not reported in database. The missing items are centered around the aft midspan latch area, which I contend is the locus of rupture point which is the pinprick which pops the balloon and shatters skin all around it in huge 20 foot by forty foot explosive decompression.

I'm starting to think the aft latches and aft portion of door are still out there, the very, very first to go and landed far afield where you have not looked. Where can they be?

So, conclusion is that door was in several pieces at least at water impact. Most of door is missing in database and reconstruction. Missing material is on aft part of door. Much cargo bay structure very close to door landed in red zone.

The engines are interesting too. Number 4 was in parts which
again confirms the engines were not normal until water impact. Engine number four in parts would fit UAL 811 which had foddled and on fire number 4. Number 4 in parts means it may have been on fire on the way down and could have ignited the center tank and all the tanks that blew up. Engine number three falling apart and alone matches two other patterns and indicates the foddled engine vibrated and fuse pins failed before water impact and engine departed slightly earlier than other three that landed in line.

But, engines conclusively not normal which requires PW be made a party to the investigation and release of powerplant report. Cargo door not intact at water impact but shredded in flight with most of it nowhere to be found.

So, another important public docket exhibit, wreckage database, is leaked and shows important support for cargo door/wiring explanation and much debunking of center tank as initial event.

What is going on? To put a harsh light on the actions of public officials in the conduct of this investigation the following interpretations can be made.

1. Coercion of FAA official to change his conclusion from outward outward explosion to inward from water impact.

Mr. Schalekamp used facts to support a conclusion, i.e, 'structural deformation and paint markings' indicate outward explosion. He later uses opinion from NTSB but no facts to
recant from outward to inward. He had discussions to 'persuade' him it was in his best interest to forget the facts and rely on opinion of seniors. Witness coerced.

2. Tampering with labels of location of wreckage pieces from red to yellow zone.

Pieces of important metal were found in place 'r' and labeled as such. Later it was determined that the pieces in place 'r' rebutted center tank as initial event and supported cargo door opening in flight. So, the labels were altered from place 'r' for red to 'y' for yellow. Labels tampered with.

3. Obstruction of investigation into reasonable alternative mechanical explanation.

A huge wreckage reconstruction exists which is off limits to citizens to photograph in order to analyze and draw own conclusions. The citizen's access to public items is obstructed.

4. Suppressing public docket exhibits completed and ready for release.
subdue <~ a revolt> 2: to keep from being known; also: to stop
the publication or circulation of 3: to hold back: repress <~
anger> <~ a cough> ~ suppressible "pre-se-bel adj ~ sup
pression "pre-shen n

Eyewitness exhibit 4A, wreckage database, and powerplant
report Exhibit 8 are three vitally important exhibits which are
present in all major accident investigations. TWA 800 had those
three suppressed. None of the reasons for suppression made
sense. TWA 800 was not criminal so to withhold eyewitness
report waiting for trial testimony is nonsense. Wreckage database
is nuts and bolts numbers with no reason to suppress. A stator
blade in right horizontal stabilizer is reason alone to include the
engine manufacturer as a party to the investigation and release
the current information in the powerplant report. The suppression
of the engine breakdown report makes no sense either.

Except that the three reports all contain real data that rebuts
center tank as initial event and offers hard support for open cargo
doors in flight. The eyewitnesses confirm there was something
strange in the sky around TWA 800 that could have been pieces
spinning away reflecting sunlight and not leaking fuel. The
wreckage database confirms door in pieces and pieces found all
over the place so it opened in flight. It also shows first pieces to
leave did not come from center tank but lower cargo bay. The
engine report may show flocked starboard engines which support
door opening and allowing baggage/foreign object in the vicinity
of the jet intakes. The engine report may show fire damage for
one or more engines which could be ignition source for center
tank explosion which rebuts center tank as initial event.

Vital public docket exhibits are suppressed which rebut official
explanation and support alternate.
5. Distort report to reporter about position of door pieces and status of door at water impact.

When queried by a Pulitzer Prize winning aviation reporter for a large metropolitan newspaper about possible cargo door opening in flight, the official said the door was all latched and all locked and all intact at water impact. That statement was based on known error of concluding eight latches latched out of ten possible meant all latched. It was known door pieces not all found in one site near the nose so door was not all intact at water impact. The true meaning of eight latches latched is eight latches latched, not distorted into all latches latched.

Determination of cargo door status was distorted.

6. Mislead in CWT as initial event

The center tank explanation was made early on and much effort was made to confirm that explanation even though it was quickly shown to be a wrong direction based upon no ignition source found.

Public was mislead into thinking the only mechanical possibility was center tank explosion as initial event.
7. Sham public fact finding board of inquiry

sham "sham\ n 1 : an ornamental covering for a pillow 2 : counterfeit, imitation 3 : a person who shams

The Baltimore public hearing found few facts, rarely asked questions it did not know the answers already, gave scant inquiry to other reasonable lines, ignored its own researched reports, and pretended all the while to do otherwise. It was a sham; it was a show trial against the center tank.

The center tank explanation would carry more weight if had been proposed by an accident investigator first instead of an aviation trial attorney with understandable bias toward his clients, Lee Kreindler representing families of TWA 800. After meeting with Lee Kreindler, Bernard Loeb also agrees streak was leaking fuel and center tank spontaneously blew up.

So, a harsh look reveals:

1. Coercion of FAA official to change his conclusion from outward to inward.

2. Tampering with labels of location of wreckage pieces from red to yellow zone.

3. Obstruction of investigation into reasonable alternative mechanical explanation by refusing admittance to wreckage to public.

4. Suppressing public docket exhibits completed and ready for release, eyewitness, wreckage plot, and powerplant report.
5. Distort statement with reporter about position of door pieces and status of door at water impact, said it was all latched and all locked at water impact when known evidence contradicted statement.

6. Mislead public to believe there was only one mechanical possibility by only offering one when others available.

7. Sham public inquiry held; few questions, no public input, suppressed testimony and staged presentation of predetermined conclusion.

Not only must the TWA 800 investigation by Government be thorough, it must give the appearance of thoroughness also. At this stage the appearance is sloppy, shallow, and slanted towards center tank.

Most of the above harsh criticisms can be explained as an excess of zeal to promote one cause to the exclusion of others.

So, dear Government Officials, you are honor bound to investigate any reasonable line of inquiry into the cause of the crash of TWA 800. To know of a reasonable line of inquiry and not inquire is a crime of betrayal of public trust.

Is there a reasonable line of inquiry not yet investigated?

Bomb was reasonable and done by FBI.
Missile was reasonable and done by FBI.
Center tank explosion was reasonable and done by you.
Meteor was reasonable and done by you.
Are there any others?

Is it reasonable to say that UAL 811 was an aged, high flight time, early model Boeing 747 which took off in low light running late and during climb experienced a sudden initial event of hull rupture near the leading edge of wing which left a short, sudden, loud sound on the cockpit voice recorder, an abrupt power cut to the flight data recorder, unusual damage to starboard engine #3, more severe inflight damage on starboard side, at least nine never recovered bodies, port fuselage side forward of the wing relatively undamaged, torn and frayed skin in forward cargo door area on starboard side, unusual paint smears above forward cargo door area, rupture at aft midspan latch of the forward cargo door, outward peeled skin on upper forward fuselage, vertical fuselage tear lines forward of the wing and aft of forward cargo, had hinge stay attached to detached top piece of forward cargo door, and destruction initially thought to be have been caused by a bomb but later conclusively ruled out? The confirmed cause was wiring/cargo door fault.

Is it reasonable to say that TWA 800 was an aged, high flight time, early model Boeing 747 which took off in low light running late and during climb experienced a sudden initial event of hull rupture near the leading edge of wing which left a short, sudden, loud sound on the cockpit voice recorder, an abrupt power cut to the flight data recorder, unusual damage to starboard engine #3, more severe inflight damage on starboard side, at least nine never recovered bodies, port fuselage side forward of the wing relatively undamaged, torn and frayed skin in forward cargo door area on starboard side, unusual paint smears above forward cargo door area, rupture at aft midspan latch of the forward cargo door, outward peeled skin on upper forward fuselage, vertical fuselage tear lines forward of the wing
and aft of forward cargo, had hinge stay attached to detached top piece of forward cargo door, and destruction initially thought to be have been caused by a bomb but later conclusively ruled out? The cause is officially undetermined.

Is it reasonable to say that an NSTB documented event with one high time Boeing747 could have happened again to another high time Boeing 747 since there are so many similarities?

Is it reasonable to say the NTSB documented cause of one accident could be the actual cause of the other?

If so, then it is a reasonable line of inquiry.

To not investigate that reasonable line of inquiry with the same comprehensiveness as was done for the bomb, the missile, the meteor, or the center tank explanations is unprofessional and a betrayal of public trust. That betrayal has serious consequences.

The public trusts you to investigate all reasonable lines regardless of your title. To investigate that reasonable line of inquiry is to fulfill your professional responsibility and your special honor of being a member of the United States Government.

John McCain, you are a jet pilot who survived a jet crash caused by a missile. What is your opinion whether wiring/cargo door is a reasonable line of inquiry for TWA 800? Are you relying on Bernard Loeb for your opinion?

James Hall, you are the Chairman of a Safety Board, what is your opinion whether wiring/cargo door is a reasonable line of inquiry for TWA 800? Are you relying on Bernard Loeb for your
opinion?

Bernard Loeb, you are the NTSB Chief Theoretician for TWA 800, what is your opinion whether wiring/cargo door is a reasonable line of inquiry for TWA 800? Are you relying on Lee Kreindler for your opinion?

James Wildey, you are the metal expert who wrote the definitive report on cargo door for TWA 800, what is your opinion whether wiring/cargo door is a reasonable line of inquiry for TWA 800? Are you relying on Bernard Loeb for your opinion?

Al Dickinson and Ron Schleede, you are the TWA 800 aircraft accident investigators, what are your opinions whether wiring/cargo door is a reasonable line of inquiry for TWA 800? Are you relying on Bernard Loeb for your opinion?

Lyle Streeter, you are the FAA official who interacts with NTSB for major accidents, what is your opinion whether wiring/cargo door is a reasonable line of inquiry for TWA 800? What are you relying on?

Neil Schalekamp and Bob Breneman, you are the FAA structural experts used by NTSB for TWA 800, what are your opinions whether wiring/cargo door is a reasonable line of inquiry for TWA 800? Are you relying on Bernard Loeb for your opinion?

Well, there you have it. What to do?

To not act is wrong; to act may be wrong. What to do?

I face the same dilemma.
Respectfully,

John Barry Smith  
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Carmel Valley, CA 93924  
408 659 3552  
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Attached list is of evidence to establish that evidence of TWA 800 shows that wiring/cargo door cause for TWA 800 is a reasonable line of inquiry.

Below evidence is consistent with forward cargo door rupture to open to explosive decompression on right side forward of the wing leading to nose off and fireball at 7500 feet when center and other fuel tanks explode.

1. horizontal stab has red paint smear  
2. stator blade in right horizontal stab behind engine number 3  
3. inward movement top of cargo door matches UAL 811  
4. top of door attached to hinge matches UAL 811  
5. petal shape of rupture area around aft midspan latch  
6. missing pieces of locking handle, latching pins, overpressure relief doors, midspan latches  
7. rectangle of explosive decompression zone of outward peeled skin on right side forward of the wing on right side  
8. downward movement of floor beams near cargo door  
9. hoop stresses found  
10. cvr sudden loud sound matches NTSB Chart 12 UAL 811  
11. fdr abrupt power cut matches UAL 811  
12. TWA 800 matches UAL811 in twenty five similarities
13. TWA 800 matches PA 103 in many similarities
14. TWA 800 matches AI 182 in many similarities
15. red paint smears above cargo door on white paint
16. fire on 4 in UAL 811 for ignition source for fireball/center tank explosion on TWA 800
17. starboard side more damaged than port side.
18. inflight objects hit same things such as right wing fillet in other other accidents
19. poly x is known to be susceptible to chafing and TWA 800 had poly x.
20. section 41 is known to be weak and TWA 800 did not have the retrofit
21. history of cargo door openings in past in various airliners including model and type of TWA 800.
22. EPR problems on aircraft before or during fatal flight.
23. fires in forward cargo hold in the past on Boeing 747s.
24. vertical tears in fuselage skin forward of the wing on the right side match UAL 811
25. singe marks on right side of fuselage show burnt skin, then abruptly at tear line there are no singe marks.
26. red paint rubbed off revealing white paint underneath above cargo door area
27. first pieces off came from forward cargo hold just forward of the wing
28. at least nine missing never recovered bodies, just fragments.
29. initially thought to be a bomb, just like AI 182, PA 103, and UAL 811
30. wreckage debris shows cargo door in pieces at water impact.
31. aft portion of door which includes aft midspan latch and locking handle missing from recovery effort

Evidence to check to rule in or rule out cargo door involvement.
1. hinge overtravel impression damage to match AAR 92/02
Lee Kreindler's Theory-Center Tank as Initial Event.

The National Law Journal (p. A01)
Monday, June 30, 1997

WITH EVERY DAY that passes, it seems, Lee Kreindler looks smarter and smarter. Nearly one year after TWA Flight 800 exploded and crashed into the ocean off Long Island last July 17, killing all 230 aboard, investigators are increasingly leaning toward mechanical failure as the cause--not a bomb or missile. It is the explanation that Mr. Kreindler, a New York aircraft disaster litigator, has been pushing from the start.

It is also the theory that provides Mr. Kreindler and a small group of fellow plaintiffs' lawyers the clearest path to pursue TWA and

The Boeing Co. for billions of dollars in damages claimed by the victims' families.

Mr. Kreindler, of Kreindler & Kreindler, represents more
than 50 of the victims' families in current and planned lawsuits against
the companies. He also chairs the plaintiffs' committee, consisting of lawyers from six firms that represent victim families in
approximately 54 wrongful-death cases. He was also the lead plaintiffs' lawyer in litigation surrounding the crash of Pan Am Flight
103, which was caused by a terrorist bomb.

Since January, nearly all of the TWA 800 lawsuits have been consolidated in a multidistrict litigation pending in federal court in
the Southern District of New York, before Judge Robert W. Sweet.

The National Transportation Safety Board and Federal Bureau of Investigation still have not conclusively determined what exactly
brought down the 25-year-old Boeing 747, although they have spent more than $26 million trying, says NTSB spokeswoman Shelly Hazle. But in the past few months, both agencies have sent signals that indicate they are moving toward eliminating a criminal act
as the cause of the tragedy.

Immediately after the crash, Navy divers began recovering bodies and wreckage from the crash site. By the time recovery efforts
were concluded in May, investigators had collected about 95 percent of the plane, consisting of hundreds of thousands of pieces of
wreckage in an aircraft hangar in Calverton, Long Island. After meticulously cataloging each piece, investigators reconstructed much of the shattered airplane, including a critical 90-foot section of the fuselage.

From the start, investigators focused their attention on the plane's center fuel tank. They believe that a volatile mix of air and fuel vapor built up inside the tank creating conditions that led to an explosion. Still undetermined, however, is what ignited the explosion.

In May, FBI Director Louis Freeh said that investigators had found no evidence of a bomb or missile and that mechanical failure was the most likely explanation. And on June 4, FBI assistant director James K. Kallstrom, the agent in charge of the bureau's investigation, sent a letter to victims' families saying "we are in what could be the last phase of our criminal investigation."

Within two weeks after the crash, Mr. Kreindler's firm began piecing together its own theory of the case, based largely on news reports and on the work of Peter Jorgenson, a former Boeing engineer the firm retained as an expert. And within a month, Mr. Kreindler appeared on the NBC program "Dateline" to present his theory that a malfunctioning fuel pump may have ignited fuel vapors in the airliner's center fuel tank. In October, Mr. Kreindler presented the NTSB with a 28-page report detailing his
theory.

A supplemental report, sent to the NTSB in March, identified the scavenge pump, one of three pumps located in the fuel tank, as the most likely ignition source. While the NTSB found no evidence that either of the other pumps had malfunctioned, the scavenge pump was never found.

Mr. Kreindler's early theorizing was sharply criticized at the time by plaintiffs' and defendants' lawyers as premature and as a transparent attempt to attract clients. Nor has the NTSB been particularly grateful for Mr. Kreindler's and Mr. Jorgenson's help.

"We have given Mr. Jorgenson more than fair consideration and have come away unimpressed," wrote NTSB General Counsel Daniel D. Campbell in an April 29 letter to Mr. Kreindler.

Helpful or not, Mr. Kreindler's theory has the virtue of agreeing with the apparent consensus on the most important point for purposes of the litigation: that the crash was caused by a mechanical failure.

A mechanical failure theory allows the plaintiffs to pursue a relatively straightforward products liability case against Boeing, in which they will try to show that the aircraft was designed or manufactured improperly.

The case against TWA, however, is a little more
complicated. The Warsaw Convention, an international aviation treaty, limits air crash victims to $75,000 in damages against an airline unless they can prove the airline acted with willful misconduct.

The major U.S. airlines, including TWA, are complying voluntarily with a proposed agreement that would abolish the $75,000 limit and the heightened liability requirement. The Warsaw Convention was in effect at the time of the TWA 800 crash, however, and applies to the litigation.

Hoping they can prove willful misconduct, the plaintiffs charge the airline kept the plane in service beyond its intended lifespan and failed to inspect and maintain it properly.

Although the plaintiffs' theory in the Pan Am 103 case relied on allegations that inadequate security was to blame for allowing the bomb on board, a bomb or missile theory would be much easier for TWA and Boeing to defend against. Thus, company representatives are in no hurry to eliminate them as possibilities.

"Despite what some...reports have suggested, we have no indication that the investigation is over," said Randal Craft, of Haight, Gardner, Poor & Havens in New York, counsel for TWA. "Certainly no initiating cause has been identified."

Until the FBI and NTSB investigations are concluded,
plaintiffs are limited in what they can do to prepare their cases. The NTSB says Congress gave it exclusive control over wreckage when investigating cases like TWA 800. As a result, none of the plaintiffs' lawyers so far has been allowed inside the Calverton hangar. But in a motion before Judge Sweet, the plaintiffs' committee argued that they should be allowed to see the wreckage because employees of TWA and Boeing have had access to the evidence from the start, working shoulder-to-shoulder with government investigators. And the NTSB has permitted victims' families and news photographers to view the wreckage, they argued.

Judge Sweet declined to rule on the motion June 9, but expressing concern that evidence could be lost or destroyed before trial, he encouraged the NTSB to consider granting the plaintiffs' lawyers and their experts some limited access to the wreckage. Lawyers representing the board agreed to get back to the plaintiffs' committee by the end of the month.

There may indeed be some cause for concern. Sen. Charles E. Grassley, R-Iowa, said his staff is investigating allegations that FBI lab officials, already criticized in a government report for mishandling evidence in other cases, improperly handled evidence recovered from the crash site.
In the meantime, plaintiffs have served more than 200 document requests. Once they have had a chance to review the companies' documents, they will start taking depositions, says Mr. Kreindler.

Mr. Kreindler believes damages in the TWA 800 cases could be comparable to those in the Pan Am 103 case. Individual settlements ranged from $575,000 to $13 million, for a total of more than $500 million, he says. But the plaintiffs will have to overcome some obstacles first.

In addition to heightened Warsaw Convention threshold in favor of TWA, both TWA and Boeing lawyers are expected to argue that, because the plane crashed into the Atlantic Ocean, the Death on the High Seas Act applies. If Judge Sweet agrees with the defendants' expected motion to apply the act, scheduled to be briefed and decided by the fall, plaintiffs' recoveries will be limited to economic damages.

Lee Kreindler meets NTSB officials

"NTSB spokeswoman Shelly Hazle said representatives from Kreindler's firm met with NTSB officials in Washington yesterday. "There was nothing really new," she said."

$100M Crash Suit
First filed in TWA 800, it cites mechanical failure 23 Oct 96
By Sylvia Adcock  
Staff Writer

In the first lawsuit filed in the crash of TWA Flight 800, a Manhattan attorney claimed yesterday that mechanical failure blew the plane from the sky -- something federal investigators said they can't prove.

The $100-million suit was filed on behalf of the two grown children of Leonard Johnson of Springfield, Va., who was one of the 230 people killed when the Boeing 747 exploded July 17 off the South Shore.

"There's no evidence of a bomb or missile," attorney Lee Kreindler said. The theory behind the suit "is something based in logic and understanding of the systems and examination of the path of identical airplanes and expert knowledge."

The suit, filed in Brooklyn, asks for $50 million from Boeing and $50 million from TWA. TWA failed to maintain and service the 25-year-old plane properly, the suit said, and Boeing was at fault for approving TWA's decision to fly the plane beyond its service life, among other things.

"This is just the first," said Kreindler, who represents families of 25 other people. Kreindler represented the families of Pan Am Flight 103, who recovered multi-million judgments after the 1988 bombing over Lockerbie, Scotland.

In the case of Flight 800, the cause of the crash has not
yet been determined. Investigators from the National Transportation Safety Board and the FBI have been able to conclude only that the nearly empty center fuel tank exploded, but they aren't sure what ignited it. Investigators have recovered more than 90 percent of the aircraft from the ocean, with no metallurgical evidence of a bomb or missile, so the mechanical theory has taken center stage.

In a statement, Kreindler said two paid experts concluded that the tank explosion would be enough to break apart the fuselage and said the tank's scavenge pump, which has not been recovered, was "probably" the ignition source.

In an attempt to explain eyewitness accounts of a streak of light that led to the missile theory, the statement said that the explosion spread through the fuel vent line on the right wing, creating a trail of burning vapors shooting out the wing tip.

The suit points out that TWA sold the Boeing 747 to Iran in the mid-1970s, buying it back a year later. The explosion and crash, the suit said, were caused by TWA's "willful misconduct" in "failing to restore the subject Boeing 747 to airworthy condition after its sale to and purchase from Iran."

The suit said that the jetliner was originally designed for 60,000 hours of flying, but that as of July 17, it had flown 101,000 hours, which is allowed under federal regulations.
"This aircraft was in good shape, current in all its maintenance and airworthiness directives," said TWA spokesman Mark Abels. "The cause of this crash has been the subject of tens of thousands of hours of intensive investigation by the NTSB and the FBI, who have not been able to support a mechanical malfunction theory or for that matter any theory. I don't know what Mr. Kreindler knows that they don't know. If he does have valuable information, perhaps he should contribute it."

NTSB spokeswoman Shelly Hazle said representatives from Kreindler's firm met with NTSB officials in Washington yesterday. "There was nothing really new," she said. Boeing spokesman Doug Webb declined to comment.

Neil Schalekamp> "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"

Byron Acohido> "I, in fact, did grill several sources very hard about the forward cargo door evidence, including Bernie Loeb. Unless everyone involved is lying, (an assumption you'll no doubt make) there is nothing on the cargo door that indicates it came loose and was the initiating event. All locks and latches were found in proper positions. According to Bernie Loeb, early information that the door was found in
the red zone was incorrect. It was found in the yellow zone, along with all major parts of the forward fuselage section."

Docket No. SA-516, Exhibit 15C, Section 41/42, Forward Cargo Door, dated 22 April 1997, with Mr. Al Dickinson, AS-10, listed as investigator and Mr. Wildey as author, states, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge."

James Wildey>"...there were some fuselage pieces that were recovered that had a red tag on it and were supposedly recovered from the red << the red << earliest debris field...."
"...
we also examined the fuselage pieces right around there that had red tags on them, and we looked at all the features we could find, and for the fuselage pieces around there we said we find no physical evidence to suggest that those particular pieces actually departed the airplane early on in the sequence. I think, if I remember our report, we said we believed that those particular pieces should be treated
as yellow zone parts because we don’t find any way that they could possibly have come off the airplane early in the sequence and actually have been found in the red debris field."

"The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence. The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this 25 area."

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Inward or Outward

Date: Fri, 27 Feb 1998 08:55:21 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Inward or Outward
Cc:
Bcc:
X-Attachments:

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National Transportation Safety Board
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Washington, DC 20594

Lyle Streeter
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1601 Lind Ave. S.W.
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Bob Breneman,
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Renton, WA 98055-4056

Dear Mr. Wildey,
Dear Mr. Streeter,
Dear Mr. Schalekamp, and
Dear Mr. Breneman, 27 Feb 98

Thank you for each of your personal letters and emails to me. Your opinions are respected by me and therefore I carefully read
your words, try to understand the thought, and analyze the conclusions.

The most recent letter is from Mr. Neil Schalekamp, 19 February, 1998. Since we are all involved with safety and in particular TWA 800, I thought that I would include all of us in a presentation of some very basic evidence leading to conclusions.

I consider myself the open person and willingly share my letters with you and would expect the same from you. This is a professional aviation safety matter and precision, documentation, and frank discussion are required.

The primary question to be answered from this presentation is whether the significant damage in a crucial area of TWA 800 was an outward explosion or was the shattered skin inward and caused by water impact.

Basic evidence is to be derived from:
1. NTSB picture of TWA 800 reconstruction,
2. Testimony at public hearing on TWA 800.
3. Text from NTSB Exhibits on TWA 800.
4. Charts from NTSB Exhibits on TWA 800.
5. NTSB Aircraft Accident Reports.
6. Correspondence from Mr. Wildey, Mr. Streeter, Mr. Schalekamp, and Mr. Breneman.

Evidence discovered:
1. Red paint smears on white paint above forward cargo door.
2. Metal petal shape bulge at aft midspan latch of cargo door.
3. Outward peeled skin in various places forward of the wing on the right side.
4. Unburnt center tank maintenance hatch.
5. Downward bent floor beams in cargo hold area.
6. Hoop stress forward of the wing on the right side.
7. Red paint transfer on right horizontal stabilizer.
9. Red-orange streak reported by many eyewitnesses.
10. First pieces of TWA 800 to leave after initial event came from forward of the wing and from cargo hold.
11. Missing midspan latches from TWA 800 reconstruction.
12. Extensive significant matches with other 747 accidents.

Basic conclusions:
1. Fireball occurred between 5000 and 9000 feet.
2. Center tank exploded.

Basic conclusion to be determined:
Outward explosion forward of the wing on the right side in flight caused paint markings and structural deformation or nose all intact and damage caused by water impact.

Intermediate conclusions if outward explosion:
1. Door opened and slammed upwards and transferred red paint to white paint.
2. Pressurized hull rupture at aft midspan latch of cargo door.
3. Maintenance hatch separated before center tank explosion.
4. Decompression in cargo hold bent floor beams downward.
5. Door opened in flight which resulted in hoop stress.
6. Red painted pieces of door flew directly aft and struck right horizontal stabilizer.
7. Engine number three became damaged from debris ejected from cargo hold and disintegrated the forward stator section allowing a stator blade to fly directly aft and impale on the right horizontal stabilizer.
8. Maintenance hatch spin away fast from center tank and
reflected evening red-orange sunlight and perceived as streak to observers far away.
9. Serious event occurred forward of the wing on the right side.
10. Midspan latches status undetermined, missing, destroyed, or not hung.

Advanced conclusions if outward explosion:
1. Door opened in flight causing large explosive decompression rectangle which allowed 300 knot slipstream to tear nose off. 
2. Center tank exploded when fiery exhaust from damaged number three engine center tank through three foot empty maintenance hatch hole.
3. Door opened why door motor turned on and tried to unlatch the twelve latches but the bottom eight held while midspan turned just enough to allow the 38115 pounds of internal pressure to rupture the latched area.
4. Door motor turned on when fluid, probably water, shorted bare chafed poly-X wiring to metal fuselage.
5. Wiring became chafed from excessive vibration in high time, high cycle Boeing 747s.

Basic Actions:
1. Fireball confirmed.
2. Center tank explosion confirmed.
3. Confirm outward explosion by confirming door opened in flight by examining door hinge for overtravel impression damage, midspan latch pins for heat damage, red paint in unusual places matched to red paint in door area, which can be matched to data in NTSB AAR 92/02.

Intermediate Action:
Confirm chafed wire by examining all wiring for chafing in forward cargo hold and adjacent main equipment bay of TWA
Advanced Action:
Inspect all early model Boeing 747s for fluid and chafed wiring in electronic bays and cargo holds.

Now, to the 19 Feb 98 letter from Mr. Schalekamp.

Mr. Schalekamp, thank you for your thoughts on TWA 800. Let's go line by line:

NS>"It appears that you are determined to impose your theory about the events that led to this unfortunate accident upon the official investigators."

Well, sir, I'm flattered, would that I could.

It not me that is imposing anything; it is the evidence. The evidence is causing the sleepless nights, not me. The evidence apparently contradicts NTSB and FAA Northwest Region's opinion that center tank was initial event.
1. Red paint smears on white paint above forward cargo door.
2. Metal petal shape bulge at aft midspan latch of cargo door.
3. Outward peeled skin in various places forward of the wing on the right side.
4. Unburnt center tank maintenance hatch.
5. Downward bent floor beams in cargo hold area.
6. Hoop stress forward of the wing on the right side.
7. Red paint transfer on right horizontal stabilizer.
9. Red-orange streak reported by many eyewitnesses.
10. First pieces of TWA 800 to leave after initial event came from forward of the wing and from cargo hold.
11. Missing midspan latches from TWA 800 reconstruction.
12. Extensive significant matches with other 747 accidents.

I'm not making any of the evidence up. NTSB and FAA provided the evidence and it's real. It can be touched, heard, and seen.

You state Transport Airplane Directorate has responded four times to me, and thank you very much. A few more times and you will be tied with Senator McCain for personal responses to me regarding this most important safety matter. My Congressman has written ten personal letters to me, including the one on which was attached to a 26 September 1997 letter from Mr. McSweeney to my Congressman stating that he would get back to the Congressman within thirty days with a final reply, and that was five months ago. So, in a sense, Airplane Transport Directorate of Aircraft Certification Service owes one to the cargo door explanation.

NS> "Please take note that this office will no longer be responding to your further inquires (sic) about these same concerns, including your February 6 and February 9 letters that I just received."

Well, you're the manager, so 'office' means you. To say you received letters enough to read the dates and told me about them means you have already responded to them. To refuse to read or pass on extensive, detailed, supported by NTSB documents letters which come from a pilot and crash survivor which present an immediate safety threat to airplanes under your responsibility is an amazing attitude and contradicts your earlier statement, "Please be reassured that each of us within the FAA feels a deep responsibility to aviation safety and will take actions to correct an identified unsafe conditions." Refusing to read letters
containing an identified unsafe condition (water meets chafed wires) is an action but it does not correct the unsafe condition, it runs away and tries to ignore it.

Fear is why you are annoyed and worry is why you want the messenger to go away. And it's not me that brought the fear, it's the evidence. Mentally making me go away does not make the evidence go away. There will always be those many red paint smears above the cargo door that indicate outward explosion, then door opening and slamming upward leaving paint transfers, exactly like UAL 811 as stated in NTSB AAR 92/02. I have not made a weird explanation for some flimsy evidence. I have made a solid explanation with documentation based upon solid evidence. The paint smears are real. The stator blade will outlive us. The outward peeled skin will always be there, matching photographs of UAL 811 of same area and indicating outward explosion, just like UAL 811.

Hard, solid evidence:
1. Red paint smears
2. Bulge at latch
3. Outward peeled skin
4. Unburnt center tank hatch.
5. Downward floor beams
6. Hoop stress
7. Paint transfer on stabilizer.
8. Stator blade embedded in stabilizer.
10. First pieces to leave came from cargo hold.
11. Missing midspan latches

NS>"The theory of an explosive decompression, due to a sudden opening of the forward cargo door was one theory that was
examined. However, it has been determined that this did not occur."

Well, Mr. Schalekamp, questions:
1. Who examined the theory? I have evidence the door was only partially examined, that is, only eight latches checked and none of the other door mechanisms to include the manual locking handle, for heaven's sakes.
2. Who determined the explosive decompression did not occur? Bernard Loeb? It did occur, it's obvious by looking at the damage forward of the wing, and anyway, the center tank explanation requires explosive decompression of fuselage forward of the wing, and structure report Exhibit suggests explosive decompression bending floor beams downward. No one has ever determined explosive decompression did not occur forward of the wing on the right side. Who determined the door did not open in flight? Bernard Loeb? Who determined there was no outward explosion forward of the wing on the right side? Bernard Loeb? I know it wasn't you because you determined there was an outward explosion there. I hope the FAA does not get like the FBI or CIA with no accountability from anonymous public officials who give opinions about noseless 747s that can climb 3000 feet in 20 seconds. The Chief Theoretician for TWA 800 is missing in action; who is it? Bernard Loeb? What is his opinion about twisted metal and red paint and stator blade and hoop stress which offer clues to inward or outward force?

NS>"Based upon the existing evidence, the NTSB...believes that the probable cause of the accident was a CWT explosion, due to an internal fuel tank ignition source."

Well fine, but the issue here is not probable cause but outward explosion or inward damage from water impact on that crucial
area of TWA 800. I don't understand the reluctance to say outward explosion even though it agrees with center tank outward explosion nearby. I don't understand the reluctance to agree with me when I agree with you. You said outward explosion and I agree. It makes sense. It looks like it in the picture. The damage matches another outward explosion in a high time Boeing 747. The paint markings and structural deformation that I cite do indicate an outward explosion.

NS> "You apparently believe that the ...door precipitated the accident scenario by initially separating from the airplane."

Well, actually, I did think door started accident for eight years for high time 747 accidents that yielded a sudden loud sound on the CVR and an abrupt power cut to the FDR. Now I believe the door opening is preceded by latch rupture preceded by door motor on preceded by electrical short preceded by water onto bare chafed wire preceded by long term vibration and other stresses on the wires.

NS> "The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean."

Whoa! Not true! What evidence? There is no evidence showing door all latched and locked and all intact at water impact. There is great evidence showing outward explosion causing shattered skin which occurred before water impact. The door is not in one piece but many. Yes, the bottom 10% and the top 10% stayed with the nose. 20% is not the whole door. What evidence says it exploded outward? Your evidence, Mr. Schalekamp. Your statement, "The paint markings and structural deformation that
you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT."

What happened? Why the switch from outward explosion to inward damage from water impact? Why now say door all intact until water impact? The evidence is still there, it hasn't changed. The evidence from the reconstructed 747 airplane reveals that the forward cargo door is shattered from the outward explosion which left paint marks and structural deformation.

Mr. Schalekamp, Mr. Wildey, Mr. Streeter, and Mr. Breneman, let us look at the picture of the right side of TWA 800 reconstruction. Let us give an opinion based on the evidence. Is the shattered rectangle of about twenty feet wide and forty feet high forward of the wing an outward explosion or inward from water impact. It's a basic question. It's easy to answer with ample evidence one way and little the other. It is an important question which must be conclusively determined one way or the other. The implications are profound with far ranging consequences for safety.

NS>"You may not agree with the reasoning of the official accident investigators, but I want you to understand the evidence to date indicates that the CWT explosion preceded any fuselage breakup, including damage to the forward cargo door."

Well, sir, I want you to understand that right now I'm trying to sort out whether the shattered, outward peeled skin, red paint transfer marks, outward bulged metal at aft midspan latch, and missing 80 percent of cargo door area was caused by an outward explosion as you stated, or inward damage from water impact as you stated.

You can help me by telling me what evidence made you change
your mind. I hope it was not an opinion from a senior who does not know what an outward explosion looks like on a 747 but does know what the accepted explanation is and is not going to be swayed by new evidence or new interpretations of evidence. This is life and death, not annual performance review.

There's no going back. Outward explosion is on the record. And it's true. It is a very sad situation when truth is feared and falsehoods embraced. Outward is true, inward is false. How do I know? Because you told me, Mr. Schalekamp, that's how. Have you changed your mind? Let me see the words, "Paint markings and structural deformation do indicate inward damage from water impact," instead of, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"

That would be a correction to your earlier conclusion of outward explosion and would be considered a correction, the right way to do things in an investigation. Not correcting previous conclusion now said to be wrong is the wrong way.

You may think you are helping your boss by backing him up but you do a serious disservice to him and your outfit by continuing to permit him to think it was water impact inward damage which it wasn't and not outward explosion damage which it was.

Where do bosses get their conclusions from? From you, that's where. Chairman Hall thinks all the doors were all latched and intact until water impact because Bob Breneman told Al Dickinson, who told Jim Wildey, who told Bernard Loeb, who told Jim Hall. Bob Breneman made the best conclusion possible under the cramped rushed circumstances. Upon new evidence, the completed reconstruction, it is time to modify initial
To not modify conclusion because it is contrary to the boss's opinion is not right. His opinion was formed by Transport Airplane Directorate and it can be changed by Transport Airplane Directorate. If it's true. Is it true? Was it outward explosion or inward water damage? One or other; in or out. Can't have it both ways. Either inward was right early on and still right. Or inward was right early on and now outward is more right based on hindsight and new evidence.

This cargo door/wiring problem in 747s is taking a toll of innocent bystanders, let's not join the crowd:  
1. UAL 811 was said to be improper latching and blame fell on ground handler.  
2. New AAR for UAL 811 after new evidence recovered, the door, may have embarrassed the original authors.  
3. Captain Stacey of TWA thought he was doing the best thing to exonerate his company by giving a piece of wreckage for outside confirmation of missile. He has disgraced his airline and airline participation in future accident investigations will be distrusted.  
4. Mr. Kallstrom wasted a year and a half and millions on a wild goose chase for bad guys. There was none. He retired.  
5. Pump manufacturers and fuel probe manufacturers are suspected of starting an explosion that killed many. They didn't.  
6. CIA analyst shows to the world a headless 747 climbing 3000 feet in twenty seconds, a climb rate of 6000 feet per minute. CIA opinion about aviation is now jeered.  
7. Victim's families are filled with hate at imaginary terrorists or covering up US Navy instead of getting over their grief at satisfactory explanation of mechanical cause.  
8. And now an FAA official looks at evidence and reaches reasonable conclusion and states it. But it is contrary to official policy so conflict arises. Loyalties and principles are tested.
Mr. Schalekamp, you had a choice when the conflict appeared. You could have said, it was outward explosion because of evidence of paint markings and structural deformation and the outward explosion means there was an outward explosion. Period.

But instead you said FAA agrees with NTSB about initial event and "The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean."

You wrote a true thing from your heart and a later a false thing from your head. I explain the exasperated tone of voice in your 19 Feb letter as result of worry. You want to retract the previous statement and make things just the way they were because senior officials are displeased at your conclusion of outward because they say inward. You don't want senior officials displeased with you.

There is a fear of contradicting the boss in all of us. Then how does any boss become right once they were wrong? Or does the boss just stay wrong? He's corrected by supportive subordinates who point out to him on the photograph of reconstruction, Exhibit texts, and hearing testimony the following facts:

1. Paint smears
2. Bulge at latch
3. Outward skin peel
4. Unburnt hatch
5. Downward beams
6. Hoop stresses
7. Paint on stabilizer
8. Stator in stabilizer
9. Red-orange streak
10. Pieces from cargo hold in red zone.
11. Missing latches

The evidence is the problem with center tank as initial event, not me. The evidence is the problem with inward water caused damage explanation, not me.

If these new interpretations of evidence are not presented to senior officials, who will? Me? They give little weight to a citizen's conclusions. It has to be officials in the chain of command who have the ability to check out the new interpretations. The door hinge can be examined, the latch pins can be examined, the peeled skin can be examined. The evidence can be examined again to conclude whether it was outward or inward. It's a fork in the road of the TWA 800 investigation; which way to go? Inward goes to center tank as initial event, I know. It just ignores the huge shattered area forward on the right side. Outward goes to whatever. Outward acknowledges the area and the details inside it such as paint markings and structural deformation.

Inward or outward? It's a real conflict for Mr. Schalekamp and one which Mr. Breneman faced, Mr. Wildey faced, and Mr. Streeter is facing. Outward conclusion was given reasons and yet inward never has any. Inward never gives evidence or reasoning, just blind recitation of the official line: "The evidence from the reconstructed 747 airplane reveals that the forward cargo door was attached to the forward section of the airplane and was latched in the closed position when this section of the airplane impacted the ocean." A line based solely on the incomplete examination when only eight of the ten latches were checked and
found latched.

So, life. We are tested in ways we never expected. To say two and two is four and then find out the boss says it's five and then to quickly change answer to five from four is a wrong answer. Opinions change. Sticking with the facts that stay the same is the right answer.

Here's some right answers that were said:

Mr. Streeter, "Wiring problems are still a potential area of concern."

Mr. Wildey, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward." The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

Mr. Breneman, "A further examination of the recovered wreckage showed that the upper door hinge was still attached to both the fuselage and the door. In addition, the door latches at the bottom of the door were still attached to the fuselage lower sill structure."

Mr. Schalekamp, "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"
The evidence is real: paint, bulge, skin, hatch, beams, stress, stator, streak, and latches.

The people are real, Neil Schalekamp, Bob Breneman, Jim Wildey, and Lyle Streeter and John Barry Smith, 408 659 3552, 551 Country Club Drive, Carmel Valley, California, 93924, barry@corazon.com. Call me on the phone, write me a letter, send me an email, or come and visit. Anytime. I'm serious. I have the motivation to confirm the cause of a sudden night fiery fatal jet airplane crash because I narrowly survived one and I don't want it to happen again to anyone.

I'm not connected to any manufacturer, airline, government, or media. I'm a retired military officer. I have no power except to point out facts and suggest conclusions. I'm a free man with a just cause. I have no boss to answer to nor public to serve. I understand the reticence of those who do.

Mr. Schalekamp, you are the manager of a propulsion branch. Does not the discovery of a stator blade in the right horizontal stabilizer intrigue you? That discovery is very significant and justifies the exercise in wreckage reconstruction. The implications of that stator blade are profound. As FAA branch manager can you not read the NTSB Powerplant report to confirm it came from front stator stage of a P&W JTD-9, engine number three of TWA 800? If it did, then it disintegrated in flight and confirms your previous observation of outward explosion of fuselage skin which might have shoved the FOD into number three. Would you not want P&W as a party to the TWA 800 investigation in order to provide engine information as to what those four vacuum cleaners scooped up at time of initial event? Do you want to know what happened to TWA 800? To be so firm
on water impact damage after center tank explosion when the powerplant report and the wreckage plot reports have not been released to the public is not right. There are still many areas to be evaluated.

I know Northwest Region is on the record as favoring initial event as center tank explosion and has it's own pet theory for mystery ignition source. Now that you know about the stator blade, can you alter your explanation based on new evidence?

Mr. Breneman, as a structural engineer, what is your opinion about the outward or inward direction of the force that caused the shattered fuselage skin forward of the wing on the right side?

Mr. Wildey, you are a metal expert, what is your opinion of the direction of the force based on the metal evidence? Does the evidence of the red paint, bulge, outward skin, maintenance hatch, down beams, hoop stress, stator, streak, and missing latches indicate to you inward or outward?

Mr. Streeter, you are the safety expert, what is your opinion of the direction of the force which shattered, twisted, and tore that twenty foot wide and forty foot high section of fuselage skin of TWA 800?

Based upon the new faulty wiring revelations about 767s and 737s is it not reasonable for me to say it's a problem with 747s also? Especially when I point to NTSB AAR 92/02 for UAL 811 which had the exact faulty wiring problem I suggest started TWA 800.

Byron Acohido of Seattle Times told me after an interview he had with Dr. Loeb a year ago: (and nobody is lying)
"I, in fact, did grill several sources very hard about the forward cargo
door evidence, including Bernie Loeb. Unless everyone involved is
lying, (an assumption you'll no doubt make) there is nothing on the
cargo door that indicates it came loose and was the initiating event.
All locks and latches were found in proper positions.

According to Bernie Loeb, early information that the door was found in
the red zone was incorrect. It was found in the yellow zone, along with
all major parts of the forward fuselage section."

Well, you see, that's not true now. All locks and all latches were not found in the proper position. I know that for sure; only eight of ten were checked according to Mr. Breneman and Mr. Wildey. Pieces of the door and local area were found in the red zone and changed in status administratively after the fact. Mr. Wildey explained why that happened.

I use our words to try to find out what is going on; they may or may not be flattering but it's the only clue I have to the official thinking on the subject. I am open and expect my words to be discussed with others. I am quite prepared to support each statement with documentation and source. Good guys are open; bad guys are secretive; especially on a civilian airliner accident in peacetime in US waters. This bomb/missile FBI craziness has hurt the TWA 800 investigation with meddling and suppression of evidence. It's not right. It's intimidation.
UAL 811 was an (1) aged (2) high flight time (3) early model Boeing 747 (4) which took off in low light (5) running late (6) and during climb (7) experienced a sudden initial event near the leading edge of wing in fuselage which left a (8) short (9) sudden (10) loud (11) sound on the cockpit voice recorder, an (12) abrupt (13) power cut to the flight data recorder, (14) foreign object damage to starboard engine #3, (15) more severe inflight damage on starboard side, (16) at least nine never recovered bodies, (17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area on starboard side, (19) unusual paint smears in forward cargo door area, (20) rupture appearance of skin at aft midspan latch of the forward cargo door, (21) outward peeled skin on upper forward fuselage, (22) vertical fuselage tear lines forward of the wing and aft of forward cargo door, (23) had hinge stay attached to detached top piece of forward cargo door, (24) cargo door opened in flight, and (25) destruction initially thought to be have been caused by a bomb but (26) later conclusively ruled out.

And so was TWA 800.

These significant evidence matches must not be ignored but integrated into the TWA 800 probable cause for it to be conclusive.

The direction of force which shattered the right side of TWA 800 must be conclusively determined. Which way was it, inward or outward?

Sincerely,
John Barry Smith  
551 Country Club Drive  
Carmel Valley, CA 93924  
408 659 3552  
barry@corazon.com  
www.corazon.com  

Supporting documentation and statements below:  

1. Date: 08 Jan 1998 16:04:05 -0500  
From: Lyle Streeter <Lyle.Streeter@faa.dot.gov>  
To: barry@corazon.com (IPM Return requested) (Receipt notification requested)  
Subject: Re: Wiring before door, door before center tank  

   Mr. Smith - latest word in on the Cairo divert is that there was no fire,  
   but a faulty detection system. Wiring problems are still a potential area  
   of concern.  

   I have passed your comments along to the investigators in TWA800.  

   Lyle Streeter  

2. "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB)."
3. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and "The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." This observation matches downward buckling as was reported in AAR 92/02, page 4, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward."

4. Evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. This observation coincides with AAR 92/02 which states on page 11, "The cargo door and its associated hardware are designed to carry circumferential (hoop) load arising from pressurization of the airplane."

5. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

6. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800,
Pan Am 103, Air India 182, and United Airlines 811 are plotted together in that sequence by the NTSB.

7. Testimony at TWA public hearing, Mr. Wildey, "Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence. The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this 25 area."

8. Mr. Neil Schalekamp of FAA, "While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

9. Chairman Jim Hall of NTSB, "However, to repeat, the investigation of the accident involving TWA flight 800 has revealed no evidence to suggest that a failure of a cargo door precipitated the event."

10. >Date: Wed, 05 Feb 1997 12:34:04 -0800
    >From: Donald Lawson <DLawson@mntry.nps.navy.mil>
To: barry@corazon.com
Subject: 747 cargo door final report

>>From the head of the NTSB team working TWA 800:

1. He personally, even again this morning, looked at all the doors from the airplane. All latches were either destroyed or in closed positions. The destroyed latches were adjacent to ones in closed positions.

2. Nobody associated with the investigation is considering further a cargo/passenger door malfunction to be part of the probable cause of this accident. Door problems have been categorically ruled out because there is simply no evidence pointing to the doors (and latches). that.

11. Docket No. SA-516, Exhibit 15C, Section 41/42, Forward Cargo Door, dated 22 April 1997, with Mr. Al Dickinson, AS-10, listed as investigator and Mr. Wildey as author, states, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

12. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. Among all the charts of pieces of the plane coming off and when, there is one chart that shows the first to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. That item left even before the last ASR radar beacon to Islip radar. The next item to go before anything else in the entire plane is A470, R fwd
lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-42R is shown to leave very early.

13. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

14. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

15. Mr. Breneman, FAA, "The nose section of the airplane impacted the water on the right side, causing severe hydraulic damage with the result that the door structure did not remain completely intact. However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the right side. This is additional verification that the forward cargo door had not opened in flight or separated from the airplane."

16. Chairman Hall of NTSB, "We are by no means finished. Our work will continue and we will spare no effort to determine the cause of the crash of TWA 800."

17. Chairman Hall of NTSB, "We're going to look for the needle in the haystack and go back over the 150 miles of wire that are there in the Calverton hangar, and see if that shows any evidence
of arcing or other information that will lead us in the direction" of a probable cause."

18. From: Dickinson Al <DICKINA@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: mechanical crash cause
Date: Thu, 19 Sep 1996 19:04:00 -0400
Encoding: 129 TEXT
Status:

Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been noted by the crew and recorded on the CVR. We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter. Thank you for your interest in aviation safety.

19. Mr. Wildey's testimony at public hearing: "This was brought to our attention, and the reason that we examined this was that three of the four nose landing doors had a red tag and were recovered from the
earliest part of the debris field and, similarly, around the nose landing gear area there were some fuselage pieces that were recovered that had a red tag on it and were supposedly recovered from the red « earliest debris field. Of course it became a very distinct question, well, what happened up there, how did these pieces, the fuselage pieces in the doors get into the red zone? Well, our group took this as a task to look at. We made a report on it and we determined that, for example, on the doors themselves that, yes, those doors apparently did come off the airplane. They had a lack of damage on them that was consistent with early departure. We developed some hypotheses and scenarios that could allow the doors to depart from the airplane very early in the sequence, and it is consistent with the factual observations we have made.

so, for the doors we said, yes, it appears as though we have a sequence that could account for the doors to come off early, and we also examined the fuselage pieces right around there that had red tags on them, and we looked at all the features we could find, and for the fuselage pieces around there we said we find no physical evidence to suggest that those particular pieces actually departed the airplane early on in the sequence. I think, if I remember our report, we said we believed that those particular pieces should be treated as yellow zone parts because we don't find any way that they could possibly have come off the airplane early in the sequence and actually have been found in the red debris field.
Just as a side note, I am aware that the tags on those particular fuselage pieces from around the nose area are the so-called 2,000 series tags, and that is not my area of expertise, but these are the "these tags had some questions about their pedigree, if you will. But, that is really not our concern. We are saying, and our group said that we don't believe those are red zone parts and we would treat those as yellow zone parts for the purposes of analyzing the break-up sequence."

20. Testimony of Mr. Wildey at public hearing, "First of all, the conclusions reached by the Sequencing Group eliminated a large scale structural problem away from the wing center section fuel tank. Specific areas that were eliminated as factors include the section 4142 fuselage joint in the forward cargo door. A report on these subjects is contained in Exhibit 15(c). The section 4142 fuselage joint is located in station 520 at the forward end of the reconstructed portion of the airplane, and you can see that right here (demonstrating). Although there have been some manufacturing alignment problems associated with this joint, the accident airplane contained absolutely no evidence of pre-existing weaknesses at this point, or that the joint separated in any manner before the nose section impacted the water relatively intact. Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up
sequence.
The door was in this position and was part of
the nose section when it impacted the water.
Basically, for these two items you can see they are
both part of the nose section and that there are no
separations or failures prior to water impact in this
25 area."

21. MR. STREETER: Yes, Mr. Chairman. For Mr.
Wildey, a couple of items here for clarification.
Specifically out of the red area, were there any
fuselage skins in that area that showed any type of
hoop tension failure (inaudible).
WITNESS WILDEY: Yes, we tried to document
that and it is contained within our report. One of the
figures that I used did show this hoop tension type of
fracture. That occurred at the initial point of the
fuselage fracture at stringer forty right.
There were also other areas where you could
not see any evidence of a running fracture that we
classified as -- basically, from pure hoop tension, but
on either side of these other areas the fracture was
running into it and then out of it in the other
direction.
so, the only real area that we saw was
associated with stringer forty « excuse me « yes,
fourty right where the fuselage cracking initiated as it
came down through the front spar.
MR. STREETER: The one other area that was
mentioned in your testimony regarding span-wise beam 3
failing in the forward direction, in Exhibit 18(a) you
discussed where a portion of span-wise beam 2 was found
in the red area.
Now, are there any inconsistencies of that, or is that related to the fuselage opening up? My concern is, would you have expected span-wise beam 2 to end up elsewhere?

WITNESS WILDEY: Well, I don’t know if we had any expectations, or if you could really expect what would happen, because we just don’t really know. But, there was a manufacturing access door from span-wise beam 2 just behind span-wise beam 3, and this door was found in the red zone and had no soot or fire damage on it consistent with very early departure and with its recovery position.

It clearly indicates that this door separated as part of the initial event and was blown out as part -- as was span-wise beam 3 and the front spar, and came out through the same hole in the lower fuselage that was created in the belly skin just in front of the front spar.

CHAIRMAN HALL: What is a manufacturing access door? Can you describe that for us?

WITNESS WILDEY: It is a door that is provided in span-wise beam 2 for access during the manufacturing process. It is then rivetted up and you can’t really get in there after that.

There are other doors that are maintenance access doors that can be disassembled and reassembled. This is a door that is rivetted back up during the manufacturing process and is not really there.

CHAIRMAN HALL: The approximate size of this piece?

WITNESS WILDEY: It is about two feet by three feet. It is an oval-shaped door.

CHAIRMAN HALL: Thank you.
WITNESS WILDEY: Did that answer your question, Mr. Streeter?
MR. STREETER: I think so. The main thing I am trying to get at is, again, with that piece in that position, your group didn’t see any reason for that to cause any concern as far as your break-up sequence design, is that correct?
WITNESS WILDEY? Well, our sequence does take into account how this door << we list several possible ways for this door to have come off. I don’t know that we reached an absolute firm conclusion as to exactly how that happened, but surely during the initial explosion or shortly thereafter this door was broken from its perimeter, and we see significant evidence that the door was pushed in the forward direction after part of it failed and, so, it came out while there was still pressure behind it to push it out, so it is part of the initial event.
We do not see any evidence of a bomb or any kind of explosion features right on the door, itself.
so, it appears that part of the door perimeter was ripped apart and then the pressure behind the door pushed it in the forward direction. It hit the top of the tank and then got blown out into the earliest portion of the recovery field.

22. Summary of Docket evidence:

1. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main
deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."

2. Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11 which discusses direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only.

3. Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

4. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

5. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted together in that sequence.

6. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. One chart that shows the first items to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-40R is shown to leave
very early.
7. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."
8. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

23. FAA web page states, "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB).

24. Specific suggestions:
1. Examine aft midspan latch pin for damage as was observed on UAL 811, NTSB AAR 92/02 page 33, "The forward midspan latch pin was relatively undamaged. The aft midspan latch pin had definite areas of damage. Both pins had wear areas where the cams would contact the pins during latching.
2. Examine the TWA 800 door hinge for damage as was observed in AAR 92/02, page 35, "Several areas on the hinge sections, such as the fuselage hinge sections, showed evidence of contact from the door during overtravel (See figure 14.) In addition the fuselage forward hinge sections were slightly bent." Figure 14 is on page 40 and shows photograph of the hinge overtravel damage.
3. Examine two midspan latches from forward cargo door for damage. The criterion for determining if latches latched was to check to see if still locked and attached to adjacent fuselage sill
or frame. The bottom eight latches of TWA 800 door were attached to sill so conclusion latched. The two midspan latches are unattached to frame so conclusion unlatched. The door frame is smooth where the aft midspan latch is supposed to be attached but isn't.

4. Examine forward and aft pull-in hooks of TWA 800 for compression and smearing damage as was observed in AAR 92/02, page 45.

5. Examine door and fuselage for paint transfer from one to the other as was observed in AAR 92/02, page 41. Red paint smears on TWA 800 on white paint between passenger windows above cargo door may have come from red paint on top of cargo door. The red paint smears are large and frequent only along the top of the cargo door area and not found on the other 460 feet of fuselage trim. This indicates door below opened outward and slammed upward into fuselage, giving overtravel over 143 degrees on the hinge and transferring red paint from door onto white paint between passenger windows. The opening door with hinge attached took red trim fuselage skin with it and that may have slammed upward also onto white painted skin. Red paint smears are not scraped away white paint revealing red underneath but red paint on top of white paint. White paint scraped away reveals green primer.

6. Examine outer skin contour of the upper door piece for inward crushing as was observed in AAR 92/02, page 41. Door blows outward and top of door smashes into fuselage above giving inward crushing not by water impact. Photo of TWA 800 top door piece shows such damage.

7. Examine master latch lock handle housing and trigger for position. AAR 92/02, page 41, found it relatively flush with door outer skin.

8. Examine floor beams again of TWA 800 to confirm statement in Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page
20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." This observation matches downward buckling as was reported in AAR 92/02, page 4, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward."

9. Confirm evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. This observation coincides with AAR 92/02 which states on page 11, "The cargo door and its associated hardware are designed to carry circumferential (hoop) load arising from pressurization of the airplane." If cargo door was fully latched and intact until water impact then there should be no hoop tension fractures. If the door was missing in flight, hoop tension fractures could be expected to be found and they were on TWA 800 leading to conclusion door was missing in flight.

10. Confirm door frame of TWA 800 which abuts aft edge of door is curved outward in petal shaped bulge indicating outward force rupture. Aft midspan latch is unattached to aft midspan latch pin halfway up the door frame. Edge of door frame is smooth indicating door not missing by force but by unlatching of aft midspan latch.

11. Establish large round rupture hole in TWA 800 photo centered at aft midspan latch is in fact a hole or something otherwise.
12. Confirm outward peeled skin on TWA 800 upper skin as shown in photograph which indicates outward force which matches AAR 92/02, page 6 photograph of peeled upper skin in same location.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:09 AM PDT
To: FAA
Subject: Fwd: Three contradictions

Date: Mon, 23 Feb 1998 06:21:49 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Three contradictions
Cc:
Bcc:
X-Attachments:
Dear Mr. Wildey, 23 Feb 98

Thanks for prompt reply. As I read your position, it is the same as at the conclusion of the public hearing which is to say, all doors all latched, all locked, and all intact at water impact; all damage on right side forward of the wing caused by water impact damage, door stayed closed all the way to water impact, and door did not open in flight.

The three contradictions which I believe have become apparent are:

1. Door opened in flight from outward explosion not stayed closed to water impact.
2. Damage on right side happened in flight from outward
explosion not water impact.
3. Door not all latched but possibly two latches unlatched.

The individual within FAA is not just any individual, he's a member of the same directorate that made the initial conclusion of all latched based upon only 8 of 10 latches checked upon which Ex 15C relied. The directorate has delicately changed position from all latched to water impact to the outward structural deformation and paint markings indicate outward. If ever asked if they think door opened or closed in flight, they will state officially, based on evidence of paint and deformation, door opened in flight, outward explosion, and it was all caused by the center tank explosion. This contradicts your statement, based upon the best knowledge you had at the time, that nose intact at water impact, no outward explosion, and door all latched and did not open in flight.

"Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence. The door was in this position and was part of the nose section when it impacted the water. Basically, for these two items you can see they are both part of the nose section and that there are no separations or failures prior to water impact in this 25 area."

>FAA: "While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the
center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident." Mr. Neil Shalekamp, Manager.

The factual docket contains the CDROM that has the pictures of TWA 800 reconstruction showing outward explosion giving structural deformation and paint markings indicating door opened in flight. Hoop stress NTSB testimony indicates cargo door opened flight.

It now turns out, after recent investigation, that the door did not initiate the destruction of TWA 800, but probably water to chafed wiring to turn door motor on to unlatch door to aft midspan rupture did. Need chafed wire to confirm.

In researching TWA 800 and others I have come across many explanations. Most of the presenters don't use NTSB documents and very quickly use the word coverup. I don't.

I believe everyone is trying the best they can. I use NTSB documents. I have written reports composed of many writer's inputs. I understand how some parts may appear to conflict with other parts. It is not part of a coverup but various people's opinions which may slightly differ. I belive that confirmed contradictions will be resolved and corrected statements made in subsequent drafts of the 800 report. It's the way the system
works, slow, but honest.

Should observation of the shattered cargo door become apparent that it is not water impact but a clearly defined rectangle of explosive decompression that can be discerned by looking at the NTSB picture, the question will be, why did we not look at this area before? The answer will be because author of Ex 15C, Mr. James Wildey II, said there was nothing unusual there. Then the question will be, paint markings not unusual, outward deformation not unusual, outward bulge at aft latch not unusual, missing midspan latches not unusual, only checking eight of the ten latches not unusual?

It's all unusual and needs to be resolved. It can be. A complete examination of the right side forward of the wing is a start. An explanation for the unusual points will make a revised 15C.

You relied on hasty and incomplete data to base conclusion of 15C of all latched and water impact did the damage. It's not your fault. Mr. Dickinson got his information from Mr. Brenneman. Mr. Brenneman did his job quickly. Now there is time to do it carefully. Not all latched. Not all water impact damage. Not door closed until water impact. Yes, maybe two latches unlatched. Yes outward explosive force caused outward deformation and paint markings, yes door opened in flight.

Are the contradictions trivial? No, in my opinion. The area in dispute is the exact area where the first items left TWA 800 at initial event, forward of the wing on the right side. The trajectory study gives documentation of that. This area is the most important on the whole plane after CWT.

The maintenance hatch in CWT is unburned and found in red
zone. It could be the streak source of reflecting evening sunlight off shiny object and being perceived as red-orange streak. The missing hatch opening could have been the avenue in which the long tail of flame emanating from fodded on fire engine number three entered and ignited the CWT. The ignition source and how it got there are answered. Stator blade in right horizontal stabilizer indicates engine number three came apart in the air.

As a member of the government for 24 years, I realize the intricacies of office politics. Should it become confirmed by authority higher than FAA Directorate that cargo door opened in flight and damage was outward explosion, not water impact, the author of EX 15C will be in the hotseat because 15C says opposite and was not corrected when contradictions pointed out.

But look for yourself at the entire reconstruction of TWA 800 on starboard side forward of the wing. It is apparent it was outward explosion. Do we agree? It is not subtle. FAA agreed but said it was center tank explosion that did it. I say explosive decompression did it; regardless, outward not inward. The metal tells the story and it's peeled outward. You're the metal expert. You're the 811 expert, you must agree that right side cargo door area is similar for 800 and 811 in shape of metal skin loss, the direction outward of deformation, hinge, and paint markings.

15C says all latched and that's not right. 15C says door closed until water impact and that's not right. 15C says all damage caused by water impact and that's not right. They are very significant differences.

To let things stand the way they are is wrong. To do nothing is wrong. I realize the implications of door open in flight confirmation to the breakup sequence you laboriously made. And
it's all correct from instant of ignition onward. All before is in dispute.

Thanks again for prompt reply. As long as there is discussion going on, minds may change, including mine. As you can see, I appreciate all your comments and analyze them carefully.

Regards,

John Barry Smith

> Mr. Smith: To the best of my knowledge (and I have checked), there are no contradictions between what the FAA believes and what the NTSB believes in regard to the forward cargo door, despite any correspondence you may have received from individuals within the FAA. The public docket on this accident contains the factual information generated so far. This information has been reviewed by the technical experts from the parties (including the FAA) and is the only proper source of information. Based on this factual information, the Safety Board has concluded that the cargo door did not initiate the destruction of TWA flight 800.
Hello again. John Barry Smith here. Please resolve contradictions of NTSB saying 1. forward cargo door was all latched, all locked, and all intact at water impact which caused right side forward of the wing damage of TWA 800 as shown in Exhibit 15C, author Mr. James Wildey II, and 2. the FAA saying right side structural deformation and paint markings indicate outward explosion, the door blew open in flight, and the NTSB initial event of center tank explosion caused the door to open in flight.

Two discrepancies of vital importance:

1. Right side damage around cargo door area from internal explosion or external water impact?
2. Cargo door open in flight or stay closed until water impact when it shattered?

The new interpretation is correct, Mr. Wildey, exactly as you predicted in your exhibit report excerpt below:

Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, you write: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

FAA Airplane Transportation Directorate, from which you relied on for data to base your conclusions in Exhibit 15C, now says that when cargo door opened inflight (as a result of CWT explosion) it may have flown far afield. That would explain the discrepancy of the cargo bay structure that were found in places not expected.

Will you engage in email exchange to discuss these items of safety? We are on the same side, Mr. Wildey.

NTSB AAR 92/02 UAL 811 is the bedrock of facts, data, and evidence. The 26 significant similarities to TWA 800 listed later can not be ignored.

Stator blade is the real item that proves more investigation to be done on TWA 800: Engines are involved.

Sudden loud sound is the linchpin to entire wiring/cargo door explanation for four fatal 747s accidents. It matches other cargo door opening explosive decompression accidents, including UAL 811.
I earlier had said to you condensed water had fallen into chafed bare wires in forward cargo hold, now it turns out some fluid did that very thing in a Boeing 737 and caused flight attitude difficulties. (This might explain Silk Air 737 and other strange 737 accidents.)

Please take some action, Mr. Wildey, there is enough real data in this email to justify an upgrade to Exhibit 15C, at least.

Email me with technical questions if you wish, refer me to Dr. Loeb, have someone as knowledgable as you are contact me for discussion. I am taking action by writing to you with results of my thousands of hours of research motivated by my near death experience in a sudden night fiery fatal jet airplane crash. These discrepancies in the structural breakup sequence are vitally important and must be resolved and any corrections made, if needed.

Does the outward peeled fuselage skin, the outward bulge at aft midspan latch of forward cargo door, the red paint markings above the cargo door, and location of door area pieces of debris indicate that the door opened in flight? And that the cause of door opening in flight was the explosion of the CWT?

It's interesting that all the doors in the area operated abnormally, the nose landing gear doors, the maintenance door in wing, and of course, the big one, the forward cargo door. That lower lobe has failed before.

Time for some success.

Regards,
Mr. James Wildey: "The Safety Board has received your letter to the Chairman, dated December 30, 1997, concerning the possibility that the TWA 800 accident was related to an in-flight opening of a cargo door. As conveyed to you in previous letters we have sent you, the Safety Board believes that sufficient facts have been gathered to rule out this possibility."

FAA: "While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident." Mr. Neil Shalekamp, Manager.

NTSB: "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill." James Wildey II

UAL 811 was an (1) aged (2) high flight time (3) early model Boeing 747 (4) which took off in low light (5) running late (6)
and during climb (7) experienced a sudden initial event near the leading edge of wing in fuselage which left a (8) short (9) sudden (10) loud (11) sound on the cockpit voice recorder, an (12) abrupt (13) power cut to the flight data recorder, (14) foreign object damage to starboard engine #3, (15) more severe inflight damage on starboard side, (16) at least nine never recovered bodies, (17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area on starboard side, (19) unusual paint smears in forward cargo door area, (20) rupture appearance of skin at aft midspan latch of the forward cargo door, (21) outward peeled skin on upper forward fuselage, (22) vertical fuselage tear lines forward of the wing and aft of forward cargo door, (23) had hinge stay attached to detached top piece of forward cargo door, (24) cargo door opened in flight, and (25) destruction initially thought to be have been caused by a bomb but (26) later conclusively ruled out.

So was TWA 800.

AAIB Aircraft Incident Report No: 1/98 (EW/C95/10/4)
Synopsis The incident was notified promptly to the Air Accidents Investigation Branch (AAIB) by the operator and the investigation began that evening. The AAIB team comprised Mr D F King (Investigator-in-Charge), Mr P D Gilmartin (Operations), Mr C G Pollard (Engineering), Mr S W Moss (Engineering), Mr A N Cable (Engineering) Ms A Evans (Flight Recorders). The crew reported at 1330 hrs at Gatwick to carry out a post-heavy maintenance check, test flight on the aircraft. The first officer (F/O) completed the external check, while the
commander completed the 'Flight Deck Preparation' items of the aircraft checklist. A Standby (STBY) Rudder system check was carried out with no abnormalities noted and during taxi before take-off, the Yaw Damper indicator showed normal response to turns. When the aircraft was in straight and level flight at FL200 with an indicated airspeed of 290 kt, Autopilot and Autothrottle engaged and Yaw Damper ON, the aircraft experienced roll/yaw oscillations. The Flight Data Recorder (FDR) showed that the Autopilot and Autothrottle were disengaged, and the commander reported that the Yaw Damper was switched OFF but the crew were unable to stop the oscillations. A MAYDAY call was broadcast at 1609 hrs. The crew had the impression that the bank angle would have continued to increase had opposite roll control inputs not been applied.

>(b) Causal factors The investigation identified the following causal factors: 1 Contamination of the connector on the Yaw Damper Coupler, in the E&E Bay, by an unidentified fluid had occurred at some time prior to the incident flight and compromised the function of its pin to pin insulation.
Dear Mr. Wildey,

13 Feb 98

I need to talk to the TWA 800 chief theoretician, whoever that is. The evidence is clear, door opened in flight, now discussion on what it means needs to take place. Can you arrange a meeting of minds?

An important new agreement has been implicitly agreed upon by FAA and NTSB regarding the forward cargo door of TWA 800: It opened in flight. It was not all latched and all locked and all intact at water impact but separated in flight. The new
conjectured cause of the door opening in flight has been identified as the center tank explosion as the initial event. I offer evidence that the initial event was bare chafed wire shorting to ground and turning on door unlatch motor leading to rupture at aft midspan latch leading to explosive decompression leading to nose off leading to center tank explosion in observed fireball.

FAA and NTSB position is center tank explosion and soon thereafter forward cargo door separated in flight. I contend door separated in flight and soon thereafter the center tank exploded. The difference in agreement is which came first, the tank explosion, then the door separation; or door separated, then center tank explosion. The evidence on hand reveals the correct sequence.

I have attached a letter requesting to be interviewed by aircraft accident investigator professionals regarding this door first sequence. The letter lays out the reasons for door first then tank explosion, and against tank first, then door separation. I wish to speak with the chief TWA 800 theoretician.

The conclusion of door opened in flight may appear reasonable and is. The implications of that conclusion are profound. It cracks the case for TWA 800. It explains the evidence. It matches other door opened in flight Boeing 747 accidents from which other conclusions may be drawn. It makes clear the forest of four cargo door separating in flight 747 accidents of which TWA 800 is but the latest and probably not the last.

Four fatal 747 accidents in which the aft midspan latch is ruptured and the forward cargo door separated in flight: AI 182, PA 103, UAL 811, and TWA 800, and the cause is the same, either all bombs, or all missiles, or all center tank explosions or
all meteors, or all chafed wire shorting to ground...as clearly described in NTSB AAR 92/02 for UAL 811, the tree in the forest that was not totally cut down and thus available to be examined closely for the cause that almost did it in.

Door separating first in flight explains streak, explains the non-burned bodies, explains the ignition source of the fireball, explains the abrupt stop of sooting on top of fuselage, explains intact passenger door and shattered nearby cargo door, explains location of cargo bay wreckage in red zone, explains sudden loud sound on CVR, and explains abrupt power cut to FDR.

The next step is to examine the wreckage reconstruction of TWA 800 for bare chafed wires in the forward cargo hold that match AAR 92/02 bare wires on page 54 with enlargement on page 55.

As always, I invite questions and demands for documentation to support my claims.

Very Respectfully Submitted,

John Barry Smith
551 Country Club Drive,
Carmel Valley, CA 93924
408 659 3552

James Hall
Chairman,
National Transportation Safety Board
Robert Francis II
Vice Chairman
National Transportation Safety Board

Sam Farr
Member of Congress
17th District, California
House of Representatives
Congress of the United States
Washington, DC

John McCain
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
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Thomas E. Haueter
Chief, Major Investigations Division
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National Resource Specialist
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FAA AAI
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Thomas McSweeny
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Doug Kirkpatrick
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Neil Schalekamp
Manager, Propulsion/Mechanical Systems and Cabin Safety Branch
Transport Standards Staff
Transport Airplane Directorate
Aircraft Certification Service
FAA, DOT

Ron Wojnar,
Manager
Federal Aviation Administration
Transport Airplane Directorate,

Dear Chairman Hall,
I'm making a plea to you, sir; please interview me. Please interrogate me. Please question me. Please evaluate my intelligence analysis.

I quote you, sir, "The public hearing concluded on December 12, 1997, but the investigation will remain open. The Safety Board may at its discretion again reopen the hearing in order to make any new information part of the public record."

Please do that, Chairman Hall. Reopen the hearing, I suggest in Renton Washington or Calverton, and invite all the parties to include the engine manufacturer and examine all the exhibits to include the eyewitness, powerplant group, and wreckage plot.

Be a judge this time, not a prosecutor, and demand high standards of proof from each explanation group, CWT, bomb, missile, cargo door/wiring, and meteor. Please allow each explanation two hours. Give questions to rebut from your best investigators. Photographs, sounds, text, reports and idle speculation allowed. Stipulate all of the listed causes could have happened, but did they happen?

In the meantime, an important sequence event has been agreed upon by FAA: cargo door opened in flight for TWA 800.

Mr. Neil Schalekamp, Manager, Propulsion/Mechanical Systems and Cabin Safety Branch, the same directorate that earlier said forward cargo door all latched, all locked, and all intact until water impact has reevaluated that conclusion. Here is the new one in a 30 Jan 98 letter to me:
"While no one scenario has been categorically proven to the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

This is coupled with your statement to me of 19 Dec 97 in which you said:

"However, to repeat, the investigation of the accident involving TWA flight 800 has revealed no evidence to suggest that a failure of a cargo door precipitated the event."

An important agreement has been reached: Forward cargo door opened in flight. The implications are profound.

As I read the implications of the two official statements:

1. Door opened and separated in flight.
2. Door opening and separation caused by CWT explosion.
3. Door flew far away.
4. Outward peeled skin and bulging at aft latch caused by outward force of CWT explosion which blew door open to separation.
5. Door area damage, structural deformation, not caused by water impact but by CWT explosion.
6. Shiny metal object was in air to reflect evening red orange
sunlight.
7. CWT as initial event is 'believed,' 'based upon available data' to be correct but not certain and amenable with new data to be revised.

"...no evidence to suggest that a failure of a cargo door precipitated the event."

The implications of that statement are:

1. Cargo door failed in flight.
2. Failure of cargo door did not start the initial event.

To put the two statements together for current FAA and NTSB position:

1. Evidence shows cargo door opened in flight.
2. Belief is CWT explosion caused door to open in flight which caused paint markings and structural deformation.
3. Initial event which blew cargo door open was a CWT explosion.
4. Position is subject to change upon new evidence or interpretation of existing evidence.

The acceptance that the cargo door opened in flight may appear as a reasonable consequence to a large fuel explosion nearby. Fine. Let us agree solidly that the forward cargo door opened in flight and left paint markings and outward peeled skin as evidence. Why it opened is the next explanation sought. Here are the ones offered:

1. CWT blew door open which also blew nose off.
2. Bomb blew CWT up which blew door open and blew nose off.
3. Missile blew CWT up which blew door open and blew nose off.
4. Meteor blew CWT up which blew door open and blew nose off.
5. Electrical short from chafed poly x wiring turned on door motor to unlatch position which resulted in aft midspan latch rupture to door open to explosive decompression to blown away bottom of cargo hold to nose off to fireball and center tank explosion ignited by on fire engine number three or four to water impact.

May we agree to eliminate missile, meteor and bomb from lack of evidence in this discussion? Destruction sequence came from within, not without.

So, if CWT blew door open, it must have happened very quickly after explosion which means we are less than a second apart in agreement. If open door led to CWT explosion the time is still less than a minute. Altitude of initial event is within a few seconds also. Location in air of door opening is within a few miles. Location of initial event on TWA 800 is within a few feet. We are so close to agreement on initial event, Mr. Chairman.

After it is solidly agreed upon that door opened in flight, then many avenues of investigation open up, such as have there ever been any other high time Boeing 747s that shortly after take off suffered a door opening that left a sudden loud sound on the CVR and an abrupt power cut to the FDR? Yes, of course, UAL 811. UAL 811 open door cause was chafed bare wire shorted to metal. I contend it happened again with TWA 800, known to have poly-x wiring and a non strengthened Section 41 retrofit.

NTSB Chart 12 of Exhibit 12B groups AI 182, PA 103, UAL
811, and TWA 800, all of which had forward cargo door opening event and all have different reasons why it happened. The important thing is cargo door opened in flight for those four. In fact, they all had aft midspan latch ruptures in the door, according to the government accident reports.

Which has more credence: a CWT as initial event and door blowing open as secondary event; or door opening as initial event and CWT explosion as secondary event. I contend the latter.

Boeing 747s suffer fireball and wing tank explosions as a secondary result of hull rupture, just recently the Saudi Airlines Boeing 747 burst into a fireball when hull ruptured by midair with a cargo plane. It has more credence to say fireball/fuel tank explosion happens after a catastrophic structural failure, not as the cause. I contend the center tank did explode on TWA 800 and it happened during the observed fireball; not before it nor after, but during. To say a center tank exploded during an observed fireball has more credence. To say the CWT explosion occurred before the fireball and was unseen has less credence.

CWT explosion as secondary event has more credence than initial event. As initial event CWT explosion has never happened on a 747. As secondary event fireballs have occurred before such as Saudi Airlines and PA 103 whose center wing tank and wing fell flaming down onto Lockerbie. Both wings were on fire and both secondary events to hull rupture in flight.

Now for door opening as secondary event to CWT explosion. When the CWT exploded it did not blow open the latched and locked passenger door nearby the shattered and opened forward cargo door of TWA 800. An all latched door to blow open at the
door frame from a fluid explosion is rare. Or if the CWT explosion blew the forward cargo door open, why not the closer passenger door which is intact and in place on the wreckage reconstruction? The answer is the CWT was not the initial event.

It has more credence, based upon past accidents, that the initial event was door opening leading to structural failure leading to CWT explosion and observed fireball. It has less credence that initial event was CWT explosion leading to passenger door intact and further away cargo door all shattered and blown open. There are other reasons to believe door opened before CWT explosion:

A center tank explosion as initial event has lower credence because:

1. Above center tank is a long fuselage skin tear line one side of which has soot markings and the other side, an inch away, is pure white, untouched by flame. There was an explosion which sooted that white skin above tank but it had to happen after the nose separated. An initial event of CWT would have sooted the entire area, on both sides of tear line, not just one side.

2. A CWT explosion strong enough to blow door open and nose off would be picked up by CVR and wasn't. Sudden loud sound on CVR does not match fuel explosion but does match previous cargo door explosive decompression in a DC-10 and UAL 811; and other high time Boeing 747 fatal accidents which were not center tank explosions, AI 182, PA 103, as shown by Chart 12 of NTSB exhibit 12B which groups them all with CVR printout of the that rare event of sudden loud sound followed by abrupt power cut to FDR. None was CWT explosion.

3. A CWT explosion pressure wave is slower than a bomb and
the power cut to the FDR would not be as sudden as it was. The abrupt power cut matches abrupt power cut to UAL 811, a non CWT event.

4. A center tank explosion would give center damage, not unilateral. An explosion would give more or less equal in flight damage to both fuselage sides forward of the wing and yet the damage is unilateral with the port side very smooth, and the right side shattered. Key word is 'center' and it wasn't.

5. A CWT explosion as initial event which was strong enough to blow nose of 747 would burn those in the vicinity, that is, those passengers above and forward of the center tank. They weren't. They were not burned because they were not there to be burned.

6. CWT explosion would fod engines more or less equally. The unconfirmed evidence shows only engine number three fodded, burnt, stator missing, and landing apart from other engines.

7. CWT explosion as initial event strong enough to blow nose off would be strong enough to blow up other fuel tanks, an event that took place 42 seconds later and thousands of feet lower at 7500 feet giving fireball observed by eyewitnesses, but not initially.

8. Leaking fuel on fire from aircraft does not present as streak, it presents as a fire close in to aircraft and white smoke, not a light steak far away from plane. Photo of midair with Boeing 727 shows leaking fuel tank fire close in to craft, white smoke, and no streak. Fire was secondary event, not initial.

9. CWT explosion can occur with midair. A structural breakup of a Boeing 747 which is disintegrating in flight can catch fire into a fireball as shown by the Saudi Arabian Airlines Boeing 747
involved in a midair over India. The initial event was not a center tank fire/explosion and yet there was a fireball.

10. Eyewitness pilot saw the fireball of TWA 800 and stated altitude of fireball was 7500 feet, yet the initial event for TWA 800 was at 13700 feet. No fireball at 13700 feet reported. A center tank explosion as initial event strong enough to blow off nose of 747 would have had to be silent, have no visible fire, weak enough to not blow up adjacent tanks, and leave strange soot marks. Very unlikely with low credence.

11. Center tank fire as secondary event has high credence. It was seen by observers, it was not heard on CVR because power had earlier been cut, the soot marks match the sooted skin above the tank but not above the earlier detached nose, the tank was torn apart by destructive wind forces as it fell, ignition sources were nearby to ignite the fuel vapor cloud as it dispersed from compromised wing, and the passengers were not burned because they were not there to be burned. They had earlier been thrown outside into the slipstream of the gaping hole where the nose had been while the forward passengers continued on with the nose to water impact, unburned.

An electrical short to door motor as initial event has higher credence because:

1. Explosive decompression produces loud sound and mimics a bomb for pressure damage on seats and baggage. The force of explosive decompression as a consequence of hull rupture at cargo door mimics the force of an internal fuel explosion on force of floor beams and stringers and and outward force on skin. It is not unusual for the explosive decompression from an open door to be overlooked at first examination; the effects are subtle,
the cause is compressed air molecules which leave no trace, and it is an unpopular interpretation.

2. NTSB computer simulation traced inflight breakup of TWA 800 to above and forward of the wing on the right side, exactly where the hole is formed when the cargo door tears away with fuselage skin.

3. First objects to leave TWA 800 at event time came from the forward cargo hold, as described in Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. Among all the charts of pieces of the plane coming off and when, there is one chart that shows the first to go, that is page 30 chart, Forward Cargo Structure trajectories. The first item is "A489, fwd lower cargo bay struct, FS 900." That item left even before the last ASR radar beacon to Islip radar. The next item to go before anything else in the entire plane is "A470, R fwd lower cargo bay struct, FS 820." There are five other forward cargo bay structures which are plotted and leave soon thereafter. The overall debris appraisal was made by Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing." Please agree, Mr. Schalekamp, cargo door is just forward of the wing and the center tank is not.

4. Cargo doors opening in flight are more common than inflight fuel tank explosions and thus have more credence because more likely to reoccur. A cargo door accident exists, UAL 811, with much evidence which matches TWA 800 and described in NTSB AAR 92/02. Two other Boeing 747 crashes exist, AI 182 and PA 103, with much evidence which matches TWA 800 and UAL 811, none of which was caused by a center tank fire. A left fuel
tank fire accident of Iranian Boeing 747 exists which does not match TWA 800 in wreckage pattern, left wing alone, or extreme weather and lightning. A new Boeing 737 tank fire on the ground does not match an old Boeing 747 in flight. A KC-135 on the ground being serviced using JP fuel does not match a flying 747 using Jet-A.

5. Poly X wiring is known to be easily chafed from vibration and in aging aircraft cause fires and shorts as stated in NTSB public hearing on aging aircraft on Thursday in Baltimore. TWA 800 has poly-x wiring and was aged.

6. Section 41 is known to be a weak structural area on 747s and is strengthened at 20000 cycles. Section 41 is near the forward cargo door and TWA 800 had not yet had the strengthening retrofit with 'only' 15000+ cycles and 93000+ flight hours.

7. Right side of TWA 800 had more severe inflight damage than left indicating problem on right side, not center.

8. Stator blade in right horizontal stabilizer indicates engines not normal and fell to water windmilling but right side of aircraft near engine was spitting out fod. Engine number three is near forward cargo door on right side near the engine.

9. CVR of a previous 747 cargo door accident and two non center tank explosion 747 crashes match TWA 800 CVR.

10. FDR power cut of TWA 800 matches a 747 cargo door accident and two non 747 center tank explosion FDRs.

11. Sooting marks and abrupt stop of soot on fuselage above center tank show nose severed first and fire/explosion later. Only
a mechanical problem to cause huge explosive decompression could cause such a catastrophe as the nose of a 747 to be torn off within three to five seconds.

12. Streak could be explained by shiny metal object spinning erratically away in evening red orange sunlight reflecting light to observers on ground who perceive surprised vision as streak. The time of day, the altitude of TWA 800, the angle of sun, the position of sun, plane, and observers is perfect for streak as shiny reflecting object.

13. Entire history of pressurized airliners rupturing in flight has been full of window/hatch/door openings and rarely center tank explosions, while fuel tank explosions are common as secondary events when catastrophe occurs in flight. From the Comet to DC-10 to Boeing 747 UAL 811, hulls rupture in flight from inadvertent opening of the hull, not fuel tank explosions. Inadvertent opening has more credence as initial event than fuel tank explosion. Fuel tank explosion has high credence for secondary event.

14. Door opening in flight as result of fuel explosion is rare. If door properly secured it suffers same damage as nearby doors, not distinctly shattered. TWA 800 has shattered cargo door but nearby passenger door is intact.

15. Injuries of passengers is consistent with door open first then nose off then later fire/explosion after passengers are away from explosion.

16 Electrical fires have occurred in forward cargo hold of 747s before: Exhibit 9C, Attachments to the Systems Group Factual Report page 44, 45, 46:
A. Nov 1, 1996, burning smell in forward cargo compartment, found damaged wiring shorted to ground, charring found.

Wiring/door explanation is supported by evidence in the other cargo door open accidents, AI 182, PA 103, UAL 811 in official reports. Add TWA 800 and they all had the fuselage rupture forward of the wing and door burst open. Two governments imply bomb blew door open, one said electrical short, and another has CWT exploding. And they all have a sudden loud sound on the CVR and an abrupt power cut at initial event time. They are all most likely the same cause, either all CWT explosions, all bombs, all meteors, all missiles, or all wiring short to door open motor.

A digression, Mr. Hall. I watched you sympathetically talk to the victim's families and their haughty reaction at the public hearing. When the victim's families ever complain again about the pace of the investigation, tell them that if Flight 800 had been all robot crew cargo plane that crashed in same spot, not much would have been done. But for their loved ones thousands of people have labored long and hard to find out the cause and spent millions of dollars, and anguished over it for a year and a half. For them is why we do it. It's all for them, not in spite of them. Their grief is disturbing their judgment. To assail those that wish to help is wrong. Yelling and calling out names may make them feel better but it does not solve the problem. Quiet conversation over charts, text, pictures, and drawings is best.

To summarize, recent letter by FAA branch manager from same directorate from which the initial dismissal of door came now says door opened in flight. The position that all cargo doors all
latched and all locked at water impact is voided. The new position is door opened in flight and CWT explosion did it.

Let me present my case of electrical short from bad poly-x wiring to you or your expert representative, Chairman Hall. Give me my chance equal to missile and meteor guys.

Give me two hours and I can attempt to persuade you to electrical versus any other explanation such as tank explosion from mystery internal ignition source, or bomb that leaves no bomb sound or residue, or missile that has no corroborative evidence. The one that holds the evidence together is electrical short that shorted to metal and turned door unlatch motor on and aft midspan latch, with no locking sector, turns just a bit past dead center, and 38115 pounds of compressed air pressure on the aft midspan latch and it ruptured, then increasing fast moving molecules opened whole door leaving red paint smears above just before explosive decompression blew out twenty by forty feet of fuselage skin on the right side forward of the wing. Like it all happened before as described in NTSB AAR 92/02 for UAL 811.

Can I go down to Los Angeles to meet an NSTB representative who will give his full attention to the wiring/cargo door explanation?

An explanation that includes chafed wiring to cargo door to CWT explosion is an explanation that comes from NTSB gathered evidence over the years. It is only through the diligence of NTSB years ago that another similar accident can be matched, UAL 811 to TWA 800. NTSB has only had the full investigation for less than two months. Another approach is to start with a clean sheet of paper. Shake off the FBI and their inherent distrust
and secrecy. This is an airplane crash, not a bank robbery.

The position that forward cargo door opened in flight for TWA 800 is the key to cracking the case. The case of TWA 800 called the fuselage was cracked when hull ruptured when small hole appeared and allowed explosive decompression to take out huge rectangle of skin which allowed the 300 knots to tear nose off which allowed wing to fall and disintegrate and be ignited by nearby foddled and on fire jet engines. Small hole appeared when chafed wire shorted door motor to on which attempted to unlatch door but bottom eight locking sectors held so only aft midspan latch, with no locking sector, was able to come partially unlatched which allowed the 38115 pounds of internal force to burst through latch area.

To substantiate above analysis requires pointing to pictures in AARs, reading text from NTSB Exhibits, and looking at drawings from AAIB report. I can do that in person with you or your representative either here in Carmel Valley California, Los Angeles, San Francisco, or even in Renton, Washington. Have I not earned the right to that consideration based upon my analysis that door opened in flight as determined by the evidence of TWA reconstruction and now agreed upon by authority? Can you set up an appointment with me with one of your NTSB investigators?

Very Respectfully Submitted,

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barry@corazon.com
From: John Barry Smith <barry@corazon.com>  
Date: September 6, 2009 12:03:08 AM PDT  
To: Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov, Tom.McSweeney@faa.dot.gov, Lyle.Streeter@faa.dot.gov  
Subject: This explains a lot

James F. (Jim) Wildey II  
Senior Metallurgist  
Sequence Group Chairman, TWA flight 800 investigation. National Resource Specialist - Metallurgy

Experience:  

Dear Aviation Public Safety Officials, the one person who has a
vested interest in TWA 800 not being a wiring/cargo door event is Mr. Wildey. He is officially connected with AI 182 and PA 103, two events which are officially not wiring/cargo door events but would be if TWA 800 were to become a wiring/cargo door event. This would explain why he is so adamant that TWA 800 was not a cargo door rupture in flight, contrary to photographic and CVR evidence, but a spontaneous center tank explosion which lacks the crucial factor of an identified ignition source: He is protecting his opinions of years past, opinions in hindsight which are now suspect, based on matching evidence in the electrical/cargo door UAL 811 accident.

Mr. Wildey's opinions about the destruction sequence and whether the cargo door ruptured in flight are invalid as they are given by an official with a conflict of interest as well as the fact he is not an aircraft accident investigator.

Therefore the entire question of the initial event of TWA 800 and whether the cargo door opened in flight should be renewed by a NTSB aircraft accident investigator who is not connected to AI 182 or PA 103.

Below is a photograph of UAL 811 giving as evidence a similar shape of destruction on the starboard side of TWA 800. The port side of TWA 800 is as smooth as the port side of UAL 811. Both doors had ruptures at the midspan latches. They match in destruction evidence and probable cause, electrical/wiring/cargo door event.

Sincerely,
John Barry Smith  
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barry@corazon.com  
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.  
US Navy reconnaissance navigator, RA-5C 650 hours.  
US Navy patrol crewman, P2V-5FS 2000 hours.  
Air Intelligence Officer, US Navy  
Retired US Army Major MSC  
Owner Mooney M-20C, 1000 hours.  
Survivor of sudden night fiery fatal jet plane crash in RA-5C  

**Aging, brittle wiring within aircraft poses a hidden hazard that emerging technologies aim to address**  

**Down to the Wire**  
By Cynthia Furse & Randy Haupt, Utah State University  
As today's military and commercial aircraft age past their teen years, the many kilometers of wiring buried deep within their structures begin to crack and fray. Once thought to be rare and benign, such faults are found by the hundreds in a typical aircraft. Unlike obvious cracks in a wing or an engine, though, damaged wire is extremely difficult to detect. But the resulting arcing and electromagnetic emissions can be just as deadly: faulty wiring has been blamed for the downing of Swissair 111 near Nova Scotia in 1998 and of TWA 800 off New York's Long Island in 1996 [see [http://www.spectrum.ieee.org/WEBONLY/publicfeature/feb01/wiref1.html](http://www.spectrum.ieee.org/WEBONLY/publicfeature/feb01/wiref1.html)]. Indeed, any densely wired system is vulnerable—the space shuttle, nuclear power plants, subways and railroads, even the family car.  
Public scrutiny has prompted strongly worded recommendations from the likes of NASA, the U.S. Federal Aviation
Administration, and the National Transportation Safety Board (NTSB) [see "Government and Industry Take Action" at http://www.spectrum.ieee.org/WEBONLY/publicfeature/feb01/wiresb1.html]. "The safety of the nation's wire systems is an issue of major importance to us all," noted a White House report issued last fall. Several months earlier, the NTSB concluded its lengthy investigation of TWA 800 with the verdict that a short circuit sparked an explosion in the center wing fuel tank. The condition of the wiring, it noted, was "not atypical for an airplane of its age." Among the NTSB's recommendations was to incorporate into aircraft "new technology, such as arc-fault circuit breakers and automated wire test equipment."

Solutions are not straightforward. Among the most promising technologies are advanced reflectometry methods, for routine maintenance; so-called smart wire systems, for continual, on-the-spot wire testing; and arc-fault circuit breakers and advanced fire suppression techniques, for minimizing damage and injury should a fault occur. Remaining challenges include detecting the minuscule insulation breaks that encourage arcing; optimizing the benefits and mitigating the risks of the various wire testing techniques; and getting a better handle on the labyrinthine complexity of aircraft wiring systems.

**Failing the test of time**

A healthy wire is perhaps the simplest, yet most important, element in an electrical system. Typically, a copper conductor (from 1 to 10 mm in diameter) is covered by a thin outer insulation (from 0.5 to 2 mm thick). Damaged insulation can expose the copper, giving rise to arcs, shorts, and electromagnetic emission and interference. Arcing occurs when current flows from the wire through ionized air to another conducting object, such as a second wire or the aircraft structure. A short circuit channels the current to an undesired conductor. If an external shield or braid protecting a wire is broken, the
resulting antenna radiates the signal on the wire. As the wire ages, the insulation may become brittle and crack. Vibration can also chafe the insulation as wires vibrate against each other, a tie-down, or any other hard surface. Maintenance can also be hard on wires, as they may be nicked by workers' pliers, or bent beyond their tolerable radius, or sprinkled with metal drill shavings, chemicals or water, or even used as stepladders in hard-to-reach places. [see Photos at [http://www.spectrum.ieee.org/WEBONLY/publicfeature/feb01/wiref1.html](http://www.spectrum.ieee.org/WEBONLY/publicfeature/feb01/wiref1.html) ] that show cracked and singed wiring taken from U.S. Navy planes.]

But perhaps the greatest concern is the breakdown of the wire's insulation when exposed to moisture. Insulation made from polyimide film, often referred to by the brand-name Kapton, was once thought to be the ideal wiring insulation and was widely used in both military and commercial aircraft during the 1970s and early '80s. A long-chain polymer that is both tough and durable, with a very high resistivity, Kapton provides excellent electrical insulation even at a thickness of less than a millimeter. What was not known initially was how Kapton held up to the moisture that tends to condense in or near aircraft wiring harnesses. This moisture is so prevalent that most wires are outfitted with a drip loop, which prevents water droplets from running down the cables and into critical electronics. Exposed to this moisture, Kapton's long polymer chains break down, and the insulation becomes brittle, developing small cracks that in turn let in even more moisture. So-called wet arcs begin to flow along these cracks, creating intermittent arcs too small to trip normal circuit breakers and often too small even to interfere with the signal transfer along the wire. Nonetheless, the tiny arcs do begin to carbonize the insulation, and carbon is an excellent conductor. Once enough carbon has built up ("enough" depends on the type and thickness of the insulation, the power handling of the wire,
and other factors), there can be a large explosive flashover, with exposed wires spewing molten metal.

One would hope that Kapton cracks are relatively rare. Not so, according to a recent report by Lectromechanical Design Co., an electrical research firm based in Sterling, Va. Using a proprietary tool called the DelTest, Letromec engineers tested the wiring in a Boeing 747, an Airbus A300, a Lockheed L-1011, and two DC-9s that were each over 20 years old and had been retired by commercial airlines within the previous six months. The results:

13 cracks per 1000 meters of wire in the L-1011, down to 1.6 cracks per 1000 meters in one of the DC-9s. With approximately 240 km of wire in the L-1011, this amounted to over 3000 cracks, each a potential cause of catastrophic arcing.

Some time after Kapton's problems came to light, in the late '70s, its use was cut back, and aircraft manufacturers began replacing it in some of the most critical wiring systems in planes in service. Alternatives to Kapton include polyvinylchloride, glass, nylon, polyester, and teflon. But polyimide can still be found on thousands of aircraft in service, including the McDonnell Douglas MD-11 and older Boeing 737s and 767s.

**How old is too old?**

Updating rather than replacing old planes has become a standard way to save money. Some aircraft being designed today, such as the Joint Strike Fighter, may fly 100 years. Similarly, the B-52s flown by the U.S. Air Force were built in 1961-62 and are expected to remain operational until 2045. Its designers would have never dreamed that this plane would fly for over 80 years. Indeed, not much thought was given to replacing or inspecting the wiring, because the planes were to have been retired long before any problems developed.

So when is it time to scrap an airplane because its wires are too old? The answer depends on a complex array of factors--among them calendar age, manufacturing variations, exposure to water,
ultraviolet light, temperature, vibration and g-forces, and stress during normal use and maintenance.

Planes over 20 years old are virtually guaranteed to have wiring problems, many of which turn up during routine maintenance. The average age of civilian aircraft in use today is 18 years, and the average age of military planes is 16 years. [See table at http://www.spectrum.ieee.org/WEBONLY/publicfeature/feb01/wiret1.html] Of course, most fleets are composed of a mix of aircraft types and ages. Trying to relate this information to wiring failure probability rates, such as those in the table at http://www.spectrum.ieee.org/WEBONLY/publicfeature/feb01/wiret2.html, gives some idea why wiring problems are endemic today.

Short of replacing an entire aircraft, how about replacing just the wiring system? That also turns out to be hugely expensive--anywhere from US $1 million to $5 million for a typical aircraft. Determining what, when, or whether to replace then means weighing cost against risk--a decision complicated by the fact that neither the cost nor the risk has yet been fully characterized.

What is more, military planes get exposed to more hostile environments than the average commercial plane, so extrapolation to other types of planes is not necessarily accurate.

The maintenance nightmare
Snaking through an aircraft are many kilometers of wire--some 17.5 km in a Navy F-18C/D fighter, 240 km in a typical wide-body jet. The wire is literally built into the aircraft, running through fuel tanks, and twisted around hydraulic lines. Just reaching the wiring harness often entails dismantling an aircraft's external structure. And merely touching a wire, let alone disconnecting, handling, and reconnecting it, heightens the risk that the wire will be damaged. But maintenance workers do not always show due respect. They have been known to stand on wires instead of step stools, to cut
and splice them poorly to get them out of the way of difficult-to-reach places, and to smack connectors with hammers to loosen them. Tiny razor-sharp metal shavings from maintenance or upgrades, coupled with ordinary aircraft vibration, create the perfect conditions for insulation damage.

Other parts of the aircraft never get touched, but are no less problematic. The dust bunnies and chaff that collect in these out-of-sight areas are excellent tinder to turn sparks into smoke and flames. Then there's the sticky "syrup" that collects in and around wire bundles. This well-aged potion of condensation, toilet and galley leaks, dust, hydraulic fluid, and various unnamable ingredients is intensely caustic to most kinds of insulation. One of the Navy and FAA directives for making aging wiring safer has been simply to improve cleanliness within aircraft!

Compounding the maintenance nightmare is its high cost. By one estimate, the Navy spends 1.8 million person-hours each year to troubleshoot and repair its aircraft wiring systems.

**Why state of the art isn't enough**

Wire troubleshooting is still very much a hands-on art that has changed little over the last 40 years. Among the techniques in current use are visual inspection, several versions of reflectometry, and impedance testing. Each technique has its advantages and, more importantly, disadvantages.

Visual inspection is still the most common way to check for wiring failures. It entails accessing the cables and then carefully checking the insulation for holes and cracks, often no larger than the head of a pin. Whole sections of wiring never get inspected: chafed insulation can be hidden under clamps or around corners, or within multiwire bundles, each consisting of 75 or more wires.

And many wire bundles are built right into the walls of the aircraft.

Another approach involves measuring the cable's resistance from end to end. A low resistance means the cable is "good," and a
high resistance means that it is broken. When a very high voltage (500 V or more) is placed between adjacent, supposedly unconnected wires, current leakage from one wire to another can indicate degraded insulation.

There is some concern, though, that high voltage may in itself damage the insulation. So nondestructive resistance tests, such as those developed by Eclypse International Corp., Corona, Calif., use voltages of 28 V or less. A floating comparator analyzes the currents on the cable as the input current is stepped through several levels. In a healthy cable, Ohm's Law predicts that the resistance will stay the same for all current levels. If it does not, then something is wrong with the cable. The method has been used to locate cold solder joints, bad crimps, carbonization of the cable or connectors, and foreign matter on or near the cables. And unlike the high-voltage tests, it can be used on a fueled airplane. It does, though, still require disconnecting and reconnecting the cables.

Several techniques now used or under development involve reflectometry. Common to all these methods is the sending of a signal (a pulse, sine wave, or the like) down the wire and sensing the reflection that returns from the wire's end. They are most useful for detecting so-called hard errors, such as short circuits, but have not proven useful for less obvious wire problems. Time domain reflectometry (TDR) is customarily used when a wiring problem is already suspected. A short, typically rectangular pulse is sent down the cable, and the cable impedance, termination, and length give a unique temporal signature to the reflected signal. A trained technician then interprets the signature to determine the health of the cable. Such signal interpretation is particularly necessary for aircraft systems, where wires branch into complicated network structures and connect to active avionics. The running joke about TDR is that it requires a Ph.D. to use.
Standing-wave reflectometry (SWR) involves sending a sinusoidal waveform down the wire. A reflected sinusoid is returned from the wire's end, and the two signals add to a standing wave on the line. The peaks and nulls of this standing wave give information on the length and terminating load of the cable; a healthy line's wave pattern will be distinct from that of a line with an open or short circuit. The edge this method has over TDR is that the electronics are simpler and therefore less expensive.

Like SWR, frequency domain reflectometry (FDR) uses sine waves. FDR, though, directly measures the phase difference between the incident and reflected waves; any faults in the line will generate resonances between the two signals. This method is being developed for in situ wire testing by researchers at Utah State University with support from Management Sciences Inc., Albuquerque, N.M., and the Naval Air Systems Command. The goal is to allow preflight testing of cables with the touch of a button, and without the risk of damaging the cables by disconnecting them.

**On the horizon**

Because of the shortcomings in the above techniques, researchers are now looking at several new technologies. These include automated reflectometry testing; smart wire systems for real-time, on-the-spot testing; and, in the event of an in-flight failure, advanced fire suppression methods and arc-fault circuit breakers. Automating the reflectometry methods now in use may one day mean that maintenance workers will be able to gauge a cable's health with minimal physical intervention. A hand-held unit would clamp around the wire, rather than directly connecting to it. Recently, a fully automated TDR unit was developed by Phoenix Aviation and Technology. It provides a wider range of fault diagnostics and prognostics, with precise location and interpretation of the fault. The same software can be easily
embedded into application-specific IC format or similar small computing platforms, thus paving the way for real-time embedded conductor monitoring.

All the same, reflectometry is pushing the state of the art when it comes to finding small insulation cracks, detecting chafed insulation before arcs occur, and locating an arc's source. Better detection of these tiny anomalies may be achievable by wetting the cable with water or saline solution, or filling the plane with inert gas.

Perhaps the maintenance worker's greatest nightmare is finding faults that come and go. These so-called ticking faults arise from vibration, temperature change, moisture, g-forces, electromagnetic interference, and so on. Diagnosing the problem requires systems that can function in flight, where ticking faults usually occur.

Smart wire systems are thus being designed for testing cables continuously, both before takeoff and during a flight. Systems now under development include a frequency domain reflectometer, on-board processor, environmental sensors, and wireless communication system integrated into a single miniaturized unit, hundreds of which can be embedded in the wiring system. They will monitor the health of the cable and guide cable maintenance, and even detect any faults that occur and correct them in real time.

For the aircraft being designed today, a novel kind of wiring with a complete array of embedded sensors is being proposed. This is particularly critical for long-lived planes such as the Joint Strike Fighter. Weight and space constraints are likely to drive this technology to nanoscale sensors, emerging material science technologies, and microelectromechanical system devices.

Of course, wire failures will still occur. New technologies that can help limit the damage in such an event include arc-fault circuit breakers and fire suppression methods.
Smart wire systems will continuously monitor the cable's health and correct faults as they occur.

Ordinary circuit breakers are heat-sensitive bimetal elements that trip only when a large current passes through the circuit long enough to heat the element. This power may be on the order of 1000 percent of the rated current for 0.35 to 0.8 seconds. By comparison, a single arc fault may last only 1.25 ms, and a series of events may last 20-30 ms. Too fleeting to trip the circuit breaker, these arc faults can nonetheless cause catastrophic local damage to the wire. Fires have been known to break out with the breaker still intact.

Arc-fault circuit breakers contain sophisticated electronics to sample the current on the wire at submillisecond intervals. Both time and frequency domain filtering are used to extract the arc-fault signature from the current waveform. This signature may be integrated over time to discriminate, by means of pattern-matching algorithms, between a normal current and a sputtering arc-fault current. And so ordinary transients, due to, say, a motor being turned on and off, can be distinguished from the random current surges that occur with arcing.

Arc-fault breakers are already required in new home wiring in the United States and are now being miniaturized for use on aircraft. Normally these breakers either are used in tandem with a traditional heat-sensitive breaker or else include a heat-sensitive element in addition to the pattern-matching electronics. Ideally, circuitry will also be added to locate the fault after the breaker has tripped.

Once a fire starts on an aircraft, it spreads rapidly, aided by Mylar-backed insulation in the cabin walls, limited access to fire...
extinguishers, and so on. New extinguisher designs that rely on super-fine, high-pressure mists of water, inert gases, and other techniques are now being developed to put out all types of aircraft fires, including those due to faulty wiring. Amazingly little is known about how and why wires age, but polymer scientists are making up for lost time. Among other things, they are studying the chemical and physical changes and resultant effects on electrical insulation properties that occur as wires age. One goal is to find new materials to replace copper wiring in signal-transfer and electromagnetic interference shielding on aircraft, as well as new types of wire insulation that resist chafing and have extended life and built-in diagnostics.

**Not to panic**

If you happen to read this article while flying, do not panic. Few wiring problems end in disaster. There is cause for concern, though, as the air fleet continues to age, and our reliance on air transport grows. While an aircraft's other major systems undergo preflight testing and regular inspection and maintenance, its central nervous system--wiring--has been long neglected. Sorely needed are new maintenance methods that account for the aging of wires, as is done for aging structural and computer systems. Diagnosis is good. Prognosis is better. And prevention is better still. This last may require a new way of thinking for electrical engineers, who tend to be more at home with obsolescence than geriatrics. For aging aircraft wiring, diagnostics and prevention are improving, and prognostics are on the horizon. What remains to be seen is how all of these methods will be implemented in practical systems, so that disasters like TWA 800 and Swissair 111 can be prevented.

Read the Full article (with links and images) here:

http://www.spectrum.ieee.org/WEBONLY/publicfeature/feb01/wire.html
Dear Gentlemen,

14 Feb 01 Valentine's Day

Gentlemen Kamal Maghur,
Mr. Alistair Duff,
Mr. Stephen Mitchell,
Mr. Richard Keen,
Murdo Macleod,
Eddie MacKechnie,
McGRIGOR DONALD,
Alex Prentice,
William Taylor,
John Beckett

Jeffrey Campbell

James Hall
Bernard Loeb
James Wildey
Al Dickinson

Ronald Wojnar
John Dimtroff
Neil Schalekamp
Above is the hole in UAL 811 made by the fuselage skin that gets torn off when the forward cargo door ruptures/open in flight and blows out and upward taking skin with it. (The missing cargo door is behind the people.) The paint smears of this door on the fuselage match TWA 800 paint smears, the shape of this hole matches the PA 103 shape although this hole is smaller and the nose stayed on, the broken floor beams of this fuselage match PA 103 and AI 182, the split door wreckage of this door matches PA 103 split door, the missing midspan latches of this door matches TWA 800 missing latches, the noise this hole makes on the CVR matches TWA 800, PA 103, and AI 182 sudden loud sounds, the nine never recovered bodies who used to sit in the missing seats match the at least nine never recovered bodies of AI 182, PA 103, and TWA 800, the type of plane, the type of door, the size of door, the function of door of this door above matches AI 182, PA 103, and TWA 800, the abrupt power cut to the FDR that occurred when this door ruptured matches AI 182, PA 103, and TWA 800 FDR, the damage that the ejected material from this hole which caused nearby engine number three to catch
on fire matches PA 103 and TWA 800 number three engines, the exposed ribs above the door match PA 103 exposed ribs, the right wing fillet damage just aft of this door matches PA 103 TWA 800 and AI 182 fillet damage, and the first explanation for this above hole was a bomb, which matches AI 182, PA 103, and TWA 800 explanations which were and still are for two- 'bombs'.

Above is the port side of PA 103 at event time. The 20 inch blue rectangle is the 'Shatter Zone' damage caused by the 'relatively mild blast' of the 'rather large shotgun' type discharge which gave a 'directed' force which resulted in no sound on the CVR at event time. (Quotes from AAIB report.) That small damage was not caused by a bomb which gives a 'powerful' 'spherical' and 'loud' sound on the CVR, all of which are missing in PA 103. Quotes are mine.

To deny all of the above facts, data, and evidence which leads the conclusion that the damage on the port side and later the nose coming off was not caused by a 'bomb' giving a small hole (but possibly by a huge hole on the starboard side) is do deny reality, experience, and common sense. If a 747 can land with the big hole, then it can certainly turn around and land after a small hole.

Dear government officials with the responsibility for aviation public safety, attorneys defending innocent accused, media who have the responsibility to present plausible explanations of public interest, manufacturers who have the responsibility to built safe aircraft, airlines with the responsibility to keep the airplanes flying safely, and politicians entrusted with the welfare of their constituents: You all have the duty to do the one thing you said you would do, the one thing you went to school to do, the one
thing you are sworn to do, the one thing you are paid to do, say the three words, "Check it out."

Check it out. That's all. Do your duty to investigate a reasonable, plausible, mechanical explanation with precedent for accidents which may occur again if the fault, after being checked out and proven correct, happens again.

Check it out. Attorneys hire an aviation expert in these matters who has no vested interest in maintaining the 'bomb' explanation because of prior statements. And contact me.

Manufacturer order the engineers to determine if a 20 inch hole can cause the nose of 747 to come off and why a thirty foot hole did not. And contact me.

Airlines check the wiring in the cargo door area for cracks, arcing, and water. And contact me.

Media check sources for the evaluation of the wiring/cargo door explanation. And contact me.

Government oversight agencies such as FAA and NTSB order investigators to check out the possible probable cause. And contact me.

Wiring/cargo door explanation for AI 182, PA 103, TWA 800 has not been checked out. It has been ignored or brushed aside with a misleading statement for TWA 800 about 'all' the latches being latched when in fact two midspan latches have not been recovered and photographs show two large ruptures at those precise locations, for PA 103, the status and latches of the forward cargo door are omitted, and the status of the the AI 182
door is lost at the bottom of the ocean.

The status of the UAL 811 door is now known because the NTSB at the time decided to 'check it out' and retrieved the door and determined the first explanation of improperly latched was incorrect as the door was properly latched but the electrical system/wiring was at true fault and thus issued another AAR, 92/02.

Why have not the responsible agencies checked out the wiring/cargo door explanation for AI 182, PA 103, and TWA 800?

The best place to start to check out a plausible cause for an accident which has not been confirmed officially is by contacting the discoverer, proponent, and presenter, me.

John Barry Smith
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Over the past twelve years researching and investigating the four explosive decompressions of AI 182, PA 103, UAL 811 and TWA 800, I have had lots of contact with various people and I have learned how to tell the true from the false. The false use swear words, are rude, make many misspellings and grammatical errors, use a lot of capitals and exclamation points, factually wrong, never document sources, refer to vague rumors, make statements in the guise of questions, present inconsistencies, give up quickly, and are usually anonymous.

The true identify themselves and their credentials, are polite,
used correct grammar and spelling, articulate, give sources, use official data and photographs, ask questions to find out the answer, are persistent and consistent over years, and invite interaction.

The persons in the middle are the indifferent to the accuracy, the validity, the truth of a probable cause of a fatal event. They want to keep things the way they are and attempt to prevent any change.

The indifferent react to change suggestions by me such as the wiring/cargo door explanation for three Boeing 747 accidents by the following sequence:

1. No.
2. You are wrong.
3. You are crazy.
4. Go away.
5. I'm ignoring you.
6. Attack.
7. Ask a real question to check it out.

I'm trying very very hard to get the attorneys, the manufacturer, the government agencies, the airline, the media, the passengers, and other parties to get to stage seven, to ask a question to check out the wiring/cargo door explanation.

I'm doing that in this letter by using photographs and drawings and the other ways the true use for persuasion.

There are two men about to go on trial for for their lifetime freedom, another charged in Britain to be extradited, one in prison to spend the rest of his life, ten of thousands of men
women and children flying now, and billions of dollars to be exchanged in insurance and purchases of aircraft based upon the probable cause of three accidents.

All will be affected, one way or the other, by checking out the wiring/cargo door explanation for AI 182, PA 103, and TWA 800.

To check out a story is to contact the source, me. Here is my phone, my address, my email and my identity.

Please do not be indifferent.

Cheers,
Barry

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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: The precision of the English language

Date: Fri, 9 Feb 2001 12:01:13 -0800
To: ben.whalley-bbc.co.uk
From: John Barry Smith <barry@corazon.com>
Subject: Fwd:
Cc:
Bcc:
X-Attachments:
Date: Fri, 9 Feb 2001 12:01:08 -0800
To: ChrisOlssen
From: John Barry Smith <barry@corazon.com>
Subject: Fwd: The precision of the English language
Cc:
Bcc:
X-Attachments:
Date: Fri, 9 Feb 2001 11:57:40 -0800
To: DefenceTeam
From: John Barry Smith <barry@corazon.com>
Subject: The precision of the English language
Dear Members of the Defence Team:

Gentlemen Kamal Maghur,
Mr. Alistair Duff,
Mr. Stephen Mitchell,
Mr. Richard Keen,
Murdo Macleod,
Eddie MacKechnie,
McGRIGOR DONALD,
Alex Prentice,
William Taylor,
John Beckett

The precision of the English language is a wonderful thing to behold.

For instance: "Improvised Explosive Device".

Lots of syllables, three words, rolls off the tongue; is it just those wordy British playing with words? I don't think so.


Is it a euphemism? Possibly and if so, for what?

eu\-phee\-mism \"yu-fe-'mi-zem\ n [Gk euphemismos, fr. euphemos auspicious, sounding good, fr. eu- good + pheme speech] : the substitution of a mild or pleasant expression for one offensive or unpleasant; also : the expression substituted ~ eu
Is it those aircraft investigators for PA 103 afraid to say the euphemism, "bomb"? I don't think so.

I believe that British citizens, which includes Scotland where the crash took place, and England, where I was born, take pride in their language and write exactly what they mean to say, no more and no less. "Improvised Explosive Device" is exactly that and was exactly cause of the nose coming off PA 103.

What was the meaning in the minds of the actual aircraft investigators who actually looked as the wreckage and determined that it was caused by an "Improvised Explosive Device".

Perception is in the mind of the beholder and it is usually in the self interest of the reader. 'Bomb' is a very satisfying perception for "Improvised Explosive Device" for many to include the manufacturer, the airline, the government oversight, and the media. It absolves most of guilt and makes a lot of money for some. Only to a few accused is the perception against the interest.

Why did the aircraft investigators not say 'bomb'? That's a good question. My answer is that when the total investigation by the aircraft investigators was completed, they evaluated the CVR which did not have a 'bomb' sound on it, the 'relatively mild blast' that occurred on the port side, the directed versus spherical damage in the container, and the small twenty inch hole of the shatter zone, and could not in good conscience call the probable cause a 'bomb.' The total damage did support the conclusion of an inflight breakup of PA 103 which was caused by a catastrophic explosive decompression which must have been
caused by an "Improvised Explosive Device" so they said so.

Is there an alternative to 'bomb' for a perception of "Improvised Explosive Device"? Another good question and the answer is yes, many.

Propane gas cannisters, fireworks, blasting caps, dynamite, inflatable rafts, airbags, grenades, and anything else you can think of that would penetrate the pressurized hull and allow an explosive decompression to rupture the hull which would then allow the 300 knots to tear the plane apart are all alternatives to 'bomb' as an "Improvised Explosive Device".

There's one missing device from the list above; a complicated device with bellcranks, torque tubes, hinge, cams, pins, locking sectors, overpressure relief doors, and a locking handle. This device has been documented to have caused a fuselage of an early model Boeing 747 to suffer explosive decompression in flight in the past leading to fatalities: UAL 811 of February 1989, just two months after PA 103. The killer device was not meant to cause an explosive decompression but it did so and was thus inadvertently improvised.

The device which was improvised and caused an explosion was the forward cargo door of UAL 811. My explanation accuses this
same device as causing the explosive decompression of PA 103.

Let me show you the damage the door caused at the first depicted moment in the AAIB report when it ruptured/opened in flight:

The damage above shows the first pieces to leave PA 103; it's the top half of a forward cargo door. This type of damage of a longitudinal split in the door matches exactly the damage of the UAL 811 door.

A instant later the damage of PA 103 is enlarged:

At the same time as above, the below was happening on the port side of PA 103, the 'bomb' side:

Note how little damage is done by the 'bomb' and how much damage is done around the forward cargo door at the same instant in time. The small dark blue rectangle on the port side shows the size of the actual shatter zone caused by the 'rather large shotgun' giving a 'relatively mild blast' as the AAIB investigators wrote.
A Boeing 747 is designed and can withstand a hole in the side of the fuselage about 20 inches around. The aircraft is not designed and can not withstand a hole the size of the damage you see on the starboard side of PA 103 just instants after the initial event, about thirty feet by thirty feet around the forward cargo door.

An instant later the damage gets worse again with the shape of the 'squarish' hole matching the smaller 'squarish' cargo door hole in UAL 811.

UAL 811 after landing. (The sudden loud sound on the CVR and abrupt power cut to the FDR of this flight matches the CVR sudden loud sound and abrupt power cut of PA 103 CVR and FDR.)

The point gentlemen, is that a forward cargo door of an early model Boeing 747 can be called an "Improvised Explosive Device" under certain circumstances and evidence. The device has in the past caused a fatal explosion which was not meant to be.

To assume an "Improvised Explosive Device" as the AAIB investigators judiciously and precisely used to describe the probable cause of PA 103 to be a 'bomb' is to assume the
perceptions of those who believe it is in their best interest to call it so.

It is not in the best interest of your client, who is now appealing his life sentence in prison, to perceive it so. He may believe, as the rest of the world does, that PA 103 was 'bombed' out of the sky but he did not do it. Is he an aircraft accident investigator? No, he's not but he does read the papers and watch TV which all tell him it was a 'bomb'.

The papers and the TV are wrong, PA 103 was not brought down by a bomb, but by an "Improvised Explosive Device" which most closely matches the inadvertent opening of the forward cargo door of an early model Boeing 747 in flight, an event which has happened before in another fatal accident, UAL 811. The forward cargo door of PA 103 is the "Improvised Explosive Device".

The above is irrefutable because I use actual photographs, documents, and official drawings by the actual investigators to support the wiring/cargo door explanation. I do not use vague and contradictory conspiracy nonsense to explain a plane crash.

Gentlemen, I think you know about conspiracies and crimes such as bank robberies, assaults, rapes, and other violent crimes. But do you know about airplanes? We are talking airplanes here. I know about airplanes. I am a pilot; I have thousands of hours in the air, and most of all, I have survived a sudden night fiery fatal jet airplane crash. I know whereof I speak when it comes to aviation.

And I also know about 'bombs'. They are called many things. As the last human in a chain of humans to detonate nuclear bombs I
know about bombs. I was a bombardier navigator on a US Navy carrier jet which carried four one megaton hydrogen bombs. The Navy calls them 'Special Weapons' to which I always reply, "If these ain't special weapons, I don't what is.' Other euphemisms are thermonuclear devices, atom bombs, super bomb, and 'when the balloon goes up', The bombs are actually conventional charges which set off an atomic explosion which detonates the hydrogen bomb.

PA 103 was not a bomb. Bombs are not relatively mild, directed, look like a shotgun type discharge, and make no sound although that is what others would have you believe. Do not suspend your disbelief at such a stretch of logic.

Explosive decompression as caused by an inadvertently opened forward cargo door inflight is massive, makes a loud sound, and can cause the discharge of an improperly loaded firearm in the nearby baggage container.

PA 103 destruction was indeed caused by an "Improvised Explosive Device". The device was not a bomb, nor a shotgun type discharge, but a forward cargo door that ruptured/opened in flight, probably caused by faulty wiring turning on the door unlatch motor, as has happened before.

Please use this information to form the basis of your appeal. It will work because once the evidence of mechanical cause for PA 103 is investigated thoroughly the validity of the wiring/cargo door explanation will become apparent.

A visit to Farnborough to examine the forward cargo door will confirm further the many matches to UAL 811 in pin, hinge, and cam damage. It may be too late for that, unfortunately, but not
too late to bring new evidence to the appeal court of a mechanical explanation for the plane crash.

At the very least, contact me via email or phone for discussion. Time is short.

Cheers,
Barry

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551 Country Club Drive,
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barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C
"A cruel story runs on wheels, and every hand oils the wheels as they run." - Ouida (Marie Louise de la Ramee), English writer (1839-1908).

Was the 'new evidence' that Col Gaddafi was to produce but
didn't the wiring/cargo door explanation for PA 103?

Regarding the judgment: A 'relatively mild blast' that gives a 'shotgun type discharge' that makes no sound on the CVR and makes a hole '20'' in the side of a Boeing 747 is not a bomb. Understand, not a bomb. It was shotgun type device that made a directed small hole in the side of a plane that is designed to withstand small 20 inch holes. The shotgun type device was fired after the huge explosive decompression in the same cargo hold that made a thirty foot by forty foot hole in the side of the plane, a hole not designed to be withstood.

All of the above is confirmed by the AAIB report if you read it with the point of view of an open cargo door inflight and the consequences of that event.

Let me repeat, no bomb. Bomb makes a powerful blast, makes a loud noise, is spherical, and the damage is considerable. What PA 103 has is a directed, mild blast that made a small hole. A mild bomb is an oxymoron and those that believe PA 103 was a bomb are oxen. Even firecrackers are 'powerful'. A real bombs has gone off in a 747 before and the plane turns around and lands.

Explosive decompression such as a nine foot by ten foot door inadvertently opening inflight tears of skin making a loud noise, and can fire off firearms in baggage nearby, and makes a huge hole which so weakens the structure the 300 knots force tears off the nose.

Which makes more sense? Which is supported by AAIB report and precedent of UAL 811? Which fits the facts? Which is contrary to political emotions? If you, the defence team, are unwilling to pursue a plausible explanation supported with hard
evidence that will exonerate your client, then he is truly doomed.

Get off this cruel story conspiracy nonsense and think science. It's a plane crash, not a bank robbery.

It's worthy of an appeal, no bomb, no crime, no criminal. Plausible alternative reasonable mechanical explanation available with precedent, wiring/cargo door explanation for PA 103.

Cheers,
Barry

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Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

This indicated that a relatively mild blast had exited AVE 4041 and impinged at an angle on the forward face of AVN 7511.

As part of the reconstruction process,
the recovered pieces of containers were reassembled, principally by Mr Claiden, an engineering inspector with the AAIB. When this was done, it was ascertained that with two exceptions there was no damage to containers other than was to be expected from the disintegration of the aircraft and the containersÕ fall to the ground. It was however found that there was unusual damage to an aluminium container AVE 4041 and a fibre container AVN 7511. From the loading plan of the containers it was ascertained that AVE 4041 was situated immediately inboard of and slightly above the shattered area of the fuselage, and AVN 7511 was situated immediately aft of AVE 4041. The reconstruction of AVE 4041 demonstrated severe damage to the floor panel and outboard base frame member in the outboard aft quadrant, and also on the internal aspect of that part of the container there were some areas of blackening and pitting. There was also damage to the panels and frame members at the lower aft side of the overhang, and again areas of blackening and pitting. The full details of the nature and extent of the damage are to be found in the evidence of Mr Claiden, and are confirmed in the evidence of Dr Hayes and Mr Feraday, forensic scientists with the Royal Armaments Research and Development Establishment (ÒRARDEÓ). The nature of the damage indicated a high-energy event, and the sooting and pitting indicated an explosion. Mr Claiden, whose evidence was given in an impressively careful and restrained manner, stated ÒI have no doubts in my mind that such an event occurred from within the containerÓ, the only occasion on which he stated an absolutely unqualified opinion. Because of the distribution of the areas
of sooting and pitting, and in particular the absence of any such signs on the base of the container, it appeared to Mr Claiden that, assuming that an explosive device was contained in a piece of luggage in the container, the likelihood was that that piece of luggage was not lying on the floor of the container but was lying probably on top of a case on the floor and projecting into the overhang of the container. Ascertainment of the precise location of the explosive device was assisted by consideration of the damage to the adjacent container AVN 7511. The forward face of that container had a hole approximately 8" square about 10" up from the top of the base radiating out from which were areas of sooting extending up to the top of the container. This indicated that a relatively mild blast had exited AVE 4041 and impinged at an angle on the forward face of AVN 7511. Combining that information with the damage to AVE 4041, the likely position of an explosive device was about 13" above the floor of AVE 4041. On that assumption allied to the previous assumption that the piece of luggage containing the device was projecting into the overhang, the position of the device would be approximately 25" from the skin of the fuselage. We found the evidence of Mr Claiden wholly credible, reliable and compelling so far as it went. He was not however an expert on explosives or the effects of explosives. The conclusion reached by Dr Hayes and Mr Feraday as to the position of the explosive device coincided with that of Mr Claiden, and in addition Mr Feraday was present at tests in the USA. These tests involved the use of luggage filled metal containers and
the placing of plastic explosives within Toshiba radio cassette players in a garment filled suitcase. The tests confirmed the opinion he expressed as to the position of the explosive device and the quantity of explosive involved.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: Fwd: Metallurgist

Date: Wed, 23 Jun 1999 08:02:00 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Metallurgist
Cc:
Bcc:
X-Attachments:
Thought you might be interested....
Cheers,
John Barry Smith
(831) 659-3552 phone
551 Country Club Drive,
Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
I represent a leader in metal extruded parts. We are seeking a "Metallurgist." We need someone who has a background in specifically aluminum extrusion. Requirements: 7 to 10 years in a metals extrusion environment. Basic knowledge of metallurgical processes including chemical analysis, extrusion quench, aging, hardness testing and tensile testing. Must be able to work well unsupervised as well as with others.

Geographic Location of Position: Western Pennsylvania

If you know anyone that might be interested, please forward this to them or contact:
Thomas P. Erickson
Diedre Moire Corporation, Inc.
Voice: 609-584-9000 ext. 259
Fax: 609-584-9575
Email: 915605@candseek.com
To permanently discontinue receiving employment opportunity notices from any and all help wanted advertisers using the Candidate Seeker system, click your "Reply" button and type the word "remove" without spaces between the letters into the SUBJECT field then click the "Send" button. Your email address will be permanently filtered from ALL future job opportunity notifications sent via the Candidate Seeker system.

To temporarily filter employment opportunity notices sent via the Candidate Seeker system, type the acronym "JOBOP" into your subject filter. All employment opportunity notices sent via the Candidate Seeker system contain the acronym "JOBOP" in the subject so they may be easily filtered or blocked if so desired.

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Please feel free to contact the candidateseeker.com feedback line at 609-584-5499. Do not use this number for job related questions. All job related questions should be directed to the employer by replying to contact addresses or phone numbers indicated at the end of the job description message.
Dear Mr. Wildey, 19 Dec 97

Permit me the informality of email to send quick note on your email.

I sent off this morning the 42 page document outlining cargo door explanation to you at the 490 L'Enfant address. It is most valuable because of the photographs inside.

This quick response to you 18 Dec 979 email is because the weekend starts tomorrow and possibly vacation.

1. Rapid decompression of the lower lobe would never be expected to
   >generate a forward load on the front spar web, because the area behind
   >the web (between SWB3 and the front spar) is vented to the atmosphere.
   >Therefore, a decompression in the cargo compartment would
only
>neutralize the pressure loading on the front spar.

Yes, sir, I was wrong on that. I quickly wrote that Monday night after I saw and heard your excellent sequence of center tank explosion and destruction. We agree it happened that way, but differ on when. The explosive decompression force could never be strong enough to suck that forward bulkhead forward, and didn't.

2. If the nose section of the airplane hit the water rolled to the right, the skin above the window belt above the cargo door would enter the water perpendicular to the water's surface. Therefore, the skin in this area could fold either inward or outward, with more tendency to fold outward the higher up the fuselage you go.

3. Well, OK, either inward or outward. Need more corroborative evidence to conclusively determine. I would offer other outward peeled skin which fits back perfectly when unfolded, as you showed can be done on outward peeled back skin further back on fuselage during your presentation.

4. The midspan latches on the cargo door are for alignment purposes and carry only minor loads.

Right, under normal circumstances and latched properly.

>There would be only minimal tendency for cracking to initiate in this area.
Right, no cracking.

> If the door did split longitudinally
> in half as a primary event, I would expect each half to separate and be
> recovered with minimal damage, not completely shattered as we found.

Right, did not split longitudinally in half, but completely shattered as you found.

>(The United 811 cargo door was broken in two, but contained very little overall damage.)

Right, UAL broken in two in half and little overall damage.

> The fact that the door pieces have so much damage is totally consistent with water impact, and totally inconsistent with early separation.

Right, small pieces totally inconsistent with early separation of whole door.

Mr. Wildey, let me attempt to incorporate your misgivings.

The cargo door explanation: TWA 800 aft midspan latch did not crack. The hypothesis is that possibly water condensed on chafed bare wires of poly-x and turned on door motor to unlatch position. The AD which strengthened the eight bottom lock sectors worked and the bottom eight cam sectors did not unlatch
but stayed in position, however the two midspan latches have no locking sectors to be fixed by the AD, so aging worn torque tubes and slack in the linkage allowed the aft midspan latch to go from mostly latched to slightly unlatched, an arc of few degrees, and high internal pressure blew out/ruptured door at aft midspan latch. No cracking, just partial unlatching and then poof, rupture.

800 door did not split as UAL 811 did. UAL 811 had small rupture from inside to outside at aft midspan latch as evident in photo on page 36, figure 9 and 10 of AAR 92/02 but locking sectors were overridden and whole door opened, broke in half, and was torn off. UAL 811 door description matches PA 103 which shows in AAIB 2/90 figure B-11 the split in half longitudinally exact shape door which happened every early in destruction sequence as shown by the reconstruction drawings and sequence report. The shape of the tearing of large fuselage skin above the 103 door is markedly similar to UAL 811 profile view also. I have included this comparison sheet in my package mailed this morning to you as Misc Enclosure G.

So, UAL 811 and PA 103 had door open entirely, split in two longitudinally in half and land relatively unscathed.

TWA 800 matches the door rupture of AI 182 as stated in Canadian and Indian Aviation Occurrence, page 49 and 50 of the Canadian report which states, "The forward cargo door which had some fuselage and cargo floor attached was located on the sea bed. The door was broken horizontally about one quarter of the distance above the lower frame. The damage to the door and the fuselage skin near the door appeared to have been caused by an outward force and the fracture surfaces of the door appeared to be badly frayed."... "The door failing as an initial event would cause an explosive decompression leading to a downward force
on the cabin floor as a result of the difference in pressure between the upper and lower portions of the aircraft."

Mr. Wildey, that reads like your report. The Canadian 182 door area description matches the door area appearance of the NTSB 800 reconstruction photograph. AI 182 can be discussed because NTSB says it is similar and has chart of sudden loud sound on the CVR of TWA 800 and AI 182 in Exhibit 12-B.

What has happened is that AI 182 and TWA 800 bottom locking sectors did their job and kept bottom eight latches from unlatching but still allowed the aft midspan latch to go from mostly latched to just a bit unlatched and poof, rupture leading to outward force, badly frayed skin, broken horizontally one quarter of the way up, shattered cargo door area skin, and bottom latches attached to cargo floor. The AI 182 report has many many similarities to TWA 800 exhibits and I recommend the report to you to be amazed by them. I shall research the similarites from the right horizontal stab receiving inflight damage like TWA to similar CVR and FDR data and report back to you on that.

So, UAL 811 matches PA 103 in pictures and reconstruction drawing of door area. Totally unlatched and broken in half.

TWA 800 and AI 182 match in text and reconstruction of door area. Aft midspan latch rupture and bottom attached to cargo floor and outward force giving frayed skin.

UAL 811 as usual is the linchpin having both small complete rupture at aft midspan latch and complete unlatching too.

Yes, TWA 800 door area does not look like UAL 811, but still door problem for TWA 800 as shown by unlatched and not hung
aft midspan latch and smooth door frame midspan latch area.

Yes, all four 747s are door problems and NTSB realized that and grouped them together on Chart 12 of Exhibit 12-B.

And of course, many many other significant pieces of evidence link the four together as door events.

Of all the people on the planet, Mr. Wildey, you are the one that is able to rule in or rule out the cargo door as culprit on TWA 800 the fastest and most accurate way. You can examine the door hinge for over travel damage.

Or, what would you need, in your mind, to determine by evidence that the door was conclusively closed at water impact and what would you need to believe it was conclusively open? Truth has a way of standing tall, when you examine the door area for your proof, one way or the other, it will be there.

I think Mr. Streeter used the hoop stress queston to answer in his mind if door opened in flight or not. I would have never thought to use that proof but there it was. Yes.

I understand your rejection of TWA 800 door problem because it does not look like UAL 811. Fine, I've tried to explain why. But now, compare to AI 182, and compare UAL 811 to PA 103, the two pairs match.

AI 182 has excellent descriptions of pieces of wreckage from a metallurgist's point of view. I encourage you to peruse the entire report scanned in and on web site www.corazon.com. Download time is slow, sorry, but I wanted the authenticity of the actual report on the site.
Now, my turn:

What about the red paint smears? Come on now, they are real, there are a lot of them, and they are in the area of interest. And they really support cargo door explanation of outward opening and slamming up and transferring red paint to white fuselage above. Just like UAL 811 in principle.

What about the outward rupture petal shaped hole at aft midspan latch? I can see it, it's in the picture.

What about the smooth door frame at aft midspan latch? If bottom latches held and called latched, then aft midspan did not hold and can be called unlatched.

What about the missing or not hung 80% of the door material? 80%! Things like locking handle and overpressure relief doors, very relevant and important items.

What about hoop stresses? I mean, is that like Michael Jordan playing without Scottie Pippen?

Thank you again for corresponding with me about this matter. To me that indicates an open mind wanting to know just what the hell is going on.

We both have the same goal and look at getting there by different approaches. I am looking at yours and ask that you look at mine.

Mine is comparing four similar high time 747 accidents and noting similarities and drawing tentative conclusions to be ruled in or out by facts, data, and evidence. I firmly believe the four as
grouped by NTSB in chart 12 all have the same event occur, inadvertent rupture/opening of the forward cargo door in flight.

Please check out Air India 182 AAR on www.corazon.com. Please examine TWA 800 door area for confirmation of rupture/open in flight or not. Please continue this dialogue. It's important.

I shall research 182 and 800 similarites by comparing AAR of 182 and the exhibits of 800 and report back to you.

Best regards,

Barry Smith

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: Fwd: All latched/mostly latched

Date: Thu, 18 Dec 1997 14:27:46 -0800
To: WILDEYJ@ntsb.gov
From: John Barry Smith <barry@corazon.com>
Subject: All latched/mostly latched
Cc:
Bcc:
X-Attachments:
Dear Mr. Wildey, Thank you very much for your hoop stresses email. I wish to reply at length after a time to study it. My first few readings indicate I shall have to do some research for proper reply.
Let me cajole gently at two sentences. ÔPlease know that the Safety Board has seriously considered the possibility of the forward cargo door opening. However, at this time we believe that sufficient work has been done to reach our conclusions. Ô

Ah, come on now. The cargo door is a known killer who was at the scene of the crime and left early. Nobody wants to believe he killed again and he says he didnÕt do it, but his alibi has lots of holes in it. A great big hole in fact. About four feet by four feet. To let this killer go home free based upon his almost satisfactory explanation of all latched and all intact is wrong. HeÕs mostly latched and partially intact. Just as thereÕs a big difference between all dead and mostly dead, there is a big difference between all latched and mostly latched.

WeÕve shaken hands, Mr. Wildey, IÕve listened to you for hours, IÕve read dozens of pages of your report. You are detailed, precise, and logical. To dismiss cargo door with one incomplete sentence is not you, Mr. Wildey. It doesnÕt make sense. Safety Board may believe sufficient work was done, but not you.

"Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

Eight is not ten, pure and simple. Ten is ten. Eight is incomplete; ten is complete. Please donÕt be like some who say they have turned over every stone, tried every possibility, and examined every theory completely. ItÕs just not true. Cargo door is a possibility that has not been examined completely. That is true.

I ask you, sir, to examine it completely. Ten latches exist: ten
latches examined. Leaving only eight examined will nag you. It will detract from pride of your extensive effort on TWA 800. Proper examination of that door to update the 22 Apr 97 report is the right thing to do and can be done. It’s extra work, I know, but worth it.

As you were writing me, Mr. Wildey, I was writing you. The below is the text part of my presentation to be snail mailed to you and Mr. Streeter tomorrow with 26 formal enclosures and seven informal ones. Please review it carefully and rebut when appropriate. I was wrong on front of center tank being sucked forward by explosive decompression and am possibly wrong on some other deductions in my nine page analysis. Overall, I still believe quite firmly cargo door rupture is implicated in TWA 800 crash until refuted by facts and data.

I will review your thoughtful 18/12/97 email at length and prepare my reply. Thank you very much again for the effort and thought to respond. This is very very important.

Merry Christmas,

Barry Smith

James F. Wildey II
National Resource Specialist
National Transportation Safety Board
490 L'Enfant Plaza East, SW.
Washington, DC 20594

Lyle Streeter
FAA AAI
Dear Gentlemen,

18 December 1997.

I address you both as representing the United States government. You are officials and have the education, experience, and desire to investigate an aircraft accident of national importance. I know the differences between legislative branch and executive branch and NTSB and FAA, but in a matter of life and death, which this is, I prefer to address open minds, not fixed titles.

Mr. Streeter and Mr. Wildey, both of you asked a question regarding the cargo door rupture explanation for TWA 800 during the recent public inquiry. They were important questions and revealed an interest in an answer not yet known.

The formal question from Mr. Streeter to Mr. Wildey was, "Were there hoop stress fractures found on the wreckage of TWA 800 near the area of damage?" or words to that effect. The answer from Mr. Wildey was "Yes, and around stringer 40R," or words to that effect.

The informal question from Mr. Wildey to me was, "What did you think of the cargo door presentation?" or words to that effect. My answer to Mr. Wildey was "Very interesting, I wish to correspond with you about it."

I am now corresponding. I believe that discussion between an informed member of the public and officials about a matter of
national importance, testimony on the public record, released public docket exhibits, and previously released government accident reports is appropriate and acceptable, even necessary sometimes. It takes everyone to help solve this mystery. FAA web page states, "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB)."

We were all at the TWA 800 fact finding inquiry in Baltimore. Were facts found? I certainly found some, important ones. I've put them together to attempt to persuade you that the forward cargo door aft midspan rupture explanation is a worthy line of investigation. The first goal is a comprehensive professional examination of that forward cargo door area to rule in or rule out rupture at aft midspan latch.

You can do that; I can't.

Specific suggestions:
1. Examine aft midspan latch pin for damage as was observed on UAL 811, NTSB AAR 92/02 page 33, "The forward midspan latch pin was relatively undamaged. The aft midspan latch pin had definite areas of damage. Both pins had wear areas where the cams would contact the pins during latching. (Encl 1)
2. Examine the TWA 800 door hinge for damage as was observed in AAR 92/02, page 35, "Several areas on the hinge sections, such as the fuselage hinge sections, showed evidence of contact from the door during overtravel (See figure 14.) In addition the fuselage forward hinge sections were slightly bent." (Encl 2) Figure 14 is on page 40 and shows photograph of the hinge overtravel damage. (Encl 3)
3. Examine two midspan latches from forward cargo door for
damage. The criterion for determining if latches latched was to check to see if still locked and attached to adjacent fuselage sill or frame. The bottom eight latches of TWA 800 door were attached to sill so conclusion latched. The two midspan latches are unattached to frame so conclusion unlatched. The door frame is smooth where the aft midspan latch is supposed to be attached but isn't.

4. Examine forward and aft pull-in hooks of TWA 800 for compression and smearing damage as was observed in AAR 92/02, page 45. (Encl 4)

5. Examine door and fuselage for paint transfer from one to the other as was observed in AAR 92/02, page 41. (Encl 5) Red paint smears on TWA 800 on white paint between passenger windows above cargo door may have come from red paint on top of cargo door. The red paint smears are large and frequent only along the top of the cargo door area and not found on the other 460 feet of fuselage trim. This indicates door below opened outward and slammed upward into fuselage, giving overtravel over 143 degrees on the hinge and transferring red paint from door onto white paint between passenger windows. The opening door with hinge attached took red trim fuselage skin with it and that may have slammed upward also onto white painted skin. Red paint smears are not scraped away white paint revealing red underneath but red paint on top of white paint. White paint scraped away reveals green primer.

6. Examine outer skin contour of the upper door piece for inward crushing as was observed in AAR 92/02, page 41. (Encl 5) Door blows outward and top of door smashes into fuselage above giving inward crushing not by water impact. Photo of TWA 800 top door piece shows such damage. (Encl 6)

7. Examine master latch lock handle housing and trigger for position. AAR 92/02, page 41, found it relatively flush with door outer skin. (Encl 5)
8. Examine floor beams again of TWA 800 to confirm statement in Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and "The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." (Encl 7) This observation matches downward buckling as was reported in AAR 92/02, page 4, "The floor beams adjacent to and inboard of the cargo door area had been fractured and buckled downward." (Encl 8)

9. Confirm evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. (Encl 9) This observation coincides with AAR 92/02 which states on page 11, "The cargo door and its associated hardware are designed to carry circumferential (hoop) load arising from pressurization of the airplane." (Encl 10) If cargo door was fully latched and intact until water impact then there should be no hoop tension fractures. If the door was missing in flight, hoop tension fractures could be expected to be found and they were on TWA 800 leading to conclusion door was missing in flight.

10. Confirm door frame of TWA 800 which abuts aft edge of door is curved outward in petal shaped bulge indicating outward force rupture. Aft midspan latch is unattached to aft midspan latch pin halfway up the door frame. Edge of door frame is smooth indicating door not missing by force but by unlatching of aft midspan latch. (Encl 6)

11. Establish large round rupture hole in TWA 800 photo
centered at aft midspan latch is in fact a hole or something otherwise. (Encl 6)

12. Confirm outward peeled skin on TWA 800 upper skin as shown in photograph (Encl 6) which indicates outward force which matches AAR 92/02, page 6 photograph of peeled upper skin in same location. (Encl 11)

Essentially, Mr. Wildey and Mr. Streeter, TWA 800 can be matched to UAL 811 through NTSB AAR 92/02 and the TWA 800 public inquiry exhibits. UAL 811 was an inadvertent opening of the forward cargo door in flight. TWA 800 may be also. A complete examination of the TWA 800 cargo door area should be done to compare with the UAL 811 cargo door area as reported in AAR 92/02. There are other things to examine in that TWA 800 door such as two overpressure relief doors for open or closed, torque tubes for bending, and viewing ports for direction of damage similar to AAR 92/02, page 44. (Encl 23)

Mr. Wildey, a complete examination of TWA 800 cargo door area requires more than the sentence from "Docket No. SA-516, Exhibit Number 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, page 1, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill." (Encl 12) The door is a known killer near the scene of its specialty crime, pressurized hull rupture. Exoneration of cargo door requires more than a cursory analysis.

Eight latches is not enough when ten exist. Twenty percent of door material is not enough when 100% exists. The incomplete early examination of the cargo door before reconstruction was completed has resulted in three distinct misinterpretations which
continue to this day:
1. Entire door latched after initial event.
2. Door intact and attached to nose at water impact.
3. Water impact caused initial shattering of cargo door area.

Cargo door explanation proposes the door was not fully latched at water impact, it was mostly latched, only 80%. The door was not totally intact at water impact, it was partially intact; only the bottom 10% was attached to bottom sill of frame. The aft midspan rupture gave outward force to fuselage and door frame skin which burst outward. Explosive decompression and subsequent tearing off of nose caused initial shattering of cargo door area. The water impact gave any inward crushing damage to already shattered cargo door area.

Mr. Wildey, I noticed your name is author of report, No 97-82 of Docket No. SA-516, Exhibit No. 15C, Section 41/42 Joint, Forward Cargo Door, although you must have relied on investigator Al Dickinson, AS-10 for input. The report is dated April 22, 1997, a month before the reconstruction was completed and the red paint smears, outward bulge at aft midspan latch and general shattered effect became apparent. Mr. Ron Schleede of NTSB was kind enough to report the cargo door was locked and latched to me in an email on August 11, 1996, ten months before reconstruction completed. (Encl 13) Cargo door area was among the last parts to be reconstructed according to the pictures on the CD-ROM from NTSB about TWA 800.

It is apparent a hasty conclusion was reached about the status of the forward cargo door based upon incomplete evidence available at the time of only eight bottom latches latched and that hasty conclusion has not been modified. In Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, you write: "It is
therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information." (Encl 14)

Mr. Wildey, Yes, Yes, Yes! Can you do that? Can you write a new sequence as new information and new interpretation is acquired? Can you add an addendum/correction(errata sheet to Exhibit 15C, Section 41/42 Joint, Forward Cargo Door? It would be written after the reconstruction was completed in May which showed new evidence such as red paint smears which have allowed for a new interpretation of events. A further examination of the forward cargo door area is now warranted.

Mr. Streeter, as an accident investigator I believe you put value in finding similar accidents to the one under current investigation from which similarities may be observed and conclusions drawn. The NTSB has done that for TWA 800: Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. (Encl 15) The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted together in that sequence by the NTSB. In addition, a Philippines 737 sound is added at the bottom.

The linchpin of the cargo door explanation is the sudden loud sound on the CVR. I believe that to be the sudden rushing sound of the air molecules as they push outward to equalize the higher inner pressure to the lower outside pressure. (The Air India 182 CVR sudden loud sound is matched to the CVR sudden loud sound on the DC-10 cargo door crash in the Canadian government accident report. (Encl 16))
It is apparent to me that the four Boeing 747 accidents shown in Chart 12 match in everything but duration and that is measured in microseconds. All are less than a second. All are followed by an abrupt power cut. The cargo door explanation states all Boeing 747 sudden loud sounds are produced by explosive decompression followed by severe disruption of the adjacent main equipment compartment cutting off power to FDR and CVR. The initial disruptive force is the explosive decompression but the ultimate destructive force is the 300 knots slipstream tearing off the entire nose.

The sudden loud sound does not match bomb or center tank explosion and is left as unexplained or called a vague structural breakup sound. A decompression air rushing sound would explain the sound spectrum of rise time, frequency components and amplitude. The abrupt power cut could be explained by nearby cables in adjacent main equipment compartment disrupted by the explosive force of the decompression.

Gentlemen, another clue to accident cause is the sequence of breakup and that is determined from wreckage plot. What departs the aircraft first may well be near the initial event. The NTSB has provided a study: Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. (Encl 17) Among all the charts of pieces of the plane coming off and when, there is one chart that shows the first to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. That item left even before the last ASR radar beacon to Islip radar. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and
leave soon thereafter. On dark page number 29 lower frame stringer 40L-42R is shown to leave very early. (Encl 18)

The overall appraisal was made by Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing." (Encl 19) Please carefully agree, gentleman, cargo door is just forward of the wing and the center tank is not.

There is another interesting observation in an exhibit: Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." (Encl 20) On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge. (Encl 21)

Engine number three is on the right side inboard and would be the engine to throw off a stator blade to penetrate the right horizontal stabilizer. Engine number four is too far outboard of stabilizer. The left side stabilizer had no such engine part penetration.

Cargo door explanation relies heavily on engine number three data. It is the one to catch on fire, lands apart from the other three, throws off FOD into number four, ingests humans, and is heavily damaged upon retrieval. Engine number three may well be the ignition source for the center tank fire/explosion according to the cargo door explanation. The door ruptures/opens out and tears off, big hole appears, starboard engines ingest foreign objects, 300 knots tears nose off, wings and fuel tanks and
fuselage fall and disintegrate and fodded on-fire engine number three or four ignites fuel vapor cloud and center tank at 7500 feet many seconds and thousands of feet lower after initial event of door rupture.

The four engines hold vital accident clues. To ignore and omit that information is wrong. They are four vacuum cleaners at the scene of the crime. The door rupture or center tank explosion would send debris into the engines. How much debris, what kind it is, what did the engines do, and what happened to them is vitally important. Blade tip rubs and inlet cowling damage reports are extremely relevant. Pratt and Whitney was not even a party to the investigation and no exhibit item was released of the engine breakdown. This is a grievous error, gentleman, can you correct it?

A stator blade was embedded in the right horizontal stabilizer right behind engine number three. This indicates engine number three was fodded early on and threw off pieces which is consistent with cargo door explanation and inconsistent with center tank explosion in which engines windmill and fall intact to water.

NTSB AAR 92/02, page 2, has engine number three fodded by baggage debris and throwing off fodd into engine number four which caught fire. Both engines had to be shut down. (Encl 22) Early news reports had TWA 800 engine number three fodded with inlet cowl material and the only engine to show burn damage. UAL 811 had dents in right horizontal stabilizer and torn, punctured, and dented inlet cowl material according to AAR 92/02, page 7. (Encl 24)

The engine breakdown report is vital and is connected to the
TWA 800 investigation by the stator blade in right horizontal stabilizer. The engines are involved; they are not innocent bystanders. Engine number three may be the center tank mysterious ignition source. Can you get powerplant breakdown report exhibit released? Can you confirm for yourselves engine number three burnt, foddled, or otherwise different from 1, 2, or 4?

The cargo door rupture explanation is very detailed and explains the evidence, from streak to red paint smears to center tank explosion. Please inquire for more details or peruse www.corazon.com. At this stage I believe you gentlemen are not yet that interested in 'how' but 'if' door shattered in flight or on water impact. We agree door area did shatter but 'when' is the question. We agree the center tank exploded but 'when' is the question.

NTSB currently has center tank explodes first, then door shatters later, I suggest door area shatters first, then center tank explodes later. Door, then tank; or tank, then door? There is our item of difference in a concise sentence.

I offer hard evidence to support 'yes, door did rupture/open in flight for TWA 800.' (When center tank exploded is for later.)
1. Floor beam downward movement.
3. Red paint smears.
4. Curved outward smooth door frame at aft edge of missing door piece.
5. Outward peeled skin.
6. Petal shaped outward rupture hole at aft midspan latch.
7. Aft midspan latch not attached to latch pin.
8. Inward crush of top piece of door.
Possible hard evidence of door rupture in flight:
1. Hinge overtravel impression damage.
2. Aft midspan latch pin damage.
3. Other matching items to confirmed cargo door opening, UAL 811, may be discovered with exhaustive examination of cargo door area.

Mr. Streeter and Mr. Wildey, here is my big picture overview: (Everybody means us.)
1. Everybody knows the poly-X wiring in early model Boeing 747s, including TWA 800, had problems of easily chafing in vibration in the past. Cargo door explanation says that happened again to TWA 800.
2. Everybody knows that chafed wiring can cause a forward cargo door motor to go to the unlatched position with UAL 811. Cargo door explanation says that happened again to TWA 800.
3. Everybody knows that high cycle Boeing 747s have a weak structural area aft of the flight deck and forward of the wing called Section 41 which requires retrofit of structural strengthening after 20000 cycles. Cargo door explanation says TWA 800 at 18000+ cycles had not had that retrofit and cargo door area was thus weak.
4. Everybody knows that a forward cargo door opening on an (1) aged (2) high flight time/high cycles (3) early model Boeing 747, UAL 811 (4) which took off in dusk or darkness (5) running late (6) and during climb (7) experienced a sudden initial event near the leading edge of wing in fuselage which left a (8) short (9) sudden (10) loud (11) sound on the cockpit voice recorder, an (12) abrupt (13) power cut to the flight data recorder, (14) foreign object damage to starboard engine #3, (15) more severe inflight damage on starboard side, (16) nine never recovered bodies, (17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area
on starboard side, (19) unusual paint smears in forward cargo
doors, (20) rupture appearance of skin at aft midspan latch of
the forward cargo door, (21) outward peeled skin on upper
forward fuselage, (22) vertical fuselage tear lines forward of the
wing and aft of forward cargo door, (23) had hinge stay attached
to top piece of forward cargo door, (24) and destruction initially
thought to be have been caused by a bomb but (25) later
conclusively ruled out. Cargo door explanation says that all
twenty five happened again to TWA 800.

Everybody knows an aged aircraft, TWA 800, with problem
wiring, poly-X, with a weak area, Section 41, which had a
previous fatal electrical fault cargo door opening in same model
and type, UAL 811, could have a similar problem. AAR 92/02,
page 92. (Encl 25) Cargo door explanation and evidence says
that happened again to TWA 800. But only one believes it. And
now maybe you two gentleman.

At least believe the evidence enough to complete an exhaustive
examination of the forward cargo door of TWA 800 on the
wreckage reconstruction. Thank goodness it's there. The landing
gear doors, which have never killed anyone, got twenty two
paragraphs of damage description in Exhibit 7A; the forward
cargo door which has nine confirmed kills, got one sentence in
Exhibit 15C.

At least believe the evidence enough to request that the
powerplant breakdown exhibit be released as part of the public
docket so that the results may be examined and compared with
other engine breakdown reports of similar accidents, UAL 811,
AI 182, and PA 103, a grouping suggested by NTSB document
Chart 12 in Exhibit 12-B.
At least believe the evidence enough to pursue the cargo door explanation by going to www.corazon.com and reviewing analysis of government accident reports and contact me at barry@corazon.com.

At least believe the current evidence enough to personally examine possible new evidence such as hinge and latch pin of TWA 800 door hanging on wreckage reconstruction.

Mr. Wildey, there were three large poster photographs of TWA 800 reconstruction behind you on the platform during the inquiry hearing. One was of hundreds of pieces of wreckage, one was of starboard side and one was of port side of wrecked aircraft. We three all saw those three pictures every day. They were real and included real things. I have discussed real things that were in those three pictures so close to us at the hearing: 1. Hinge, 2. Pins, 3. Peeled skin, 4. Door frame, 5. Red paint smears, 6. Round rupture hole, 7. Bottom latches, 8. Missing door material, 9. Downward floor beams, 10. Hoop stress fractures, 11. Shattered starboard skin, 12. Smooth port skin, 13. Door manual locking handle, 14. Door pull in hooks, 15. Center tank, 16. Vertical tears, 17. Right horizontal stabilizer.

During the hearing on the other side of the stage were rotated large poster photographs. For the first few days one photograph was of the CVR sudden loud sound showing rise time and frequency analysis. I have discussed that real thing and the real things connected to it by NTSB Chart 12 in Exhibit 12-B, which groups UAL 811, PA 103, and AI 182 and TWA 800 together.

The three photographs of wreckage showed a hangar floor with parts and reconstruction. Nearby were other rooms with real things in them. I have discussed those real things:
1. Flight Data Recorder, 2. Engines. 3. Cabin interior.

At the inquiry in front of us on tables were reams and reams of paper compiled into exhibits for review and analysis. I have discussed those exhibits:
1. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and "The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."
2. Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11 which discusses direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only.
3. Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."
4. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."
5. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted
together in that sequence.
6. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. One chart that shows the first items to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-40R is shown to leave very early.
7. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."
8. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

Other real evidence was discussed as stated in official government accident reports:
1. US NTSB AAR 92/02 UAL Flight 811.
2. Canadian and Indian Aviation Occurrence, Air India Flight 182.
3. UK AAIB 2/90 PA Flight 103.
4. US NTSB CD-ROM .jpg pictures of TWA 800.

I realize not everything stated in reports is exact. It is as precise as possible and when discussing thousands of pieces of wreckage of a catastrophic mystery airplane crash there is room for
modification of conclusions. Cargo door explanation is constantly altering precise sequence to accommodate new evidence such as downward floor beams and hoop stresses in TWA 800 forward area.

For open minds there are seven basic questions. For closed minds there are none.

The open minds ask these questions in any order:
1. How and why does forward cargo door open in flight?
2. How does open door in flight cause nose to come off for AI 182, PA 103, and TWA 800?
3. Why did nose of UAL 811 stay on?
4. AI 182 and PA 103 not a bomb?
5. TWA 800 not center tank as initial event?
6. Explosive decompression enough to tear nose off?
7. Is there a conspiracy to keep cargo door explanation quiet?

Let me answer those basic questions briefly:
1. I don't know about AI 182, PA 103, or TWA 800, but UAL 811 door open cause was electrical short to door motor to unlatch position which overrode safety locking sectors and failed switch and door unlatched and opened. PA 103 and UAL 811 had total forward cargo door openings while AI 182 and TWA 800 had rupture at aft midspan latch with bottom eight latches holding tight. Door openings were probably a result of aging aircraft, out of rig door, chafed aging faulty poly-x wiring, weakened Section 41 area, design weakness of no locking sectors for midspan latches, AAR 92/02, page 12, (Encl 26) and only one latch per eight feet of vertical door. AI 182, PA 103, and TWA 800 had similar circumstances.
2. Cargo door opens and huge ten by thirty foot hole appears in nose, structural members of door and frame are missing, floor
beams are fractured, bent, and broken, aircraft direction is askew, flight control surfaces affected, engines damaged, and 300 knots, more than the fastest hurricane or force five tornado on earth, hits damaged area and tears nose off within three to five seconds.

3. Nose of UAL 811 may have stayed on because pilot said he had just come off autopilot and did not fight plane as it gyrated, or plane was younger than others, or the time from door opening to tearing off was 1.5 seconds and allowed the pressurization to be relieved somewhat and six less feet of width of hole was torn off. Cargo door inadvertently opened on the ground during UAL preflight in 1991 and no damage was done. Cargo door opened in flight two inches on PA 125 in 1987 and stayed attached to fuselage and only damage was cost of fuel dumped. Cargo door opened in flight for UAL 811 in 1989 and nine died when door tore off. Cargo door explanation for AI 182, PA 103, and TWA 800 has door opening inflight, tearing off, and then nose tearing off leading to three similar accident wreckage patterns, debris fields and total destruction. Door openings have different consequences depending on altitude, speed and mode of flight.

4. Yes, not a bomb for AI 182 and PA 103 as initial event. Evidence refutes bomb explanation and is in government accident reports which careful analysis will reveal and documented on www.corazon.com. Those accident investigators did not have the benefit of hindsight, the internet, or several subsequent similar accidents to compare and draw different conclusions.

5. Center tank exploded yes, but after door ruptured/opened, hole appeared in nose, nose torn off in wind, fuselage falling with disintegrating fuel tanks and ignited by foded and on fire engine number 3 or 4 at 7500 feet thereby explaining the Chairman's question, "Why so few bodies burned?" The answer is they were not there to be burned. The nose came off with the passengers inside cabin and descended to ocean alone. The center tank
exploded into nothingness not the passenger compartment.

6. Explosive decompression is enough to rupture pressurized hull at weak spot, one latch for eight feet of door, in a weak area, Section 41, but not enough to tear nose off. The ultimate destructive force is the 300 knots of slipstream, more powerful than any wind on earth. If cargo door popped in balloon, the large hole would appear but the nose would stay on. In a tornado, nose comes off within three to five seconds.

7. There is no conspiracy, no plot, no coverup by anyone involved with the cargo door explanation:
a. No conspiracy of Sikh terrorists named Singh to put a bomb on AI 182; the door ruptured in flight.
b. No conspiracy of Libyan terrorists or whoever to put a bomb on PA 103; the door ruptured in flight.
c. No conspiracy to detonate a bomb on UAL 811 as the passengers thought, as the crew thought and told the tower who told the Coast Guard and crash crews on the ground as they prepared for a wounded 747 coming in after a bomb blast; the door ruptured in flight.
d. No conspiracy to put a bomb on TWA 800, no conspiracy of terrorists to shoot a missile, no coverup by US Navy to hide accidental shootdown, no coverup by Boeing, NTSB, FAA, TWA who know the cargo door is the problem and are hiding that knowledge; the door ruptured in flight.

There is no conspiracy or cover up or plot but it is understandable for the public and others to believe that explanation: Cargo door cause is subtle.

1. The explosive decompression of door rupture mimics a bomb with noise and blast effects.
2. The events happen years apart in different jurisdictions with different airlines.
3. Explosive decompression of door rupture leaves no direct
evidence such as soot, only noise on CVR tape.
4. The cargo door manufacturer and operator are large and highly respected companies.
5. Explosive decompression causes secondary diversionary effects such as fireball from center tank explosion and relatively mild blast in cargo compartment of incendiary device.
6. A door opening and slipstream are considered trivial things by the public who thinks of a car trunk opening at highway speed not understanding high internal force of pressurization, large size of cargo door, and destructive force of 320 miles per hour on weakened structure.
7. Cargo door explanation assumes responsibility for rupture by manufacturer, operator, government, while bomb or missile can be blamed elsewhere.

Everybody involved is doing the best they can, including us, to find out what happened to TWA 800 based upon what we know, our experience, and the evidence.

So, gentleman, thank you for reading and thinking so far, let me end with respectful requests and an anecdote.

Please:
1. Conduct a complete examination of the forward cargo door area on the TWA 800 reconstruction and add an addendum to Exhibit 15C and then release the document to the public docket.
2. Request with good reasons that the powerplant group exhibit be released to the public docket.
3. Investigate the entire cargo door explanation for four high time Boeing 747 accidents by visiting www.corazon.com, critically analyzing presentation and email comments to barry@corazon.

Here's a true story that just happened to me two weeks ago:
On the way to the NTSB hearing from SFO I noticed my assigned Boeing 757, not 747, come into the gate after a flight from Miami. As the baggage handler opened up the forward outward opening, non-plug cargo door, at least two pints of water rained down on him. He did not appear disturbed and then went about his business.

I deduced that the hot humid air in the cargo compartment condensed after take off from Miami into water on the cold metal fuselage skin and pooled inside until door opened and released outside on the ground in San Francisco. This much water on possibly chafed wire bundles in the forward cargo compartment would explain how wires got shorted out to turn on door motor to unlatch position for UAL 811 taking off from Honolulu. It would explain why three of the four 747s had door open in climb or shortly thereafter. We've all had the air conditioner turn on inside a hot humid car or passenger compartment and have water vapor condense into fog; or go out in the morning to have metal car covered in dew with no rain; or start descent in jet and have water vapor fill the cockpit. It is possible that enough fog and dew inside a large metal cargo door compartment could condense into two pints of water.

Water and chafed old faulty wiring in a known weak structure with a known faulty device is a dangerous combination. Let us make it safe.

Best Regards,

John Barry Smith
FAA commercial licensed pilot, instrument rated, former Part 135 certificate holder.
Light aircraft owner, Mooney M20C  
2000 hours Navy aircrewman radar operator/electronics technician, P2V-5FS.  
650 hours Navy reconnaissance navigator on carrier jet, RA-5C. Survivor by ejection in sudden, night, fiery, fatal, jet airplane crash, June 14th, 1967.

From: John Barry Smith <barry@corazon.com>  
Date: September 6, 2009 12:03:08 AM PDT  
To: FAA  
Subject: Fwd: RE: Please resolve contradictions/We are on the same side.

From: Wildey Jim <WILDEYJ@NTSB.gov>  
To: "John Barry Smith" <barry@corazon.com>  
Subject: RE: Please resolve contradictions/We are on the same side.  
Date: Mon, 23 Feb 1998 16:03:27 -0500  
X-Priority: 3  
Mr. Smith: To the best of my knowledge (and I have checked), there are no contradictions between what the FAA believes and what the NTSB believes in regard to the forward cargo door, despite any correspondence you may have received from individuals within the FAA. The public docket on this accident contains the factual information generated so far. This information has been reviewed by the technical experts from the parties (including the FAA) and is the only proper source of
information. Based on this factual information, the Safety Board has concluded that the cargo door did not initiate the destruction of TWA flight 800.

Jim Wildey

> -----Original Message-----
> From: John Barry Smith [SMTP:barry@corazon.com]
> Sent: Saturday, February 21, 1998 8:45 AM
> To: Wildey Jim
> Subject: Please resolve contradictions/We are on the same side.
>
> Mr. James Wildey, 21 Feb 98
>
> Hello again. John Barry Smith here. Please resolve contradictions of
> NTSB
> saying 1. forward cargo door was all latched, all locked, and all intact at
> water impact which caused right side forward of the wing
damage of TWA
> 800
> as shown in Exhibit 15C, author Mr. James Wildey II, and 2. the FAA
> saying
> right side structural deformation and paint markings indicate outward
> explosion, the door blew open in flight, and the NTSB initial event of
center tank explosion caused the door to open in flight.

Two discrepancies of vital importance:

1. Right side damage around cargo door area from internal explosion or external water impact?
2. Cargo door open in flight or stay closed until water impact when it shattered?

The new interpretation is correct, Mr. Wildey, exactly as you predicted in your exhibit report excerpt below:

Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, you write: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

FAA Airplane Transportation Directorate, from which you relied on for data to base your conclusions in Exhibit 15C, now says that when cargo door opened inflight (as a result of CWT explosion) it may have flown far afield. That would explain the discrepancy of the cargo bay
structure

> that

> were found in places not expected.

>

> Will you engage in email exchange to discuss these items of safety? We

> are

> on the same side, Mr. Wildey.

>

> NTSB AAR 92/02 UAL 811 is the bedrock of facts, data, and evidence.

> The 26

> significant similarities to TWA 800 listed later can not be ignored.

>

> Stator blade is the real item that proves more investigation to be

> done on

> TWA 800: Engines are involved.

>

> Sudden loud sound is the linchpin to entire wiring/cargo door explanation

> for four fatal 747s accidents. It matches other cargo door opening

> explosive decompression accidents, including UAL 811.

>

> I earlier had said to you condensed water had fallen into chafed bare

> wires

> in forward cargo hold, now it turns out some fluid did that very thing

> in a

> Boeing 737 and caused flight attitude difficulties. (This might
explain
Silk Air 737 and other strange 737 accidents.)

Please take some action, Mr. Wildey, there is enough real data in this email to justify an upgrade to Exhibit 15C, at least.

Email me with technical questions if you wish, refer me to Dr. Loeb, have someone as knowledgable as you are contact me for discussion. I am taking action by writing to you with results of my thousands of hours of research motivated by my near death experience in a sudden night fiery fatal jet airplane crash. These discrepancies in the structural breakup sequence are vitally important and must be resolved and any corrections made, if needed.

Does the outward peeled fuselage skin, the outward bulge at aft midspan latch of forward cargo door, the red paint markings above the cargo door, and location of door area pieces of debris indicate that the door opened in
flight? And that the cause of door opening in flight was the explosion of the CWT?

It's interesting that all the doors in the area operated abnormally, the nose landing gear doors, the maintenance door in wing, and of course, the big one, the forward cargo door. That lower lobe has failed before.

Time for some success.

Regards,

John Barry Smith
408 659 3552

Mr. James Wildey: "The Safety Board has received your letter to the Chairman, dated December 30, 1997, concerning the possibility that the TWA 800 accident was related to an in-flight opening of a cargo door. As conveyed to you in previous letters we have sent you, the Safety Board believes that sufficient facts have been gathered to rule out this
FAA: "While no one scenario has been categorically proven to the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident." Mr. Neil Shalekamp, Manager.

NTSB: "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill." James Wildey
UAL 811 was an (1) aged (2) high flight time (3) early model Boeing 747 (4) which took off in low light (5) running late (6) and during climb (7) experienced a sudden initial event near the leading edge of wing in fuselage which left a (8) short (9) sudden (10) loud (11) sound on the cockpit voice recorder, an (12) abrupt (13) power cut to the flight data recorder, (14) foreign object damage to starboard engine #3, (15) more severe inflight damage on starboard side, (16) at least nine never recovered bodies, (17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area on starboard side, (19) unusual paint smears in forward cargo door area, (20) rupture appearance of skin at aft midspan latch of the forward cargo door, (21) outward peeled skin on upper forward fuselage, (22) vertical fuselage tear lines forward of the wing and aft of forward cargo door,
had hinge stay attached to detached top piece of forward cargo door,
cargo door opened in flight, and destruction initially thought to be
have been caused by a bomb but later conclusively ruled out.

So was TWA 800.

AAIB Aircraft Incident Report No: 1/98 (EW/C95/10/4)
Synopsis The incident was notified promptly to the Air Accidents Investigation Branch (AAIB) by the operator and the investigation began that evening. The AAIB team comprised Mr D F King (Investigator-in-Charge), Mr P D Gilmartin (Operations), Mr C G Pollard (Engineering), Mr S W Moss (Engineering), Mr A N Cable (Engineering), Ms A Evans (Flight Recorders). The crew reported at 1330 hrs at Gatwick to carry out a post-heavy maintenance check, test flight on the aircraft.
The first officer (F/O) completed the external check, while the commander completed the 'Flight Deck Preparation' items of the
A aircraft checklist. A Standby (STBY) Rudder system check was carried out with no abnormalities noted and during taxi before take-off, the Yaw Damper indicator showed normal response to turns. When the aircraft was in straight and level flight at FL200 with an indicated airspeed of 290 kt, Autopilot and Autothrottle engaged and Yaw Damper ON, the aircraft experienced roll/yaw oscillations. The Flight Data Recorder (FDR) showed that the Autopilot and Autothrottle were disengaged, and the commander reported that the Yaw Damper was switched OFF but the crew were unable to stop the oscillations. A MAYDAY call was broadcast at 1609 hrs. The crew had the impression that the bank angle would have continued to increase had opposite roll control inputs not been applied.

(b) Causal factors The investigation identified the following causal factors: 1 Contamination of the connector on the Yaw Damper Coupler, in the E&E Bay, by an unidentified fluid had occurred at some time prior
to the
> >>incident flight and compromised the function of its pin to pin
> >>insulation.
>
>
> barry@corazon.com
> http://www.corazon.com/
>
>
>
> From: John Barry Smith <barry@corazon.com>
> Date: September 6, 2009 12:03:08 AM PDT
> To: FAA
> Subject: Fwd: FAA says door may have separated in flight

Date: Wed, 4 Feb 1998 04:51:34 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: FAA says door may have separated in flight
Cc:
Bcc:
X-Attachments:
James F. Wildey II
National Resource Specialist
National Transportation Safety Board
490 L'Enfant Plaza East, SW.
Washington, DC 20594

Lyle Streeter
FAA AAI
Dear Mr. Wildey and Mr. Streeter, 4 Feb 98

This just in...

I received a letter from a manager in the Transport Airplane Directorate, Aircraft Certification Service, dated 30 January 98. This is the same Directorate who said door all latched and all intact at water impact. They have 'rethunk' it.

After my recent letter of 15 Jan 98, they now respond, "While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

Well, well, well. This is very important. I send this to you, Mr. Wildey, because you have relied on the Directorate for the all bottom latches latched so all latched interpretation upon which Mr. Dickinson also relied and was the basis for Exhibit 15C, now
in need of revision for position of water impact damage in door area, door intact, all latched and not opening in flight. If you talk to Mr. Neil Schalekamp, please thank him for his thoughtful response and tell him I'm now preparing an extensive response with documentation to be mailed to him.

Implications of above statement from FAA:

1. Door opened and separated in flight.
2. Door opening and separation caused by CWT explosion.
3. Door flew far away.
4. Outward peeled skin and bulging at aft latch caused by outward force of CWT explosion which blew door open to separation.
5. Door area damage, structural deformation, not caused by water impact but by CWT explosion.
6. Shiny metal object was in air to reflect evening red orange sunlight.
7. CWT as initial event is 'believed,' 'based upon available data' to be correct but not certain and amenable with new data to be revised.

Main deductions of FAA letter: Door opened in flight because of CWT explosion and flew away.

It's a small step but so important. After the door has been determined to open prior to water impact then the next step is to determine what made door open and everyone gets their turn.

1. CWT guys say center tank explosion blew away bottom of cargo hold, door, and nose.
2. Bomb guys can say bomb blew up center tank which blew away bottom of cargo hold, door, and nose.
3. Missile guys can say missile blew up center tank which blew away bottom of cargo hold, door, and nose.
4. Cargo door guy says electrical short from chafed poly x wiring turned on door motor to unlatch position which resulted in aft midspan latch rupture to door open to explosive decompression to blow away bottom of cargo hold to nose off to fireball and center tank explosion ignited by on fire engine number three or four to water impact.

Now to provide documentation, facts, evidence, and data to determine which one of the possibilities actually did happen. Cargo door/wiring has precedent, history, and probability on its side. But that will be in another letter presenting wiring/door explanation.

Mr. Streeter, this is the FAA doing the evaluation of the red paint smears and structural deformation so I thought I'd get this email off to you fast too.

The next paragraphs of the 30 Jan 98 letter from FAA present the CWT explanation as initial event because it was ignited by internal source, not external, and it's happened ten times before in transport hulls. The engine breakup is acknowledged but said not to have caused the explosion.

FAA and NTSB and I can agree there were events of a center tank explosion, door opened in flight, one engine came apart, paint smears and bulge at aft latch from outward force, and shiny metal object in air. It comes down to a time line, a timing sequence of the individual events. And it all has to make sense.

So, TWA 800 now takes on the aspect of an active aircraft accident investigation with explanation modifications based on
new evidence and discussion going on between involved parties.

Regards,

John Barry Smith
408 659 3552
551 Country Club Drive,
Carmel Valley, CA 93924
barry@corazon.com
www.corazon.com

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: Fwd: Part 2 of text version of letter

Date: Thu, 29 Jan 1998 08:48:21 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: Part 2 of text version of letter
Cc:
Bcc:
X-Attachments:

James F. Wildey II
National Resource Specialist
National Transportation Safety Board
490 L'Enfant Plaza East, SW.
Washington, DC 20594

Dear Mr. Wildey,
Enclosed is latest text only version part 2 of hard copy coming your way in the mail.

Best Regards,

Barry Smith

The below is from testimony at the hearing:

WITNESS WILDEY: "I can safely say that this is some of the most examined metal there is anywhere in the world, especially between the nose section and the aft section. Every -- literally, every inch, every quarter inch of the fracture in the fuselage skin and the frames and the stringers and the center fuel tank in the wing center section, every inch of that structure has been examined in great detail."

JBS>Great! What about the overtravel impression damage on the forward cargo door hinge? What about the aft midspan latch pin heat damage? What about the smooth door frame and missing aft midspan latch? What about the red paint smears? What are your examination results?

Mr. Wildey> "Similarly, the forward cargo door which is just aft of station 520 on the lower side of the airplane has had some latching problems in the past. The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire breakup sequence."
JBS>Great! The bottom eight latches were latched. Fine. Now, about the other two...were they latched at water impact? And the locking handle, locked? How about the two overpressure relief doors, open? And the torque tubes, and pins and skin, where are they? Why not hung on reconstruction? Latching problems in the past? Yes, problems in the past.

Mr. Wildey>"This was brought to our attention, and the reason that we examined this was that three of the four nose landing doors had a red tag and were recovered from the earliest part of the debris field and, similarly, around the nose landing gear area there were some fuselage pieces that were recovered that had a red tag on it and were supposedly recovered from the red «the red «earliest debris field.
Of course it became a very distinct question, well, what happened up there, how did these pieces, the fuselage pieces in the doors get into the red zone?
Well, our group took this as a task to look at. We made a report on it and we determined that, for example, on the doors themselves that, yes, those doors apparently did come off the airplane.
They had a lack of damage on them that was consistent with early departure. We developed some hypotheses and scenarios that could allow the doors to depart from the airplane very early in the sequence, and it is consistent with the factual observations we have made.
so, for the doors we said, yes, it appears as though we have a sequence that could account for the doors to come off early, and we also examined the
fuselage pieces right around there that had red tags on them, and we looked at all the features we could find, and for the fuselage pieces around there we said we find no physical evidence to suggest that those particular pieces actually departed the airplane early on in the sequence.

I think, if I remember our report, we said we believed that those particular pieces should be treated as yellow zone parts because we don't find any way that they could possibly have come off the airplane early in the sequence and actually have been found in the red debris field.

Just as a side note, I am aware that the tags on those particular fuselage pieces from around the nose area are the so-called 2,000 series tags, and that is not my area of expertise, but these are the << these tags had some questions about their pedigree, if you will.

But, that is really not our concern. We are saying, and our group said that we don't believe those are red zone parts and we would treat those as yellow zone parts for the purposes of analyzing the break-up sequence."

JBS>That's amazing testimony. That's changing the territory to fit the map. The pieces were in the red zone because they came off first not because they were wrongly tagged. They came off first because the area around the nose gear is near the forward cargo door and that went first during the explosive decompression. The access door and the nose doors and the fuselage pieces around the nose gear doors all left first because that is consistent with explosive decompression when forward cargo door ruptures. It is not consistent with center tank as initial
event. To change the status of evidence, to disregard location of evidence to fit theory, is wrong. To put yellow tags on pieces of fuselage that were originally red zone is wrong. It is like filing the edges of a puzzle piece to get it to fit.

What the transcript reveals is a prosecution of the center tank to the extent of adjusting evidence by changing location status. Red zone pieces were considered yellow zone to fit the center tank explanation. Not good.

Mr. Wildey II> "I think, if I remember our report, we said we believed that those particular pieces should be treated as yellow zone parts because we don't find any way that they could possibly have come off the airplane early in the sequence and actually have been found in the red debris field."

JBS>Well, there is a way, Mr. Wildey; cargo door rupture to door open to explosive decompression to nose off. If your facts don't fit the explanation, find another explanation, don't change your facts. You have changed the facts by calling red zone pieces of fuselage skin near the forward cargo door yellow zone pieces. And then to buttress the violation of investigative technique, the capability and accuracy of the recovering forces is questioned, but not your initial event explanation of center tank explosion. 'Blame the other guy' is not right, especially since they were not there to defend themselves of the accusation of sloppy work.

Ah, if only all jurors could change the evidence location to fit their biased view of the defendant. They would be happy. It is sort of like saying a bloody glove, although found over here, should really be over there, so let's say it was and consider it as such. It leads to false conclusions and injustice.
NTSB with TWA 800 has one accident to find a consistent explanation; I have four, AI 182, PA 103, UAL 811, and TWA 800. I can't change location of pieces of wreckage to fit cargo door explanation in any of those accidents and haven't. Whenever I have a piece of the puzzle I have to find out where it fits in four 747 accidents. NTSB only has one with TWA 800. My model of course is AAR 92/02, UAL 811. I always go back to it. The extra effort put forth in 1992 to issue another AAR superseding a previous one now bears fruit six years later. It was worth the effort to retrieve the UAL 811 door and reconsider the conclusions based on new evidence. It put the clue of chafed wiring in the forefront and ruled out improper latching. It was worth the effort to reconstruct TWA 800 and to reconsider the earlier conclusions based on new evidence.

All my puzzle pieces fit into four accidents and are documented by official government accidents reports. Zany far out newspapers or underground ezines are not used, only NTSB, AAIB, Canadian and Indian government aviation documents. To read AI 182 report is to match TWA 800. To read AAIB PA 103 is to match UAL 811. All reports are available on web site www.corazon.com.

The facts and evidence about wiring/cargo door are repeated because apparently they are not being taken seriously. I am as serious as seeing my dead pilot lying on the ground all crumpled up as if someone had thrown an old flight suit in the corner, and he was in it.

Am I funny? Is cargo door weird? To me, to say documented events which have happened before happened again to TWA 800 is not weird but common sense. To say a door did something it
wasn't supposed to do is normal; it happens every day in cars, ferries and spaceships. They either jam open or closed or pop open or snap closed unexpectedly all the time. Doors have opened routinely in flight in pressurized airliners for years. It's normal to say a door popped, not weird. To say a door popped again in a high time Boeing 747 shortly after takeoff is normal if supported by facts.

To hear others say an event which has never happened before, a center tank explosion on a 747 in flight, or a missile shootdown of an airliner in US territory, happened to TWA 800 is weird. Tank fires and explosions have been designed against ever since the first flight over ninety years ago. They very rarely happen and even rarer with no clear ignition source. To match a new 737 on the ground to an old flying 747 for initial event is weird. To match an old flying 747 to an old flying 747 when both have an event occurring shortly after take off near the leading edge of the wing which killed nine people and left a sudden loud sound on the CVR and an abrupt power cut to the FDR is normal.

I think it's time you stop making fun of me, trying to brush me off, disregarding my conclusions, and treat this survivor of a sudden night fiery fatal jet plane crash with respect.

Or not. Your call.

The two most common causes of airliner crashes are mechanical problem or pilot error. Pilot error has been ruled out in TWA 800 because even if the pilot wanted to do what the evidence showed happened to TWA 800, he couldn't. Mechanical problem is then the most likely. Yet for a year and a half most effort was expended on the least likely event, bomb or missile. To look for something important which is where it always has been is smart but to look
in places it has never been is weird. It's detached from reality thinking. It's denial of unpleasant truth. It's dreaming. It's wishful thinking.

Whenever mechanical cause was offered, only one was suggested, center tank explosion. There are lots of possible mechanical problems to go wrong on a 747, and have happened before, such as aft pressure bulkhead rupture, engine and pylon falling off, to cargo door opening in flight, yet only one was investigated thoroughly, center tank explosion as initial event which has never happened before.

I take the insults of being called names, being made fun of, brushed off with cursory letter from officials, and visits by armed agents because I have to. It's life or death and I've been there. I know the fuselages of high time Boeing 747s are rupturing in flight and I know why. I want to stop it from happening again. The water must not meet the bare chafed poly-x wiring to turn on door motor to unlatch aft midspan latch to cause rupture then opening of door to explosive decompression to nose off to center tank explosion in fireball to water impact.

It's worth the risk to rule in or rule out the door and then to pursue the problem to fix it. It turns out not to be the door fault entirely but wiring, old faulty poly-x wiring that chafes to bare wire when subjected to prolonged vibration. And has several times before and has done it again.

AD of strengthened locking sectors was a partial band aid that didn't cover all the wound, it missed the two midspan latches. The symptom of unlatching in flight was treated but not the underlying cause, door motor power came on inadvertently.
I understand all the reasons for hoping against hope the cargo door is not implicated in TWA 800 crash. Hopes are rebutted by facts. The door is involved. It is shattered, pieces near it left first, latches are missing, petal shaped rupture is seen, and it's happened before.

There is a brave and also principled aircraft investigator out there. He will want to know just what the hell it was that crashed TWA 800 and he wants every 't' crossed and every 'i' dotted. He wants it explained and let the chips fall where they may. That investigator will be known by the questions he asks. They will be questions asked to which he will not know the answer but wants to know.

The following letter was sent to Mr. Wildey II and Mr. Streeter on 19 December 1997. It is worth repeating to all.

Lyle Streeter  
FAA AAI  
Aircraft Accident Investigator  
FAA National Headquarters  
800 Independence Avenue, S.W  
Building FOB 10A, Room 838,  
Washington D.C 20591  

James F. Wildey II  
National Resource Specialist  
National Transportation Safety Board  
490 L'Enfant Plaza East, SW.  
Washington, DC 20594  

I address you both as representing the United States government. You are
officials and have the education, experience, and desire to
investigate an
aircraft accident of national importance. I know the differences
between
legislative branch and executive branch and NTSB and FAA, but
in a matter
of life and death, which this is, I prefer to address open minds,
not fixed
titles.

Mr. Streeter and Mr. Wildey, both of you asked a question
regarding the
cargo door rupture explanation for TWA 800 during the recent
public
inquiry. They were important questions and revealed an interest
in an
answer not yet known.

The formal question from Mr. Streeter to Mr. Wildey was, "Were
there hoop
stress fractures found on the wreckage of TWA 800 near the area
of damage?"
or words to that effect. The answer from Mr. Wildey was "Yes,
and around
stringer 40R," or words to that effect.

The informal question from Mr. Wildey to me was, "What did
you think of the
cargo door presentation?" or words to that effect. My answer to
Mr. Wildey
was "Very interesting, I wish to correspond with you about it."

I am now corresponding. I believe that discussion between an
informed member of the public and officials about a matter of national importance, testimony on the public record, released public docket exhibits, and previously released government accident reports is appropriate and acceptable, even necessary sometimes. It takes everyone to help solve this mystery. FAA web page states, "The Office of Accident Investigation (AAI) is the principal organization within the FAA with respect to aircraft accident investigation and all activities related to the National Transportation Safety Board (NTSB)."

We were all at the TWA 800 fact finding inquiry in Baltimore. Were facts found? I certainly found some, important ones. I've put them together to attempt to persuade you that the forward cargo door aft midspan rupture explanation is a worthy line of investigation. The first goal is a comprehensive professional examination of that forward cargo door area to rule in or rule out rupture at aft midspan latch.

You can do that; I can't.

Specific suggestions:
1. Examine aft midspan latch pin for damage as was observed on UAL 811, NTSB AAR 92/02 page 33, "The forward midspan latch pin was
relatively undamaged. The aft midspan latch pin had definite areas of damage. Both pins had wear areas where the cams would contact the pins during latching. (Encl 1)

2. Examine the TWA 800 door hinge for damage as was observed in AAR 92/02, page 35, "Several areas on the hinge sections, such as the fuselage hinge sections, showed evidence of contact from the door during overtravel (See figure 14.) In addition the fuselage forward hinge sections were slightly bent." (Encl 2) Figure 14 is on page 40 and shows photograph of the hinge overtravel damage. (Encl 3)

3. Examine two midspan latches from forward cargo door for damage. The criterion for determining if latches latched was to check to see if still locked and attached to adjacent fuselage sill or frame. The bottom eight latches of TWA 800 door were attached to sill so conclusion latched. The two midspan latches are unattached to frame so conclusion unlatched. The door frame is smooth where the aft midspan latch is supposed to be attached but isn't.

4. Examine forward and aft pull-in hooks of TWA 800 for compression and smearing damage as was observed in AAR 92/02, page 45. (Encl
4)
5. Examine door and fuselage for paint transfer from one to the other as was observed in AAR 92/02, page 41. (Encl 5) Red paint smears on TWA 800 on white paint between passenger windows above cargo door may have come from red paint on top of cargo door. The red paint smears are large and frequent only along the top of the cargo door area and not found on the other 460 feet of fuselage trim. This indicates door below opened outward and slammed upward into fuselage, giving overtravel over 143 degrees on the hinge and transferring red paint from door onto white paint between passenger windows. The opening door with hinge attached took red trim fuselage skin with it and that may have slammed upward also onto white painted skin. Red paint smears are not scraped away white paint revealing red underneath but red paint on top of white paint. White paint scraped away reveals green primer.
6. Examine outer skin contour of the upper door piece for inward crushing as was observed in AAR 92/02, page 41. (Encl 5) Door blows outward and top of door smashes into fuselage above giving inward crushing not by water impact. Photo of TWA 800 top door piece shows such damage.
7. Examine master latch lock handle housing and trigger for position. AAR 92/02, page 41, found it relatively flush with door outer skin.

8. Examine floor beams again of TWA 800 to confirm statement in Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."

9. Confirm evidence on TWA 800 of direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only, as stated in Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11. (Encl 9)
observation
coincides with AAR 92/02 which states on page 11, "The cargo
doors and its
associated hardware are designed to carry circumferential (hoop) load
arising from pressurization of the airplane." (Encl 10) If cargo
doors were
fully latched and intact until water impact then there should be no hoop
tension fractures. If the door was missing in flight, hoop tension fractures could be expected to be found and they were on TWA 800 leading to
collection door was missing in flight.
10. Confirm door frame of TWA 800 which abuts aft edge of door is curved
outward in petal shaped bulge indicating outward force rupture. Aft midspan latch is unattached to aft midspan latch pin halfway up the door frame. Edge of door frame is smooth indicating door not missing by force but by unlatching of aft midspan latch. (Encl 6)
11. Establish large round rupture hole in TWA 800 photo centered at aft midspan latch is in fact a hole or something otherwise. (Encl 6)
12. Confirm outward peeled skin on TWA 800 upper skin as shown in photograph (Encl 6) which indicates outward force which matches AAR 92/02, page 6 photograph of peeled upper skin in same location. (Encl 11)

Essentially, Mr. Wildey and Mr. Streeter, TWA 800 can be
matched to UAL 811 through NTSB AAR 92/02 and the TWA 800 public inquiry exhibits. UAL 811 was an inadvertent opening of the forward cargo door in flight. TWA 800 may be also. A complete examination of the TWA 800 cargo door area should be done to compare with the UAL 811 cargo door area as reported in AAR 92/02. There are other things to examine in that TWA 800 door such as two overpressure relief doors for open or closed, torque tubes for bending, and viewing ports for direction of damage similar to AAR 92/02, page 44. (Encl 23)

Mr. Wildey, a complete examination of TWA 800 cargo door area requires more than the sentence from "Docket No. SA-516, Exhibit Number 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, page 1, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill." (Encl 12) The door is a known killer near the scene of its specialty crime, pressurized hull rupture. Exoneration of cargo door requires more than a cursory analysis.

Eight latches is not enough when ten exist. Twenty percent of
door material
is not enough when 100% exists. The incomplete early
examination of the
cargo door before reconstruction was completed has resulted in
three
distinct misinterpretations which continue to this day:
1. Entire door latched after initial event.
2. Door intact and attached to nose at water impact.
3. Water impact caused initial shattering of cargo door area.

Cargo door explanation proposes the door was not fully latched
at water
impact, it was mostly latched, only 80%. The door was not
totally intact at
water impact, it was partially intact; only the bottom 10% was
attached to
bottom sill of frame. The aft midspan rupture gave outward
force to
fuselage and door frame skin which burst outward. Explosive
decompression
and subsequent tearing off of nose caused initial shattering of
cargo door
area. The water impact gave any inward crushing damage to
already shattered
cargo door area.

Mr. Wildey, I noticed your name is author of report, No 97-82 of
Docket No.
SA-516, Exhibit No. 15C, Section 41/42 Joint, Forward Cargo
Door, although
you must have relied on investigator Al Dickinson, AS-10 for
input. The
report is dated April 22, 1997, a month before the reconstruction
was completed and the red paint smears, outward bulge at aft midspan latch and general shattered effect became apparent. Mr. Ron Schleede of NTSB was kind enough to report the cargo door was locked and latched to me in an email on August 11, 1996, ten months before reconstruction completed. (Encl 13) Cargo door area was among the last parts to be reconstructed according to the pictures on the CD-ROM from NTSB about TWA 800.

It is apparent a hasty conclusion was reached about the status of the forward cargo door based upon incomplete evidence available at the time of only eight bottom latches latched and that hasty conclusion has not been modified. In Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, you write: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information." (Encl 14)

Mr. Wildey, Yes, Yes, Yes! Can you do that? Can you write a new sequence as new information and new interpretation is acquired? Can you add an addendum/correction/errata sheet to Exhibit 15C, Section 41/42
Joint,
Forward Cargo Door? It would be written after the reconstruction was
completed in May which showed new evidence such as red paint
smears which
have allowed for a new interpretation of events. A further examination of
the forward cargo door area is now warranted.

Mr. Streeter, as an accident investigator I believe you put value in
finding similar accidents to the one under current investigation from which
similarities may be observed and conclusions drawn. The NTSB has done that
for TWA 800: Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study,
page 21, Chart 12. (Encl 15) The sudden loud sound on the CVR which is
followed by an abrupt power cut which occurred on four high
time Boeing
747s is displayed for comparison. TWA 800, Pan Am 103, Air
India 182, and
United Airlines 811 are plotted together in that sequence by the
NTSB. In
addition, a Philippines 737 sound is added at the bottom.

The linchpin of the cargo door explanation is the sudden loud
sound on the
CVR. I believe that to be the sudden rushing sound of the air
molecules as
they push outward to equalize the higher inner pressure to the lower
outside pressure. (The Air India 182 CVR sudden loud sound is matched to
the CVR sudden loud sound on the DC-10 cargo door crash in
the Canadian
government accident report. (Encl 16))

It is apparent to me that the four Boeing 747 accidents shown in
Chart 12
match in everything but duration and that is measured in
microseconds. All
are less than a second. All are followed by an abrupt power cut.
The cargo
doors explanation states all Boeing 747 sudden loud sounds are
produced by
explosive decompression followed by severe disruption of the
adjacent main
equipment compartment cutting off power to FDR and CVR. The
initial
distructive force is the explosive decompression but the ultimate
destructive force is the 300 knots slipstream tearing off the entire
nose.

The sudden loud sound does not match bomb or center tank
explosion and is
left as unexplained or called a vague structural breakup sound. A
decompression air rushing sound would explain the sound
spectrum of rise
time, frequency components and amplitude. The abrupt power
cut could be
explained by nearby cables in adjacent main equipment
compartment disrupted
by the explosive force of the decompression.
Gentlemen, another clue to accident cause is the sequence of breakup and that is determined from wreckage plot. What departs the aircraft first may well be near the initial event. The NTSB has provided a study: Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. (Encl 17) Among all the charts of pieces of the plane coming off and when, there is one chart that shows the first to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. That item left even before the last ASR radar beacon to Islip radar. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-42R is shown to leave very early. (Encl 18)

The overall appraisal was made by Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing." (Encl 19) Please carefully agree, gentleman, cargo door is just forward of the
wing and the
center tank is not.

There is another interesting observation in an exhibit: Docket
No. SA-516,
Exhibit No. 7A, Structures Group Report, page 33: "5.1
Horizontal
Stabilizer, "Some of the items found in the horizontal stabilizer are
sections of seat track, a stator blade from turbine section, and
Glitter." (Encl 20) On 5.1.1 Right Horizontal Stabilizer, page 34, "An
engine stator
blade from turbine section penetrated the upper honeycomb
surface near the
outboard trailing edge. (Encl 21)

Engine number three is on the right side inboard and would be
the engine to
throw off a stator blade to penetrate the right horizontal
stabilizer.
Engine number four is too far outboard of stabilizer. The left side
stabilizer had no such engine part penetration.

Cargo door explanation relies heavily on engine number three
data. It is
the one to catch on fire, lands apart from the other three, throws
off FOD
into number four, ingests humans, and is heavily damaged upon
retrieval.
Engine number three may well be the ignition source for the
center tank
fire/explosion according to the cargo door explanation. The door
ruptures/opens out and tears off, big hole appears, starboard engines ingest foreign objects, 300 knots tears nose off, wings and fuel tanks and fuselage fall and disintegrate and foded on-fire engine number three or four ignites fuel vapor cloud and center tank at 7500 feet many seconds and thousands of feet lower after initial event of door rupture.

The four engines hold vital accident clues. To ignore and omit that information is wrong. They are four vacuum cleaners at the scene of the crime. The door rupture or center tank explosion would send debris into the engines. How much debris, what kind it is, what did the engines do, and what happened to them is vitally important. Blade tip rubs and inlet cowl ing damage reports are extremely relevant. Pratt and Whitney was not even a party to the investigation and no exhibit item was released of the engine breakdown. This is a grievous error, gentleman, can you correct it?

A stator blade was embedded in the right horizontal stabilizer right behind engine number three. This indicates engine number three was foded early on and threw off pieces which is consistent with cargo door explanation and
inconsistent with center tank explosion in which engines windmill and fall intact to water.

NTSB AAR 92/02, page 2, has engine number three fadded by baggage debris and throwing off fadd into engine number four which caught fire. Both engines had to be shut down. (Encl 22) Early news reports had TWA 800 engine number three fadded with inlet cowl material and the only engine to show burn damage. UAL 811 had dents in right horizontal stabilizer and torn, punctured, and dented inlet cowl material according to AAR 92/02, page 7. (Encl 24)

The engine breakdown report is vital and is connected to the TWA 800 investigation by the stator blade in right horizontal stabilizer. The engines are involved; they are not innocent bystanders. Engine number three may be the center tank mysterious ignition source. Can you get powerplant breakdown report exhibit released? Can you confirm for yourselves engine number three burnt, fadded, or otherwise different from 1, 2, or 4?

The cargo door rupture explanation is very detailed and explains the evidence, from streak to red paint smears to center tank
explosion. Please inquire for more details or peruse www.corazon.com. At this stage I believe you gentlemen are not yet that interested in 'how' but 'if' door shattered in flight or on water impact. We agree door area did shatter but 'when' is the question. We agree the center tank exploded but 'when' is the question.

NTSB currently has center tank explodes first, then door shatters later, I suggest door area shatters first, then center tank explodes later. Door, then tank; or tank, then door? There is our item of difference in a concise sentence.

I offer hard evidence to support 'yes, door did rupture/open in flight for TWA 800.' (When center tank exploded is for later.)
1. Floor beam downward movement.
3. Red paint smears.
4. Curved outward smooth door frame at aft edge of missing door piece.
5. Outward peeled skin.
6. Petal shaped outward rupture hole at aft midspan latch.
7. Aft midspan latch not attached to latch pin.
8. Inward crush of top piece of door.

Possible hard evidence of door rupture in flight:
1. Hinge overtravel impression damage.
2. Aft midspan latch pin damage.
3. Other matching items to confirmed cargo door opening, UAL 811, may be discovered with exhaustive examination of cargo door area.

Mr. Streeter and Mr. Wildey, here is my big picture overview: (Everybody means us.)
1. Everybody knows the poly-X wiring in early model Boeing 747s, including TWA 800, had problems of easily chafing in vibration in the past. Cargo door explanation says that happened again to TWA 800.
2. Everybody knows that chafed wiring can cause a forward cargo door motor to go to the unlatched position with UAL 811. Cargo door explanation says that happened again to TWA 800.
3. Everybody knows that high cycle Boeing 747s have a weak structural area aft of the flight deck and forward of the wing called Section 41 which requires retrofit of structural strengthening after 20000 cycles. Cargo door explanation says TWA 800 at 18000+ cycles had not had that retrofit and cargo door area was thus weak.
4. Everybody knows that a forward cargo door opening on an (1) aged (2) high flight time/high cycles (3) early model Boeing 747, UAL 811 (4) which took off in dusk or darkness (5) running late (6) and during climb (7) experienced a sudden initial event near the leading edge of wing
in fuselage which left a (8) short (9) sudden (10) loud (11) sound on the cockpit voice recorder, an (12) abrupt (13) power cut to the flight data recorder, (14) foreign object damage to starboard engine #3, (15) more severe in-flight damage on starboard side, (16) nine never recovered bodies, (17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area on starboard side, (19) unusual paint smears in forward cargo door area, (20) rupture appearance of skin at aft midspan latch of the forward cargo door, (21) outward peeled skin on upper forward fuselage, (22) vertical fuselage tear lines forward of the wing and aft of forward cargo door, (23) had hinge stay attached to top piece of forward cargo door, (24) and destruction initially thought to be have been caused by a bomb but (25) later conclusively ruled out. Cargo door explanation says that all twenty five happened again to TWA 800.

Everybody knows an aged aircraft, TWA 800, with problem wiring, poly-X, with a weak area, Section 41, which had a previous fatal electrical fault cargo door opening in same model and type, UAL 811, could
have a similar problem. AAR 92/02, page 92. (Encl 25) Cargo door explanation and evidence says that happened again to TWA 800. But only one believes it. And now maybe you two gentleman.

At least believe the evidence enough to complete an exhaustive examination of the forward cargo door of TWA 800 on the wreckage reconstruction. Thank goodness it's there. The landing gear doors, which have never killed anyone, got twenty two paragraphs of damage description in Exhibit 7A; the forward cargo door which has nine confirmed kills, got one sentence in Exhibit 15C.

At least believe the evidence enough to request that the powerplant breakdown exhibit be released as part of the public docket so that the results may be examined and compared with other engine breakdown reports of similar accidents, UAL 811, AI 182, and PA 103, a grouping suggested by NTSB document Chart 12 in Exhibit 12-B.

At least believe the evidence enough to pursue the cargo door explanation by going to www.corazon.com and reviewing analysis of government accident
reports and contact me at barry@corazon.com.

At least believe the current evidence enough to personally examine possible new evidence such as hinge and latch pin of TWA 800 door hanging on wreckage reconstruction.

Mr. Wildey, there were three large poster photographs of TWA 800 reconstruction behind you on the platform during the inquiry hearing. One was of hundreds of pieces of wreckage, one was of starboard side and one was of port side of wrecked aircraft. We three all saw those three pictures every day. They were real and included real things. I have discussed real things that were in those three pictures so close to us at the hearing: 1. Hinge, 2. Pins, 3. Peeled skin, 4. Door frame, 5. Red paint smears, 6. Round rupture hole, 7. Bottom latches, 8. Missing door material, 9. Downward floor beams, 10. Hoop stress fractures, 11. Shattered starboard skin, 12. Smooth port skin, 13. Door manual locking handle, 14. Door pull in hooks, 15. Center tank, 16. Vertical tears, 17. Right horizontal stabilizer.

During the hearing on the other side of the stage were rotated large poster
photographs. For the first few days one photograph was of the CVR sudden loud sound showing rise time and frequency analysis. I have discussed that real thing and the real things connected to it by NTSB Chart 12 in Exhibit 12-B, which groups UAL 811, PA 103, and AI 182 and TWA 800 together.

The three photographs of wreckage showed a hangar floor with parts and reconstruction. Nearby were other rooms with real things in them. I have discussed those real things:
1. Flight Data Recorder, 2. Engines. 3. Cabin interior.

At the inquiry in front of us on tables were reams and reams of paper compiled into exhibits for review and analysis. I have discussed those exhibits:
1. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would
not be inconsistent with this floor collapse and associated structural breakup."
2. Docket No. SA-516, Exhibit No. 7A, Structures Group Chairman's Factual Report of Investigation, page 11 which discusses direct circumferential tension or hoop stress tension found on lower right side skin in the red zone only.
3. Docket Number SA-516, Exhibit No. 15C, Report Number 97-82, Section 41/42 Joint, Forward Cargo Door, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."
4. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."
5. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United
Airlines 811 are plotted together in that sequence.

6. Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. One chart that shows the first items to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-40R is shown to leave very early.

7. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

8. Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge."
Other real evidence was discussed as stated in official government accident reports:
1. US NTSB AAR 92/02 UAL Flight 811.
2. Canadian and Indian Aviation Occurrence, Air India Flight 182.
3. UK AAIB 2/90 PA Flight 103.
4. US NTSB CD-ROM jpg pictures of TWA 800.

I realize not everything stated in reports is exact. It is as precise as possible and when discussing thousands of pieces of wreckage of a catastrophic mystery airplane crash there is room for modification of conclusions. Cargo door explanation is constantly altering precise sequence to accommodate new evidence such as downward floor beams and hoop stresses in TWA 800 forward area.

For open minds there are seven basic questions. For closed minds there are none.

The open minds ask these questions in any order:
1. How and why does forward cargo door open in flight?
2. How does open door in flight cause nose to come off for AI 182, PA 103, and TWA 800?
3. Why did nose of UAL 811 stay on?
4. AI 182 and PA 103 not a bomb?
5. TWA 800 not center tank as initial event?
6. Explosive decompression enough to tear nose off?
7. Is there a conspiracy to keep cargo door explanation quiet?

Let me answer those basic questions briefly:
1. I don't know about AI 182, PA 103, or TWA 800, but UAL 811 door open cause was electrical short to door motor to un latch position which over rode safety locking sectors and failed switch and door unlatched and opened. PA 103 and UAL 811 had total forward cargo door openings while AI 182 and TWA 800 had rupture at aft midspan latch with bottom eight latches holding tight. Door openings were probably a result of aging aircraft, out of rig door, chafed aging faulty poly-x wiring, weakened Section 41 area, design weakness of no locking sectors for midspan latches, AAR 92/02, page 12, (Encl 26) and only one latch per eight feet of vertical door. AI 182, PA 103, and TWA 800 had similar circumstances.
2. Cargo door opens and huge ten by thirty foot hole appears in nose, structural members of door and frame are missing, floor beams are fractured, bent, and broken, aircraft direction is askew, flight control surfaces affected, engines damaged, and 300 knots, more than the fastest hurricane or force five tornado on earth, hits damaged area and tears nose
off within three to five seconds.
3. Nose of UAL 811 may have stayed on because pilot said he had just come off autopilot and did not fight plane as it gyrated, or plane was younger than others, or the time from door opening to tearing off was 1.5 seconds and allowed the pressurization to be relieved somewhat and six less feet of width of hole was torn off. Cargo door inadvertently opened on the ground during UAL preflight in 1991 and no damage was done. Cargo door opened in flight two inches on PA 125 in 1987 and stayed attached to fuselage and only damage was cost of fuel dumped. Cargo door opened in flight for UAL 811 in 1989 and nine died when door tore off. Cargo door explanation for AI 182, PA 103, and TWA 800 has door opening inflight, tearing off, and then nose tearing off leading to three similar accident wreckage patterns, debris fields and total destruction. Door openings have different consequences depending on altitude, speed and mode of flight.
4. Yes, not a bomb for AI 182 and PA 103 as initial event. Evidence refutes bomb explanation and is in government accident reports which careful analysis will reveal and documented on www.corazon.com. Those accident investigators did not have the benefit of hindsight, the internet, or several subsequent similar accidents to compare and draw
different conclusions.
5. Center tank exploded yes, but after door ruptured/opened, hole appeared in nose, nose torn off in wind, fuselage falling with disintegrating fuel tanks and ignited by foddled and on fire engine number 3 or 4 at 7500 feet thereby explaining the Chairman's question, "Why so few bodies burned?" The answer is they were not there to be burned. The nose came off with the passengers inside cabin and descended to ocean alone. The center tank exploded into nothingness not the passenger compartment.
6. Explosive decompression is enough to rupture pressurized hull at weak spot, one latch for eight feet of door, in a weak area, Section 41, but not enough to tear nose off. The ultimate destructive force is the 300 knots of slipstream, more powerful than any wind on earth. If cargo door popped in balloon, the large hole would appear but the nose would stay on. In a tornado, nose comes off within three to five seconds.
7. There is no conspiracy, no plot, no coverup by anyone involved with the cargo door explanation:
  a. No conspiracy of Sikh terrorists named Singh to put a bomb on AI 182; the door ruptured in flight.
  b. No conspiracy of Libyan terrorists or whoever to put a bomb
on PA 103;
the door ruptured in flight.
c. No conspiracy to detonate a bomb on UAL 811 as the passengers thought, as the crew thought and told the tower who told the Coast Guard and crash crews on the ground as they prepared for a wounded 747 coming in after a bomb blast; the door ruptured in flight.
d. No conspiracy to put a bomb on TWA 800, no conspiracy of terrorists to shoot a missile, no coverup by US Navy to hide accidental shootdown, no coverup by Boeing, NTSB, FAA, TWA who know the cargo door is the problem and are hiding that knowledge; the door ruptured in flight.

There is no conspiracy or cover up or plot but it is understandable for the public and others to believe that explanation: Cargo door cause is subtle.
1. The explosive decompression of door rupture mimics a bomb with noise and blast effects.
2. The events happen years apart in different jurisdictions with different airlines.
3. Explosive decompression of door rupture leaves no direct evidence such as soot, only noise on CVR tape.
4. The cargo door manufacturer and operator are large and highly respected companies.
5. Explosive decompression causes secondary diversionary effects such as fireball from center tank explosion and relatively mild blast in cargo compartment of incendiary device.
6. A door opening and slipstream are considered trivial things by the public who thinks of a car trunk opening at highway speed not understanding high internal force of pressurization, large size of cargo door, and destructive force of 320 miles per hour on weakened structure.
7. Cargo door explanation assumes responsibility for rupture by manufacturer, operator, government, while bomb or missile can be blamed elsewhere.

Everybody involved is doing the best they can, including us, to find out what happened to TWA 800 based upon what we know, our experience, and the evidence.

So, gentleman, thank you for reading and thinking so far, let me end with respectful requests and an anecdote.

Please:
1. Conduct a complete examination of the forward cargo door area on the TWA 800 reconstruction and add an addendum to Exhibit 15C and then release the document to the public docket.
2. Request with good reasons that the powerplant group exhibit
be released to the public docket.
3. Investigate the entire cargo door explanation for four high time Boeing 747 accidents by visiting www.corazon.com, critically analyzing presentation and email comments to barry@corazon.

Here's a true story that just happened to me two weeks ago:

On the way to the NTSB hearing from SFO I noticed my assigned Boeing 757, not 747, come into the gate after a flight from Miami. As the baggage handler opened up the forward outward opening, non-plug cargo door, at least two pints of water rained down on him. He did not appear disturbed and then went about his business.

I deduced that the hot humid air in the cargo compartment condensed after take off from Miami into water on the cold metal fuselage skin and pooled inside until door opened and released outside on the ground in San Francisco. This much water on possibly chafed wire bundles in the forward cargo compartment would explain how wires got shorted out to turn on door motor to unlatch position for UAL 811 taking off from Honolulu. It would explain why three of the four 747s had door open in climb or shortly
thereafter. We've all had the air conditioner turn on inside a hot humid car or passenger compartment and have water vapor condense into fog; or go out in the morning to have metal car covered in dew with no rain; or start descent in jet and have water vapor fill the cockpit. It is possible that enough fog and dew inside a large metal cargo door compartment could condense into two pints of water.

Water and chafed old faulty wiring in a known weak structure with a known faulty device is a dangerous combination. Let us make it safe.

Best Regards,

John Barry Smith
FAA commercial licensed pilot, instrument rated, former Part 135 certificate holder.
Light aircraft owner, Mooney M20C
2000 hours Navy aircrewman radar operator/electronics technician, P2V-5FS.
650 hours Navy reconnaissance navigator on carrier jet, RA-5C.
Survivor by ejection in sudden, night, fiery, fatal, jet airplane crash,
June 14th, 1967.

(US Mail envelope with 26 formal enclosures and seven informal ones to be mailed tomorrow, 19 Dec, 97)
Above was letter to Mr. Wildey and Mr. Streeter.

Below is paragraph written in a long email of 19 Feb 97 from me which resulted in Secret Service interrogation. The Senator denies initiating the investigation and I believe him.

John Barry Smith> Please avoid the option to do nothing. In some cases that is wise, in this one it is not. The door hazard exists and can happen again with varying catastrophic consequences. May I be melodramatic, Senator? Why not. After the Tonkin Gulf incident in 1964, we attacked and bombed North Vietnam. After Pan Am 103 in 1988, we attacked and bombed Libya. After TWA 800 in 1996, we attacked and bombed Iraq; all for thought-to-be good reasons. Well, if Air Force One or any of the four E-4Bs (Airborne Command Posts) (all modified Boeing 747s with outward opening cargo doors) have that forward door open in flight tearing off fuselage skin allowing the 300 knot CAS slipstream to enter nose and tear it off leading to the death and destruction of all aboard including the President and other high officials, then we will attack and bomb somebody. And it would be wrong. Just fix the door again and prevent the crash is the answer. (The door has failed before.)

Below is excerpt from Newsday newspaper with Jessica Kowal writer. Although I repeated then, as I repeat now, there is no conspiracy, no coverup, and no plot about cargo door explanation, she still wrote I said there was a conspiracy. After the article was written, it is now known that the midspan latches have no locking sectors so were not fixed; and only eight of ten latches checked so not all latched; and event is so sudden there would be no time for discussion among the flight crew. Newsday
did not respond to my immediate request for a retraction of the conspiracy accusation quote.

"John Barry Smith of Carmel Valley, Calif., said he's putting his theory on the Internet to save lives. After viewing pictures of a United Airlines 747 severely damaged when a forward cargo door opened during a 1989 flight, killing nine people, Smith decided cargo doors, not bombs, were the cause of explosions aboard Pan Am Flight 103, the 1985 Air India Flight, and now TWA Flight 800. On his Web site, Smith uses photographs and documents to compare the United Airlines plane to the Pan Am and Air India planes and to conclude that malfunctioning cargo doors opened and ripped away the skin of the fuselages and then tore the noses off the planes. In an interview, Smith said he believes a door also fell off TWA Flight 800, and that the "streak of light" some say is a missile is actually the plane's falling cargo door reflecting light.

"This door is a prime suspect. This door has killed before," Smith said. "I didn't invent the cause of these crashes. The door popped open. It's not weird. It's a no-brainer. So that's when you get to the coverup."

The coverup, he said, is that Boeing and the federal government don't want to admit there's a major defect in the 747, potentially costing the company millions of dollars to fix and severely damaging the American economy. Smith, who said he has been "sensitive" to doors since his finger was slammed in a car door when he was 5-years old, has contacted the White House, FBI, FAA, Air Force, NTSB, and airline insurance companies to alert them to his view of the problem.

"It's a case of human nature seeing what they want to see. They see a bomb, and they ignore what's in front of them," Smith said.
Several aviation officials dispute Smith's theory. Boeing spokesman Doug Webb said the company knew of problems with 747 cargo doors a year before the United Airlines accident, and that the airlines have subsequently retrofitted them with steel-reinforced locks. NTSB spokeswoman Shelly Hazle said the agency examined TWA Flight 800's wreckage for a broken cargo door and discounted it as a cause of the crash. If the cargo door had opened in flight, a cockpit light would have gone on and the crew would have focused all their attention on the problem, Hazle said. Yet there is no discussion of the problem on the cockpit voice-recorder tapes, so the NTSB has ruled it out, she said. And, investigators said, Pan Am 103 and the Air India planes were both downed by bombs, not cargo doors."

The below was written in the New York Times, April 12th, 1997 by Matthew Purdy. The cargo door is put just before wacky explanation of laser beam, just as Chairman Hall did in opening remarks at public TWA 800 hearing.

"And they have hardly been bashful about relating their musings to investigators at the National Transportation Safety Board. One man writes at least once a week to the board, pushing his theory that the front cargo door blew off, setting in motion a catastrophic chain of events. Other amateur investigators have postulated that laser rays emitted from Long Island might have destroyed the plane."

Please, to compare cargo door to laser rays is an insult and I demand an apology. Or not. I'm joking. Laser rays are funny now but not in the future.
Cargo doors rupturing in flight are not funny now, never have been and won't be in the future.

Respectfully Submitted,

John Barry Smith
408 659 3552
551 Country Club Drive,
Carmel Valley, CA 93924
barry@corazon.com
www.corazon.com

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: Fwd: NTSB Eyewitness and Cargo door exhibits published/Part 1

Date: Thu, 29 Jan 1998 08:48:03 -0800
To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: NTSB Eyewitness and Cargo door exhibits published/
Part 1
Cc:
Bcc:
X-Attachments:
James F. Wildey II
National Resource Specialist
Dear Mr. Wildey,

Enclosed is latest text only version part 1 of hard copy coming your way in the mail and eyewitness report URL.

http://www.corazon.com/TWA800essentials.html
NTSB Docket SA 516 Exhibit 4A and Exhibit 15c are seen. 4A is the Eyewitness Group Factual Report and 15C is Forward Cargo Door.

Best Regards,

Barry Smith

Sam Farr
Member of Congress
17th District, California
House of Representatives
Congress of the United States
Washington, DC

John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
United States Senate
Washington, DC
John J. Duncan, Jr.
Member of Congress
House of Representatives
Congress of the United States
Washington, DC

James Hall
Chairman,
National Transportation Safety Board

Robert Francis II
Vice Chairman
National Transportation Safety Board

Bernard Loeb,
Director of Aviation Safety
National Transportation Safety Board

Thomas E. Haueter
Chief, Major Investigations Division
National Transportation Safety Board

Al Dickinson,
Lead Investigator, TWA 800
National Transportation Safety Board

Ron Schleede,
Investigator, TWA 800
National Transportation Safety Board

James F. Wildey II
National Resource Specialist
National Transportation Safety Board
Peter Goelz
Director, Office of Government, Public, and Family Affairs
National Transportation Safety Board

Lyle Streeter
FAA AAI
Aircraft Accident Investigator
FAA National Headquarters

Thomas McSweeney
Director, Aircraft Certification Service
FAA National Headquarters

Doug Kirkpatrick
Aircraft Certification Service
FAA National Headquarters

Ron Wojnar,
Manager
Federal Aviation Administration
Transport Airplane Directorate

James Devany
Acting Manager
Federal Aviation Administration
Transport Airplane Directorate

Darrell Pederson,
Assistant Manager
Federal Aviation Administration
Transport Airplane Directorate,
Bob Breneman,  
Aerospace Engineer,  
Federal Aviation Administration  
Transport Airplane Directorate,  

Donald Lawson  
Navy Aviation Accident School Instructor  
Naval Postgraduate School  

Dear Mr. Wildey,  27 Jan 98  

I received a letter under the National Transportation Safety Board letterhead and signed by Mr. Jim Wildey, National Resource Specialist-Metallurgy. It's dated January 12, 1998, was sent January 13th, 1998, and was received in my mailbox on January 20, 1998. That's why it's called snail mail and it reads in total:  

"Dear Mr. Smith: The Safety Board has received your letter to the Chairman, dated December 30, 1997, concerning the possibility that the TWA 800 accident was related to an in-flight opening of a cargo door. As conveyed to you in previous letters we have sent you, the Safety Board believes that sufficient facts have been gathered to rule out this possibility. Thank you for your interest in this subject. Sincerely, JF Wildey II Jim Wildey National Resource Specialist-Metallurgy"  

Well, that's it, that's the response. Ninety pages gets three sentences. Another one sentence for cargo door. Well, it's a start. My intellect is engaged.  

Below would be the short version response to the 12 Jan 98 letter to me from NTSB:
"Dear Safety Board:

John Barry Smith has received your letter to John Barry Smith, dated January 12, 1998, negating the possibility that the TWA 800 accident was related to an in-flight opening of a cargo door. As conveyed to you in previous letters I have sent you, John Barry Smith believes that sufficient facts have been gathered to rule in this possibility.

Thank you for your interest in this subject.

Listed below are the facts, evidence, and data to rule in the inadvertent rupture of the aft midspan latch of the forward cargo door in flight caused by water shorting bare chafed wires to ground in the forward cargo hold giving power to door motor to unlatch position.

Sincerely,

JB Smith,
Citizen"

Attached list of evidence to rule in probability of door rupture in flight for TWA 800. Below evidence is consistent with forward cargo door rupture to open to explosive decompression on right side forward of the wing leading to nose off and fireball at 7500 feet when center and other fuel tanks explode.

1. horizontal stab has red paint smear
2. stator blade in right horizontal stab behind engine number 3
3. inward movement top of cargo door matches UAL 811
4. top of door attached to hinge matches UAL 811
5. petal shape of rupture area around aft midspan latch
6. missing pieces of locking handle, latching pins, overpressure relief doors, midspan latches
7. rectangle of explosive decompression zone of outward peeled skin on right side forward of the wing on right side
8. downward movement of floor beams near cargo door
9. hoop stresses found
10. cvr sudden loud sound matches NTSB Chart 12 UAL 811
11. fdr abrupt power cut matches UAL 811
12. TWA 800 matches UAL811 in twenty five similarities
13. TWA 800 matches PA 103 in many similarities
14. TWA 800 matches AI 182 in many similarities
15. red paint smears above cargo door on white paint
16. fire on 4 in UAL 811 for ignition source for fireball/center tank explosion on TWA 800
17. starboard side more damaged than port side.
18. inflight objects hit same things such as right wing fillet in other other accidents
19. poly x is known to be susceptible to chafing and TWA 800 had poly x.
20. section 41 is known to be weak and TWA 800 did not have the retrofit
21. history of cargo door openings in past in various airliners including model and type of TWA 800.
22. EPR problems on aircraft before or during fatal flight.
23. fires in forward cargo hold in the past on Boeing 747s.
24. vertical tears in fuselage skin forward of the wing on the right side match UAL 811
25. singe marks on right side of fuselage show burnt skin, then abruptly at tear line there are no singe marks.
26. red paint rubbed off revealing white paint underneath above cargo door area
27. first pieces off came from forward cargo hold just forward of
the wing
28. at least nine missing never recovered bodies, just fragments.
29. initially thought to be a bomb, just like AI 182, PA 103, and UAL 811

Evidence to check to rule in or rule out cargo door involvement.
1. hinge overtravel impression damage to match AAR 92/02
2. aft midspan latch pin for heat damage to match AAR 92/02
3. aft midspan latch for damage
4. put door back together from shattered pieces to show petal rupture
5. stator blade from which engine
6. red paint matching from cargo door area to right horizon stab
7. chafed wire bundles to bare wire in forward cargo hold to match AAR 92/02

Questions that can be answered from powerplant report:

1. Did number 3 engine fall apart from other three engines thus matching the wreckage plots of AI 182 and PA 103?
2. Did stator blade in 800 horizontal stab come from number 3?
3. Was there inlet cowl FOD on number three to match PA 103?
4. Was there fire evidence in number 3 or number 4?

Dear Experts,

Below is the long version:

I know you know sudden jet crashes are not nonsense because it happened to you.

I know you know PA 103 had a relatively mild directed blast that left soot because you read the report, may have even written it.
I know you know about sudden loud sound followed by abrupt power cut on 811 because you read the report, may have even listened to the actual sound on tape.

I know you know about the decompression rectangle forward of the wing with outward peeled skin for 811 because you have seen the photograph, may have even taken the picture.

I know you know about what I'm talking about with CVR, FDR, FOD, TWA, PA, UAL, AI, CG, PSI, EPR, MSL, KCAS, Poly-X, AD, AAR, DC-10, 747, AAIB, TSB, P&W, JTD, because you have read the reports and may have even written the acronyms.

I have read your reports, I have listened to your testimony in hearings on TV and in person, I have read your exhibits, I have looked at your pictures in newspapers, magazines, on TV, on CD-ROM, and on easels. I have read your letters and emails. I consider you the experts.

I solicit the experts' opinions:

Senator McCain, what is your opinion of my destruction sequence of TWA 800? You have been in a sudden jet crash, your opinion counts on this sudden jet crash.

Chairman Hall, what is your opinion of my destruction sequence of TWA 800? You are the boss, your opinion counts.

Vice Chairman Francis, what is your opinion of my destruction sequence of TWA 800? You were involved with PA 103 and were there early on for TWA 800, your opinion counts.
Investigator Haueter, what is your opinion of my destruction sequence of TWA 800? You are in charge of all accident investigations for the NTSB, your opinion counts.

Investigator Dickinson, what is your opinion of my destruction sequence of TWA 800? You are the lead investigator for TWA 800, your opinion counts.

Investigator Schleede, what is your opinion of my destruction sequence of TWA 800? You were the lead investigator on UAL 811 and assisted with TWA 800, your opinion counts.

Investigator Streeter, what is your opinion of my destruction sequence of TWA 800? You are a federal aircraft accident investigator and represented FAA as a party to TWA 800, your opinion counts.

Mr. McSweeny, what is your opinion of my destruction sequence of TWA 800? FAA considered carefully the outward opening doors, your opinion counts.

Metallurgist Wildey, what is your opinion of my destruction sequence of TWA 800? You know about PA 103 and wrote a breakup sequence for TWA 800, your opinion counts.

Lieutenant Commander Lawson, what is your opinion of my destruction sequence of TWA 800? You've investigated many jet crashes, your opinion counts.

What is the FAA's opinion of my destruction sequence of TWA 800? The FBI, the CIA, the lawyers, and the press have all given opinions which have been seriously considered, the opinion of the Federal Aviation Administration counts.
Sequence of Destruction for TWA Flight 800

Hot humid air in forward cargo compartment was subjected to cold conditioned air after takeoff on hot summer evening near New York on July 17, 1996. Condensation was precipitated out and formed on cold metal fuselage skin. Poly-X wire bundle which held cargo door motor on power was chafed by the friction of continuous vibration against clamp or many door openings and closings on it. Sheath around bundle was worn through to insulation and then worn through to bare wire. Condensed water met the bare wire and shorted against fuselage metal charring wires and powering on door motor which attempted to turn all ten cam sectors to unlocked position. At 13700 feet MSL and 300 KCAS, the eight lower cam sectors were prevented from unlocking because of strengthened locking sectors. However, the two midspan latches have no locking sectors. The slack in bellcranks, torque tubes, and high time worn cam latches allowed the aft midspan latch to rotate just past center allowing the 3.5 PSI internal pressure to rupture outward the forward cargo door at the aft midspan latch.

The nine foot by eight foot squarish door burst open at midspan latch sending the latch and door material spinning away in the setting sun which reflected upon the shiny metal as it spun away erratically and appeared as red-orange streak to ground observers moving all which ways. The aft door frame was clean of attachment to door and bulged outward. Fuselage skin was torn vertically. The door fractured and shattered. The bottom eight latches held tight to the bottom eight latch pins on bottom sill while bottom external skin of door blew away. The top piece of red topped cargo door opened out and up smashing into the white fuselage skin above it leaving the red paint of the door on the
white paint between passenger windows above. The red paint of
the trim was rubbed away showing the white paint underneath
The top piece of the door took the hinge with it and fuselage skin
as it is tore away. The loose red painted trim piece and top of
door flew directly aft and impacted the right horizontal stabilizer
leaving a red paint transfer mark on it. The hinge still appears to
be working normally likely having overtravel impression marks
on the opposite hinge when door overextended to slam on
fuselage above. The top piece of the door shows inward damage
when it hit fuselage above.

The explosive decompression of the thirty eight thousand pounds
of internal force on the door blew out a large hole about twenty
feet wide and forty feet high on the right side of the nose forward
of the wing. Parts of the cargo hold structure were the first parts
to leave the aircraft. The now uncompressed air molecules rushed
out of the huge hole equalizing high pressure inside to low
pressure outside while making a very loud noise. Fuselage skin
was peeled outward at various places on the right side of the
nose. The sudden rushing air was recorded on the Cockpit Voice
Recorder as a sudden loud sound. The explosive decompression
of the forward cargo hold severely disrupted the nearby main
equipment compartment which housed power cables and
abruptly shut off power to the Flight Data Recorder.

At least nine passenger's bodies were never found, only bone
fragments. The number three engine also ingested metal in
baggage and started on fire from inefficient burning of fuel. The
number three engine with pylon started to vibrate and a stator
blade from the engine was spit out and impacted directly behind
it in the right horizontal stabilizer.

The floor beams above the cargo hold were bent downward,
fractured and broken from the sudden decompression. The main structural members of door and frame were gone and compromised. The flight attitude of the aircraft was askew to the left from reaction of explosive decompression to the right. Air rushed into the hole and weakened other skin and frame peeling skin outward. The 300 knots of air pressed upon the weakened nose and crumpled it into the large hole. The nose tore off and landed in a dense debris heap apart from the rest of the plane.

The port side forward of the wing was smooth and unshattered while the starboard side forward of the wing was shattered, torn, and frayed at ruptured cargo door area and severely disturbed over twenty feet by forty foot explosive decompression zone. Outward petal shaped fuselage skin appeared at aft midspan latch from rupture. Aft midspan latch was blown away. Outward peeled skin appeared from blowout. Fuselage skin remained smooth next to blown out skin.

The rest of the plane without the nose suddenly decelerated from 300 knots and caused whiplash injuries to passengers. Passengers inside fuselage had baro-trauma to eardrums which ruptured trying to equalize middle ear pressure. The plane maneuvered with huge gaping wound in front increasing drag. The wind force disintegrated the fuselage and wings. Fuel poured out of ruptured tanks as wreckage fell. The broken fuselage, the ruptured wings, the fuel cloud, the center tank, and the spinning, on fire engine number three met at 7500 feet and exploded into a bright loud fireball putting singe marks on the fuselage skin while leaving earlier departed nose burn and singe mark free. The center tank exploded as well as other nearby fuel tanks. Forward passengers were not burned because they were in the earlier separated nose. The debris fell and spread out from 7500 feet to sea level in windblown southeast direction, leaving a wide debris field.
Ground observers heard the fireball explosion of the center tank and other fuel and looked up. They saw fire and smoke and falling debris.

Explosive decompression at the forward cargo hold led to suspicion of bomb in cargo compartment but bomb later ruled out. Debris ejected to the right from explosive decompression led to suspicion of missile exploding on left side of nose. Streak of shiny metal object spinning away reflecting evening sun to ground observers led to suspicion of missile exhaust but later ruled out.

Fire/explosion of center tank into fireball led to suspicion of center tank explosion as initial event. There were difficulties in determining ignition source, fuel volatility, unheard fuel explosion sound on CVR, unilateral fuselage damage, single marks, and other evidence needed to corroborate center tank explosion as initial explosion.

Fuselage rupture at aft midspan latch of forward cargo door inflight is initially rejected because bottom eight latches are found latched around locking pins while two midspan latches are unexamined and status unreported.

Questions about center tank explosion as initial event which evidence raises.

1. Sudden loud sound on Cockpit Voice Recorder is described as start of aircraft breakup but not sound of explosion. Sound on CVR does not match other staged Boeing 747 center tank explosion. How can an explosion in the center tank be powerful enough to start the aircraft breakup and blow off nose of Boeing
747 and not be heard on CVR?

Sudden loud sound is sound of explosive decompression which gives a sudden loud sound when forward cargo door ruptures/opens in flight. The TWA 800 sudden loud sound was linked to PA 103 sudden loud sound on CVR which was linked to AI 182 sudden loud sound on CVR which was linked to DC-10 cargo door explosive decompression on CVR. UAL 811 had a cargo door rupture/open in flight and recorded a sudden loud sound on the CVR. The sound is the sudden rushing of air molecules which were compressed now moving fast outward to equalize with the lower pressure outside air.

2. Center tank explosion would be spherical, not directed, and would either give no damage forward of the wing or about equal damage on both sides of the fuselage of TWA 800. The wreckage reconstruction shows smooth skin with little damage forward of the wing on the port/left side yet severe, shattered, torn, and frayed damage on the starboard/right side of the fuselage in the cargo door area. How can a center tank explosion cause unilateral damage only on starboard side?

Explosive decompression and rupture of forward cargo door area when aft midspan latch ruptures would give shattered, torn and frayed, damage to cargo door area while leaving port/left/ opposite side smooth and light damage. Cargo door rupture would give the unilateral damage on starboard side as shown by TWA 800 wreckage.

3. TWA 800 wreckage reconstruction shows outward peeled skin, outward rupture hole, and paint transfers. Water impact damage would be inward, not outward. How could water impact damage produce outward peeled skin, outward rupture hole, and paint
transfers?

Explosive decompression in nose of TWA 800 would give outward peeled skin in nose, outward rupture hole, and paint transfers as internal high pressure rushes outward to equalize with the low outside pressure.

4. TWA 800 wreckage reconstruction shows red paints smears only above the forward cargo door area and nowhere else on both side of the Boeing 747 fuselage. This indicates that the red painted door below ruptured/opened outward, slammed upward, and smashed into the white painted area above and transferred red paint from door onto white paint between windows. How did red paint smears get where they are?

After the rupture at aft midspan latch the door fractured and upper piece of the red painted door was pushed outward, rotated on its hinge, slammed upward and smashed into the white painted fuselage skin above, transferring red paint to the white painted area between the passengers windows, as shown by the TWA 800 reconstruction. UAL 811 also had paint transfer from door to fuselage when its door opened in flight.

5. A center tank explosion would be far enough away from power cables to allow the Flight Data Recorder to record longer than the abrupt power cut it suffered. How can a center tank explosion which is not loud enough to be heard on the CVR and some distance away be strong enough to abruptly cease power to the FDR?

The explosive decompression in the cargo compartment would severely disrupt the cargo hold floor and the adjacent main equipment compartment in which the FDR and power cables are
located. The severe disruption would abruptly cease power to the FDR. UAL 811 also had abrupt power cut when its cargo door opened in flight.

6. How could forward cargo door rupture/open when bottom eight latches are latched and locked in TWA reconstruction?

The forward cargo door of Boeing 747s is about nine feet by eight feet square. It has a hinge on the top and eight cam latches on the bottom. On each nine foot side is one midspan latch. The bottom eight cam latches go around eight latching pins. Over each cam latch is a locking sector. The two midspan latches have no locking sectors. The forward cargo door could rupture at the midspan latch and the hinge and bottom eight latches could still be attached to fuselage skin. The top of the door with hinge attached would tear off with the fuselage skin and spin away. The bottom eight latches could stay attached to bottom sill and continue down to the sea with the nose. The middle of the large door can still be ruptured/opened while the lower part stays attached to airframe. Doors can open/rupture with most or all latches latched. TWA 800 reconstruction shows aft mid span latch missing which implies it became unlatched. The aft door frame sill is smooth and not attached to door which implies door opened in that area.

7. How could forward cargo door rupture cause center tank explosion?

When cargo door ruptures in flight a huge hole is created in nose which the 300 knot slipstream tears off. The falling, noseless, structurally compromised aircraft disintegrated into wings of rupturing fuel tanks, fuselage pieces including center tank, and spinning hot on fire jet engine. When falling debris reached about
7500 feet, the flooded on fire engine number three ignited the fuel cloud and center fuel tank into a fireball. Center tank fire/explosion occurred but later and lower than forward cargo door rupture initial event.

Event, consequence, significance, source for destruction sequence:

1. Hot humid air in forward cargo compartment was subjected to cold conditioned air after takeoff on hot summer evening near New York on July 17, 1996.

NTSB exhibits gave takeoff time and temperatures plus the airconditioning system in Boeing 747s.

2. Condensation was precipitated out and formed on cold metal fuselage skin.

Water was available to ground any bare wires to fuselage skin. Observation made of water cascading out of forward cargo hold of Boeing airliner by John Barry Smith standing in concourse at San Francisco Airport on December 6, 1997.

3. Poly-X wire bundle which held cargo door motor on power was chafed by the friction of continuous vibration against clamp or many door openings and closings on it. Sheath around bundle was worn through to insulation and then worn through to bare wire.

Bare wires can be shorted to ground causing power to go to door motor. NTSB exhibits list two forward cargo hold charred wiring fires. NTSB hearing on aging aircraft detailed problems with poly-x wiring chafing from vibration. NTSB AAR 92/02 detailed
problems with chafing wires causing door motor to turn on. TWA 800 had poly-x wiring.

4. Condensed water met the bare wire and shorted against fuselage metal charring wires and powering on door motor which attempted to turn all ten cam sectors to unlocked position.

Event explains how door motor got power to turn on. NTSB exhibits list two previous cargo hold charred wire fires. NTSB AAR 92/02 lists two uncommanded cargo door opening on Boeing 747s caused by electrical problems, UAL preflight and UAL 811.

5. At 13700 feet MSL and 300 KCAS, the eight lower cam sectors were prevented from unlocking because of strengthened locking sectors. However, the two midspan latches have no locking sectors.

The eight bottom latches held tight to locking pins because of AD 88-12-04 which strengthened all the eight locking sectors. NTSB AAR 92/02 describes the AD, door, and all latches.

6. The slack in bellcranks, torque tubes, and high time worn cam latches allowed the aft midspan latch to rotate just past center allowing the 3.5 PSI internal pressure to rupture outward the forward cargo door at the aft midspan latch.

UAL 811 had small rupture at aft midspan latch as shown in photograph in NTSB AAR 92/02. NTSB exhibit lists 3.5 PSI pressure differential. TWA 800 was extremely old aircraft with over 93000 flight hours.

7. The nine foot by eight foot squarish door burst open at
midspan latch sending the latch and door material spinning away in the setting sun which reflected upon the shiny metal as it spun away erratically and appeared as red-orange streak to ground observers moving all which ways.

Press reports reveal eyewitnesses say different colored streaks going every which way from all directions. Time of 8:31 PM and angle of low sun to aircraft in east and observers to the west had to be perfectly aligned for spinning falling shiny piece of metal to reflect as streak to observers.

8. The aft door frame was clean of attachment to door and bulged outward.

Aft midspan latch blown away at rupture time and caused outward bulge. NTSB reconstruction photograph shows bulge and missing latch.

9. Fuselage skin was torn vertically.

Explosive decompression bursts outward limited by stringers and bulkheads which are vertical and match the other cargo door accident, UAL 811. NTSB photograph shows the vertical tears of TWA 800.

10. The door fractured and shattered.

NTSB photograph shows the damage. 38000 pounds of force were suddenly released onto now weakened door and it burst apart. 99 inches times 110 inches times 3.5 PSI equals 38115 pounds of force on the ten latches and hinge.

11. The bottom eight latches held tight to the bottom eight latch
pins on bottom sill while bottom external skin of door blew away.

The bottom of large door held tight while middle of door ruptured in a troublesome section of a high time Boeing 747, Section 41 and Section 42. TWA 800 had not yet had the Section 41 retrofit. NTSB exhibit states bottom eight latches latched.

12. The top piece of red topped cargo door opened out and up smashing into the white fuselage skin above it leaving the red paint of the door on the white paint between passenger windows above. The red paint of the trim was rubbed away showing the white paint underneath. The top piece of the door took the hinge with it and fuselage skin as it is tore away.

The loose red painted trim piece and top of door flew directly aft and impacted the right horizontal stabilizer leaving a red paint transfer mark on it.

The hinge still appears to be working normally likely having overtravel impression marks on the opposite hinge when door overextended to slam on fuselage above.

The top piece of the door shows inward damage when it hit fuselage above.

Sequence of door opening out and up and transferring paint above is described in text and drawing in NTSB AAR 92/02. Inward movement of top of door is described in AAR 92/02. Normal working hinge attached to top of door is described in AAR 92/02. Overtravel impression damage is described in text and picture in AAR 92/02.
13. The explosive decompression of the thirty eight thousand pounds of internal force on the door blew out a large hole about twenty feet wide and forty feet high on the right side of the nose forward of the wing.

NTSB photograph shows decompression rectangle zone on right side of nose.

14. Parts of the cargo hold structure were the first parts to leave the aircraft.

The first parts of plane to depart indicate trouble started there. NTSB exhibits show first parts to leave were from cargo structure.

15. The now uncompressed air molecules rushed out of the huge hole equalizing high pressure inside to low pressure outside while making a very loud noise.

NTSB AAR 92/02 states crew of UAL 811 heard a 'tremendous explosion,' when door opened in flight.

16. Fuselage skin was peeled outward at various places on the right side of the nose.

Outward peeling indicates force from within, not without. UAL 811 had same outward peeling of fuselage skin in cargo door area.

17. The sudden rushing air was recorded on the Cockpit Voice Recorder as a sudden loud sound.

Sound matches other Boeing 747 sudden loud sound of explosive
decompression and a DC-10 cargo door decompression sound according to NTSB chart.

18. The explosive decompression of the forward cargo hold severely disrupted the nearby main equipment compartment which housed power cables and abruptly shut off power to the Flight Data Recorder.

Cables for power and signal run through the forward cargo hold to the adjacent MEC. The cargo floor is severely disrupted when explosive decompression occurs in cargo hold according to AAIB 2/90 report and will cut off power abruptly.

19. At least nine passenger's bodies were never found, only bone fragments.

Where did those bodies go? What happened to them to reduce them to bone fragments requiring DNA analysis to identify? At least nine bodies always disappear when explosive decompression occurs in high time Boeing 747s according to AAIB, NTSB, TSB and Indian reports.

20. The number three engine also ingested metal in baggage and started on fire from inefficient burning of fuel. The number three engine with pylon started to vibrate and a stator blade from the engine was spit out and impacted directly behind it in the right horizontal stabilizer.

NTSB AAR 92/02 describes the sequence of FOD into number three and also number four and the subsequent vibration and fire.

21. The floor beams above the cargo hold were bent downward, fractured and broken from the sudden decompression. The main
structural members of door and frame were gone and compromised.

AAR 92/02, AAIB 2/90, and NTSB TWA 800 exhibits describe the downward movement of the floor beams above cargo compartment.

22. The flight attitude of the aircraft was askew to the left from reaction of explosive decompression to the right. Air rushed into the hole and weakened other skin and frame peeling skin outward.

AAR 92/02 describes the actions of the aircraft after door opened in flight.

23. The 300 knots of air pressed upon the weakened nose and crumpled it into the large hole.

AAIB and TSB/Indian reports describe how nose came off after explosion in forward cargo hold at 300 KCAS of two Boeing 747s.

24. The nose tore off and landed in a dense debris heap apart from the rest of the plane.

AAIB 2/90, TSB/Indian Court, and NTSB TWA 800 exhibits describe the dense nose debris field present when nose comes off in flight of three Boeing 747s.

25. The port side forward of the wing was smooth and unshattered while the starboard side forward of the wing was shattered, torn, and frayed at ruptured cargo door area and severely disturbed over twenty feet by forty foot explosive
decompression zone. Outward petal shaped fuselage skin appeared at aft midspan latch from rupture. Aft midspan latch was blown away. Outward peeled skin appeared from blowout. Fuselage skin remained smooth next to blown out skin.

AAIB 2/90, TSB/Indian, and NTSB photographs describe the lesser damage port side nose compared to the more severely damaged starboard side as well as the outward peeled skin on nose of three Boeing 747s.

27. The rest of the plane without the nose suddenly decelerated from 300 knots and caused whiplash injuries to passengers. Passengers inside fuselage had baro-trauma to eardrums which ruptured trying to equalize middle ear pressure.

Passenger injuries are described in NTSB exhibits, TSB/Indian report, AAIB 2/90, and NTSB exhibits.

28. The plane maneuvered with huge gaping wound in front increasing drag. The wind force disintegrated the fuselage and wings. Fuel poured out of ruptured tanks as wreckage fell. The broken fuselage, the ruptured wings, the fuel cloud, the center tank, and the spinning, on fire engine number three met at 7500 feet and exploded into a bright loud fireball putting singe marks on the fuselage skin while leaving earlier departed nose burn and singe mark free. The center tank exploded as well as other nearby fuel tanks. Forward passengers were not burned because they were in the earlier separated nose. The debris fell and spread out from 7500 feet to sea level in windblown southeast direction, leaving a wide debris field. Ground observers heard the fireball explosion of the center tank and other fuel and looked up. They saw fire and smoke and falling debris.
NTSB exhibits describe the breakup sequence and NTSB video shows fireball seconds later and thousands of feet lower than initial event. Engine number three was on fire for AAIB 2/90 and number four was on fire for NTSB AAR 92/02 after cargo hold ruptures.

29. Explosive decompression at the forward cargo hold led to suspicion of bomb in cargo compartment but bomb later ruled out.

Debris ejected to the right from explosive decompression led to suspicion of missile exploding on left side of nose.

Streak of shiny metal object spinning away reflecting evening sun to ground observers led to suspicion of missile exhaust but later ruled out.

Fire/explosion of center tank into fireball led to suspicion of center tank explosion as initial event.

Press reports, FBI reports, and NTSB reports describe the bomb, missile and center tank explanations.

30. There were difficulties in determining ignition source, fuel volatility, unheard fuel explosion sound on CVR, unilateral fuselage damage, singe marks, and other evidence needed to corroborate center tank explosion as initial explosion.

NTSB public hearing reveals the gaps in the center tank as initial event explanation.

31. Fuselage rupture at aft midspan latch of forward cargo door inflight is initially rejected because bottom eight latches are
found latched around locking pins while two midspan latches are unexamined and status unreported.

The above was the wiring/latch/door/explosive decompression explanation which was evoked when I read the 12 Jan 98 NTSB letter to me. Let me analyze carefully that recent letter from the 'Safety Board' to me:

"Dear Mr. Smith: The Safety Board has received your letter to the Chairman, dated December 30, 1997, concerning the possibility that the TWA 800 accident was related to an in-flight opening of a cargo door. As conveyed to you in previous letters we have sent you, the Safety Board believes that sufficient facts have been gathered to rule out this possibility. Thank you for your interest in this subject. Sincerely, JF Wildey II Jim Wildey National Resource Specialist-Metallurgy"

1. "Thank you for your interest in this subject." You're very welcome, Safety Board, in your thanks to me for my interest in this subject. Let me thank you for your interest in this subject. Thank you, thank you, thank you.

2. "...the possibility that the TWA 800 accident was related to an in-flight opening of a cargo door."
   a. 'A' cargo door? No, not 'a' cargo door, 'the forward' cargo door. Never has any of the other possible four cargo doors been raised as a possibility of causing TWA 800. The other cargo doors were brought into it when the Chairman said all doors were all latched and all locked and all doors intact at water impact. Mr. Wildey II knows it is the forward cargo door in question because he wrote Exhibit 15C, Forward cargo door exhibit. There could be a nose cargo door, a port main side cargo door, an aft cargo door, and the starboard aft and forward cargo doors; five large
cargo doors which are non-plug outward opening cargo doors. Only the forward cargo door is implicated in TWA 800. TWA 800 did not have the nose door, or the port main door, or the port aft door, only the starboard forward and aft cargo doors. The bulk door is not the same in function as the outward opening doors. So, for TWA 800, the choice is one of two, forward or aft. It's 'the forward' cargo door, not 'a' cargo door. The implication is that I am vague and unfocused in pinpointing the problem. Not true. Not only the forward door but the midspan latch, not only the midspan latch but the aft midspan latch. And then to get to chafed to bare wire bundle in forward cargo hold with door motor power in it is very specific.

b. Possibility? I do not say 'possibility,' I say 'probability,' as in 'probable cause" probability. I've been misquoted or misunderstood if 'possibility' is implied. It's 'probable the forward' cargo door is the cause, not it's 'possible a' door is the cause. And in fact, the forward door is just another innocent bystander who got caught, just like the center tank. The door was doing what it was told to do, open, when the door motor power came on. The culprit is chafed wiring being shorted to ground giving power to motor. To quote as 'possible' is to imply less certainty of probable cause of the forward cargo door rupture/opening in flight.

3. "As conveyed to you in previous letters..." That's not a note of exasperation in the tone, is it? Is it like I'm stupid and you have to tell me several times such an obvious thing before I get it? As I've told you in my previous letters, eight is not ten. Why was this repetition mentioned? Thank you for your previous letters, Safety Board. I am analyzing a current letter from you and I look forward to your future letters.

4. "...the Safety Board believes that sufficient facts have been gathered to rule out this possibility." Ah, the meat, a tiny morsel, but still meat.
1. Who is the 'Safety Board'? Is it a person? Is it the whole Board? Did Mr. Francis agree to that statement? Mr. Goglia? I don't think so. Who signed the letter speaking for the Board? A metallurgist? Is a metallurgist saying sufficient facts have been gathered to rule out 'an in-flight opening of a cargo door in an aircraft accident'? Speaking of metal, the rectangle explosive decompression zone on the starboard side of TWA 800 forward of the wing is like a high speed photograph of a drop of milk into a cup. The metal shards are frozen in time as they burst outward like a flower petal. In fact, I electronically reversed time and put the pieces back the way they were. The pieces fit perfectly at the rupture zone of aft midspan latch. (Pictures at end of this letter.) The upper outward burst metal skin is like the milk drop frozen by the camera, peeling back in a nice curve. The TWA 800 metal aft midspan pin will probably show heat and stress damage on the metal as the aft midspan pin did on UAL 811. The TWA 800 metal hinge will show metal overtravel impression damage, just like UAL 811. The metal stator blade in the metal horizontal stabilizer of TWA 800 will probably come from the metal P&W JTD-9. Metal is nice because it is real and can be examined. Easy to do with the TWA 800 reconstruction metal door hinge and metal aft latch and pin. Cheap, quick, easy, and so important. Why hasn't that been done? NTSB must not only be above reproach in lack of diligent effort to find probable cause, NTSB must be above the appearance of reproach. To not pick up the phone, call someone at Calverton to drag the stepladder over to the hinge and see if there is overtravel damage on the hinge gives the appearance of not being diligent when it is so easy to do.

2. A structural engineer, Mr. Breneman, and a metallurgist, Mr. Wildey II, have both given opinions about aircraft accident evidence and how it came to be. Fine. Where are the aircraft accident investigators in this aircraft accident? When an intact round fuselage lands on flat water the impact makes an oval,
a rectangle. Saying the clear shattered rectangle on the starboard side of TWA 800 forward of the wing with the outward peeled skin is water impact damage is funny, especially when it matches in text, drawing and photographs of other rectangle explosive decompressions forward of the wing on the right side, AI 182, PA 103, and UAL 811. It's equal to the CIA saying a nose off Boeing 747 climbs three thousand feet in twenty seconds. It's equal to a lawyer saying the streak was leaking fuel on fire. It's equal to a detective saying a strange radar blip is a P-3. It's equal to educated persons saying eight is ten.

Where are the aircraft accident investigators?

An aircraft person, not a cop or lawyer or engineer or analyst, would say, leaking fuel does not look like streak to persons ten miles away, it's something else; he would say water impact causes inward damage not outward; he would say a plane with no nose, declining power and heavy after takeoff descends, not climbs; he would say the radar blip of the P-3 was always identified and the mystery blip must be something else; he would say eight is not ten, ten is ten.

I'm an aircraft person and I say those things.

Another different thing about this NTSB 12 Jan 98 letter is the style and tone. I watched and listened to Mr. Wildey for hours at the hearing. I have read his sequencing reports and transcripts of testimony at the hearing. We have exchanged emails. Mr. Wildey is polite, informative and precise, not cold, reticent and vague, as this letter is. The style of an opening sentence giving background, middle sentence making statement, (never asking questions) and final sentence of polite but insincere thanks is reminiscent of other emails and letters I have received from
NTSB, but not Mr. Wildey. The only thing missing is the phrase, "Let me reassure you..." This letter from NTSB shows that the author is unclear on the concept of the relationship of civil servant to citizen. This letter is similar to WC Fields shaking off a distraction with the words, "Go away, kid, you bother me." This brushoff letter from NTSB is fine for a well meaning hourly worker who has an idea and scribbles a short note to an official address he found someplace. It is not appropriate for a aviation crewman, technician, navigator and pilot who has conducted nine years of research and sent several hundred pages of analysis supported by enclosed documentation to specific involved officials.

We are involved.

I am not out to hurt the government as the missile guys are when they say US Navy shot down TWA 800 and are covering it up and yet the missile guys get detailed rebuttals. I am not out to increase my budget as the bomb guys are when they say more stringent security is needed yet they get detailed rebuttals. I am on the government's side, I am on Boeing's side, I am on the side of the passengers of the future, just like NTSB. I am an ally, not an enemy. I do not like this adversary relationship which is similar to court trials. This is not a trial but an investigation. Investigations have questions. Where are the questions?

I agree with NTSB on TWA 800 with center tank explosion. I use NTSB documents, text, photographs, and testimony to backup the the initial event from fireball to center tank explosion to engine number three or four ignition source to falling wing, to nose off to explosive decompression to rupture at aft midspan latch of forward cargo door, to unlatch motor on from short to chafed bare poly-x wire to ground via condensed water. And yet I
get cursory, vague, and abrupt rejections of supported ideas. Cargo door rupture/opening/chafed wiring explanation deserves better.

Where the water came from is conjecture but water in the hold is true because I saw it. It could come from thunderstorm, leaking cargo, popped potable water tank or other unknown. I use the three other accidents for clues. Three took off in hot humid conditions and climbed up high where it is cold. Condensation is the one explanation that holds true for most. Aft latch rupture is probable because of the photo evidence, water source for shorting chafed wire is possible and needs confirmation.

4. If a patient goes to the doctor and presents with blood in urine which might be a kidney problem and the doctor examines one normal kidney and says, 'No problem, I have gathered sufficient facts to rule out that possibility,' would you say, 'Hey doc, check the other kidney?' Or would you say, 'What the hey, one is two, close enough.' I don't think so. You would say 'Check all my kidneys' as I say 'Check all the latches.' And I've added 'Check all the wiring in the forward cargo hold for chafed through to bare wire.' (What you might really say to the physician is, "Am I going to die? Can you fix it? How much longer to I have to live? Tell it to me straight.")

5. Enough about facts and specifics, let's get back to unsubstantiated generalities as shown by the 12 January letter. "...sufficient facts have been gathered..." Huh? Sufficient? How many? What facts? Gathered where? Can I see them? As I have researched the facts regarding cargo door in high time and cycle Boeing 747s for years and have about two thousand pages of text compared to two sentences, my opinion is that insufficient facts have been gathered to rule out possibility of door open in flight
and sufficient facts have been gathered to rule in the probability. My list of sufficient facts was listed earlier and will be revised as my investigation continues. I'm showing you mine, will you show me yours...and I've already seen the bottom eight latches latched. What else do you have?

Here are the three official stated facts regarding cargo door from NTSB:
1. "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill." in Exhibit 15C signed by Mr. Wildey.
2. "The examinations of the TWA airplane, however, conclusively show that this door was latched and locked along its bottom edge through the entire break-up sequence." in testimony by Mr. Wildey at public hearing.
3. "...the Safety Board believes that sufficient facts have been gathered to rule out this possibility." in 12 January 98 letter signed by Mr. Wildey.

Not sufficient! Insufficient. Eight is not ten and never will be.

There may be sufficient wishful thinking to rule out cargo door rupture/open/explosive decompression but not sufficient facts.

Here's a clue that reveals the wishful thinking bias against door. If you lose your wallet and you think where may it be and you deduce it could be in the glove compartment of your car and you go running out to the garage to the car, open the door, open the glove compartment and look in to the mess and don't see the wallet, you don't feel relief, you feel disappointment and continue to rummage around the junk in there to look for the wallet possibly hidden by stuff like maps and glass cases and
candy and pens.

When Mr. Breneman examined the pieces of twisted metal called the wreckage of TWA 800 looking for the forward cargo door because he suspected it might be the cause and found the bottom eight latches latched, he told me he felt relief. He was glad he was wrong at his suspicion of door problems. He did not want the wallet to be in the glove compartment. He did not want the door to be the problem so he wishfully thought that eight latches latched means they all must be latched and therefore the door was locked and all the shattered pieces of the door must have occurred at water impact. Wishful thinking ruled then and it rules now. It's a pleasant dream, not the unpleasant truth. Truth hurts; lies kill.

Let Mr. Breneman be the hero. He was there first with the suspicion the door was involved. He braved poor and dangerous working conditions to locate and identify very difficult to see dirty pieces of wreckage among many. He correctly evaluated the obvious problem based upon past accidents, the lower eight latch condition as latched and locked. He promptly reported his results to authority. He did everything that was asked of him under pressure conditions. There is now the luxury of time to review the past conclusions.

Explosive decompression has caused a lot of problems for jet airliners and the people connected with them from designers, manufacturers, operators, and investigators. Comet caused big problems to an entire industry, DC10 caused problems with manufacturer, UAL 811 caused problems for the investigators who got it wrong the first time but came back and corrected the error. It's understandable that the cargo door causes fear and is to be avoided and wishful thinking makes it go away when eight of
the ten latches were latched.

More logic: Why the reluctance to consider this known killer of nine who left early the scene of the crime? Why not say the center tank exploded and blew the door open? Why the adament nonsense of a now shattered door being intact at water impact while the reconstructed shattered skin is peeled outward? Why ignoring the many red paint smears that are easily visible and consistent with door open and slamming upward? Why ignoring stator blade? Why ignoring all the evidence which indicates door opened in flight when you could say, yes, the center tank explosion blew it open? Why ignore the two real fires a quarter inch from the center tank as ignition source when chafed wiring caused fires in two forward cargo holds of Boeing 747s? Why ignore the forward cargo hold, the cargo door, and the fuselage skin around it?

Only to avoid getting into the black hole of pressurized fuselage rupture in flight, that's why.

The Comet airliner crashes: After several inflight ruptures in which a bomb was thought to be the cause, the fleet was grounded and an investigation was begun on why the pressurized fuselage ruptured in flight. After a while, the ban was lifted and flights resumed. Another fuselage ruptured and all died. An industry was hurt and never recovered.

The DC-10 airliner crashes: After an aft cargo door opened in flight and almost killed all on board over Ontario, Canada in 1972 an investigation was started. Then another aft cargo door opened in 1974 and killed all on board. The DC-10 was hurt and never recovered, in fact, MacDac never recovered and recently merged. The investigation revealed memos concerning the risk of
the open cargo door was known to officials but nothing was done.

Boeing 747 airliner crashes: After a forward cargo door opened in flight in 1987 on Pan Am 125, changes were ordered to prevent it happening again. It happened again. UAL 811 lost the door in 1989 and killed nine. The manufacturer, the airline, the FAA were all excoriated by NTSB for failing to do this and that and too slow too. Then NTSB got the cause of the door opening wrong, retrieved the evidence of the actual door, and wrote another AAR, 92/02 with the correct cause, electrical short to door motor to unlatch to rupture to open to explosive decompression and not improper latching, much to the relief of the baggage handler who had been blamed for the deaths. Boeing 747s are being sold off to foreign airlines and other airlines are cancelling orders. If another 747 mysteriously crashes, its reputation and Boeing's may never recover.

The two crash rule has been fulfilled for cargo door on high time Boeing 747s. The tombstone regulations didn't work.

Boeing may believe it is in their best interest to call TWA 800 a missile shootdown or even to take the full blame for a center tank explosion rather than take the partial blame for several cargo door caused accidents, AI 182, PA 103, and TWA 800. It's wrong thinking, as the best selling airplane is the one that does't mysteriously crash every few years, but that's their shortsighted call.

TWA may hope for missile or center tank as it exonerates them as the cause. Cargo door indicates operator error so would be avoided by the airline. It's shortsighted as the cargo door problem happens to all airlines and all airports, the common link is high
cycle Boeing 747s.

Pilots, crew, and passengers may want to believe missile or bomb because then they can consider it a fluke and unlikely to happen again while a mechanical problem can reappear. It's hard to enjoy flying when you think the airplane may come apart mysteriously at any time.

The engine manufacturer may want to steer clear of any involvement of a disaster to avoid guilt by association but they should be volunteering to help, such as noting their stator blade is not where it should be and stating exactly which engine and where in the engine did the stator blade come from.

The lawyers and their clients may want to hope it's not the cheap guys' fault, the airline with limited liability, and hope for the deep pocket manufacturer's fault with unlimited liability.

The makers of the mystery ignition source, probes and pumps, will be interested eventually in any reasonable explanation supported by facts and official documents which clears them of responsibility but that will be much later during trials. There is not time to wait for the judicial process to uncover and examine alternative reasonable explanations for the fireball and initial event. Three noses have come of Boeing 747s in flight within eleven years, 1985 to 1996. That's one every four years at best. It's been a year and a half since TWA 800 and trials will not begin for a few more years.

NTSB and FAA may hope it's not the cargo door which will dredge up the UAL debacle but in fact it shows that NTSB is determined to find the cause of a crash regardless of fallout from the discovery. NTSB has shown that it is deliberate and
comprehensive in the past with UAL 811. The accident happened in February 1989 and the final corrected report came out in 1992, about four years later. With TWA 800, NTSB has only had the full responsibility of the investigation for a month, from December 1997 to January 1998. The hasty competitive race to find the cause against the FBI bomb or missile explanation led to hasty ruling out of forward cargo door and hasty ruling in of center tank explosion as initial event. Yes, the door popped for UAL 811, but why. NTSB got it wrong the first time and corrected themselves with additional evidence. Wasn't it the instigation of a citizen that persuaded NTSB to retrieve the 811 door? Who remembers his name? No one. Who remembers that the NTSB got an aircraft investigation right? Everyone. What's important? Getting the aircraft investigation probable cause right is what's important. Recheck 800 door as you did with the 811 door. You looked closely at the 811 door. Do it again with TWA 800. Please. Now. I beg you. Just once. Hinge, pin, paint, stator, cvr, explo decom rectangle, petal shape at aft latch.

NTSB and FAA were first on the scene to suspect the door as stated by Mr. Breneman who was asked by NTSB to examine the cargo door. The prime suspect was promptly interviewed. An initial evaluation was made based upon correct suspicions of the officials. NTSB and FAA did not miss the door explanation, they are just deliberate in their examination. Cargo door is not going anywhere. It is there for examination. NTSB has only had the total official investigation for just a month. It is an active investigation. Evidence is still being collected, sorted, and evaluated. To change position in the middle of an investigation is normal. To go back and check out old clues and hypotheses is normal. To respond to citizens answering a call for help from officials to the public in a public appeal is normal. To check out hard evidence such as hinges, pin, paint, stator, cvr, explo decom
rectangle, petal shape at aft latch when the evidence is close by is normal.

Yes, the center tank exploded for TWA 800 but why. NTSB has it not exactly correct the first time with a mystery spark but will get it exactly correct with help from additional evidence, the wreckage reconstruction at Calverton. The evidence is the shattered door hanging there with missing latches, puffed out skin, and a red paint smeared hinge and an ignition source of a fodded engine number 3 which came apart and left stator blade behind it. To rewrite exhibits, to add an addendum to Exhibit 15C, to modify a sequencing report is normal during an extended investigation. It is better to make the minor adjustments now than to have to issue another entire AAR later on.

Do we agree on that?

Let's disagree on something.

There is supposed to be an independent agency which objectively looks at all possibilities of an accident regardless of political implications. That's the NTSB for TWA 800. The United States National Board of Transportation. All eyes look to NTSB when a plane crashes. It is an awesome responsibility. NTSB is supposed to be fair. NTSB is supposed to be forthright. NTSB is supposed to be quick. NTSB is supposed to be precise.

Personally, I don't see it. I saw a biased prosecution of a hastily decided cause of center tank explosion made within weeks of the accident and has held firm ever since in the face of ignored contrary evidence. Within eighteen hours it was known there was a fireball, soon thereafter the wreckage showed center tank had fire and explosion damage. So, it exploded. What happened just
before it exploded? When an ignition source was not found, another explanation should have been considered but wasn't. The misfitting puzzle piece of center tank as initial event has been pounded into place with computer models, small size actual models, and blown up real 747s, and it still doesn't fit. It doesn't fit as initial event because it was not the initial event.

NTSB has not been fair and given all reasonable explanations a hearing as shown by three sentences for cargo door. NTSB is supposed to be upfront but suppresses already researched and written exhibits on eyewitnesses, power plants, and wreckage plot. NTSB was supposed to have public docket ready within a few months yet took a year and a half to produce a bowdlerized version. NTSB is supposed to be exact yet continues to insist eight latches checked of ten available means total.

Cargo door explanation has been avoided because it has a track record of hurting everyone one it touches, including me. It appears officials are afraid of getting burned again. Gentleman, of course we are going to get burned again. That's just the way it goes. That's life in the mystery world of aircraft crash investigation dealing with hundreds of millions of dollars and intense grieving emotions. We have blood on our teeth for the event happening on our watch. We will have burned fingers when all the stories are written and statements are misquoted and biased opinions are stated as fact. And we will have gold in our hair when the correct explanation is determined. Any errors or lapses will be forgotten with success but remembered with failure.

The opinion of NTSB regarding a cargo door problem for a high time Boeing 747 that occurred shortly after takeoff and left a sudden loud sound on the CVR and an abrupt power cut to the
FDR was wrong in 1989 and was later corrected with AAR 92/02. Now in this 12 January letter 98 from NTSB to me, Mr. Wildey II wants me to accept the opinion of NTSB negating a cargo door problem for a high time Boeing 747 that occurred shortly after takeoff and left a sudden loud sound on the CVR and an abrupt power cut to the FDR. With no facts, just a vague opinion from anonymous officials. No can do. I determine truth by responding to facts, evidence, and data, not opinion. As I ask you to do, put little value in my opinion but much in facts, evidence, data. Disregard the messenger and pay close attention to the message: Water, wire, ground, power, poof, pop, boom, splat.

I am never rebutted with facts, only opinions from persons with made up minds from long ago.

Here's the sequence of thought and reactions to the cargo door explanation by closed minds:
1. No.
2. You're wrong.
3. You're crazy.
4. Ignore.
5. Go away.
6. Intimidation.
7. Ask questions.

I've been getting '1' all along. This 12 Jan 98 letter is a '2.' The Chairman's opening statement putting cargo door along with laser beam cause is a '3.' A few letters and two sentences in response to hundreds of letters and thousands of sentences is '4'. Exasperated statements implying I'm bothering officials who have already told me about the door is a '5'. Being visited by armed strangers authorized to shoot to kill in civilian clothes in a
civillian car unannounced and uninvited to my front door to interrogate me based upon a contrary opinion is '6'. The question of 'why so few burned passengers' is a 7.

Who asked that question and I know the answer to who asked and why so few passengers burned. James Hall, Chairman of the National Transportation Safety Board asked that question several times at the hearing.

(Jim 1, as I think of James Hall, Jim 2 is James F. Wildey the II, Jim 3 is James Kallstrom, and Jim 4 is James Devany. I note similarities and detect patterns, just like AI 182, PA 103, UAL 811, and TWA 800 all have SLS on the CVR, sudden loud sound on the cockpit voice recorder.)

To get officials to number seven is my goal. It is very difficult. I recognize state '7' questions right away. One was 'any hoop stresses found?' Another is NTSB Chart 12 which lists AI 182, PA 103, UAL 811, and TWA 800 sudden loud sounds with abrupt stops. What does Chart 12, Exhibit 12B, say, is the state 7 question.

The six main open minded questions asked often are listed below and answered later in an included letter.

1. How and why does forward cargo door open in flight?
2. How does open door in flight cause nose to come off for AI 182, PA 103, and TWA 800?
3. Why did nose of UAL 811 stay on?
4. AI 182 and PA 103 not a bomb?
5. TWA 800 not center tank as initial event?
6. Explosive decompression enough to tear nose off?
7. Is there a conspiracy to keep cargo door explanation quiet?

End Part 1

From: John Barry Smith <barry@corazon.com>  
Date: September 6, 2009 12:03:08 AM PDT  
To: FAA  
Subject: Fwd: New sequence

Date: Wed, 7 Jan 1998 04:14:19 -0800  
To: Wildey  
From: John Barry Smith <barry@corazon.com>  
Subject: New sequence  
Cc:  
Bcc:  
X-Attachments:  
Dear Mr. Wildey, 7 Jan 97

New sequence, all happened before and all documented and now I put it together. Informally but factual.

Suggested new sequence for initial event.

Cold air from air conditioning pack flows into hot humid air of summer New York in forward cargo hold on old airplane that has not had Section 41 retrofit. Water condenses and runs down metal cargo door to pool near chafed wire. Wire is poly x which has chafed through sheath, through insulation, to bare wire from the long term vibration of flight of old airplane. The wire bundle is near clamp which does the wear. The wire bundle houses the EPR info and cargo door motor power and unlatch signal. The water shorts door motor to 'on' to ground and turns door motor
on for just a few seconds. Latches try to unlatch. Bottom eight sectors stop the cams from unlatching because of AD 88 12 04. But the midspan latches have no locking sectors so try to unlatch. The torque tubes are stopped by the locking sectors from complete turning but turn enough through wear and tear of old plane to partial unlatch at aft midspan latch. Aft latch ruptures. Door opens. Big hole appears from explosive decompression. 300 knots tears nose off. Nose falls apart, rest of plane falls and disintegrates and fuel vapor and center tank explodes into fireball seconds later and thousands of feet lower when on fire engine number three or four ignites it.

The final answers as to why door opened were made clear in NTSB exhibits which show chafed wires and two fires in forward cargo hold in the past few years. Also the panel on aging aircraft which showed 800 had poly x wiring and no Section 41 retrofit.

I saw the water cascade out of cargo hold. And potable water tanks are in there too and the tops explode on those once in a while too, puncturing the floor above.

800 103 and 811 all had about 16000 cyles while flight times were different. 16000 cycles is the danger, not 20000.

So, Mr. Wildey, what to do?

You said a new sequence was possible based on new evidence or new interpretation. Here they are. Documentation upon request.

EPR problems were reported on all four planes; that's were I got the wire bundle with EPR. The chafing wires were shorting and giving a problem in the cockpit about EPR.
Wiring takes the hit as well as design of outward opening.

Wiring failed because of chafing from vibration, so blame it on vibration. Nose comes off because of 300 knots so blame it on speed.

In a sense 800 crashed because it was flying which has vibration and speed. They killed themselves. Sort of like skiing into tree, not the tree's fault.

Time for action, Mr. Wildey. Got to give right answer and it's not center tank as initial event. And it's not missile.

It's bare wire and water. Bad combo.

Regards,

Barry Smith

---

From: John Barry Smith <barry@corazon.com>  
Date: September 6, 2009 12:03:08 AM PDT  
To: FAA  
Subject: Fwd: Cargo door letter for Mr. Wildey

Date: Wed, 31 Dec 1997 02:51:35 -0800  
To: Wildey  
From: John Barry Smith <barry@corazon.com>  
Subject: Cargo door letter for Mr. Wildey  
Cc:  
Bcc:  
X-Attachments:  
James F. Wildey II
National Resource Specialist  
National Transportation Safety Board  
490 L'Enfant Plaza East, SW.  
Washington, DC 20594 31 Dec 97

Dear Mr. Wildey, 31 Dec 97

I've just mailed off several 95 page documents to the persons below. The original mailed document, in tan clasp envelope, has color pictures embedded in the text which I am unable to transmit via email because government servers do not accept pictures. The text of the main letter is attached below. I've also included copies of my sources referred to in the text.

It's essentially laying out cargo door as precipitating event for TWA 800 and offers interpretation of evidence expanding on Exhibit 15C, Forward Cargo Door.

I've sent an original document to Chairman Hall too but I don't have his email address. Can you forward the text of this email to him? The mail should arrive in a few days. Going back to desktop publishing instead of web and email was quite a treat.

Respectfully,

John

Barry Smith
408 659 3552

barry@corazon.com
www.corazon.com

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17th District, California
House of Representatives
Congress of the United States
Washington, DC

John McCain
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
United States Senate
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James Hall
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National Transportation Safety Board
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Director of Aviation Safety
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Lead Investigator, TWA 800
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Bob Breneman,
Aerospace Engineer,
Federal Aviation Administration
Transport Airplane Directorate, ANM-100
Dear Gentlemen,

29 December 1997

I address you as an American citizen to United States government officials. I have come to the conclusion that you are listening to me. You may not agree or always respond, but still my information is getting through. So I continue.

Chairman Jim Hall of NTSB has made an important yet unsubstantiated reply to Congressional inquiry regarding TWA 800 cargo door status: "Early in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors."

That statement is not yet correct. A complete examination of the forward cargo door and two other cargo doors remains to be done. Only eight of ten latches have been examined in the forward door and none of the other doors. Chairman Hall has
reported to me and senior officials that all doors have been conclusively determined to be all latched at water impact. That statement is not yet exactly true. It can be.

One person made an early conclusion under time pressure and poor working conditions about one shattered door and that erroneous first guess has been compounded into three doors over time and not corrected. It leads to this imaginary yet factual conversation between Chairman Jim Hall and Mr. Bob Breneman, the person who first examined and deduced forward cargo door all latched and intact at water impact:

Chairman Hall: I have reported in writing to high officials that all the cargo doors are all latched, is that correct, Mr. Breneman?

Mr. Bob Breneman: Maybe, sir!

Chairman Hall: What is the position of the forward cargo door manual locking handle, is it locked or unlocked?

Mr. Bob Breneman: Don't know, sir, didn't examine it.

Chairman Hall: Do any of the forward door latches show damage?

Mr. Bob Breneman: Don't know, sir, didn't examine them all, only eight of ten.

Chairman Hall: Are the latches on the two vertical sides of the forward door latched?

Mr. Bob Breneman: Don't know, sir, didn't examine the sides, only the top and bottom.
Chairman Hall: Do you have the two midspan latches?

Mr. Bob Breneman: Don't know sir, maybe, or maybe missing, or maybe destroyed.

Chairman Hall: Does the hinge show overtravel damage?

Mr. Bob Breneman: Don't know, sir, didn't examine it for that.

Chairman Hall: What is the status of the two overpressure relief doors in the forward door?

Mr. Bob Breneman: Don't know, sir, didn't examine them.

Chairman Hall: What are the positions of the aft and the bulk cargo door manual locking handles?

Mr. Bob Breneman: Don't know, sir, didn't examine them.

Chairman Hall: What is the status of any the latches and hinges of the aft and bulk cargo doors?

Mr. Bob Breneman: Don't know, sir, didn't examine any of them.

Chairman Hall: What is the status of the door frames, the overpressure relief doors, the viewing ports, and the hinges of the aft and bulk cargo doors?

Mr. Bob Breneman: Don't know, sir, didn't examine any of them.

Chairman Hall: Very well, Mr. Breneman, and you want me to
say all cargo doors are all latched, locked and no latch failures at water impact for TWA 800?

Mr. Bob Breneman: You can say anything you want, Mr. Chairman, you're the Chairman!

Gentleman, I ask you, how did such a crazy thing come about? Here's how. The chain of erroneous conclusion regarding forward cargo door of TWA 800 is thus:

1. July 1996. Mr. Bob Breneman examined bottom eight latches. He stated to me in a phone call on 30 October 1997 that "early on as the pieces of door were being brought into Calverton hangar," he determined cargo door latched and not implicated in crash of TWA 800 because bottom latches latched. He said he felt relief that bottom latches were latched as the initial thought was the forward cargo door might be a problem. He could not recall status of two midspan latches.

2. 11 August, 1996. Mr. Ron Schleede emails me on 11 August 1996 to tell me, "I have examined the cargo door from twa 800--it is locked and latched!"

3. 19 September, 1996. Mr. Al Dickinson emails me and states, "We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash."

4. 1 November, 1996, Congressman Sam Farr, D-CA, writes to me and states, "In an effort to be of assistance to you, I have forwarded a copy of your communication to the Federal Aviation Administration and asked them to respond directly to you. Their officials have the resources and expertise to thoroughly
investigate your claims about the inadvertent inflight opening of the forward lower lobe cargo door."

5. 18 November, 1996. Thomas E. McSweeny writes, (Douglas G. Kirkpatrick signs,) to Congressman Sam Farr, D-CA, reporting, "The Federal Aviation Administration (FAA) has no evidence that would lead us to suspect that the forward cargo door is implicated in this accident."

6. 26 November, 1996, Congressman Farr writes to me and states, "According to Mr. McSweeny, the FAA has looked into the possibility that door failures played a role in the accident, but have found no evidence to that effect."

7. 19 December 1996, Senator John McCain R-AR, Chairman, Senate Commerce, Science, and Transportation Committee, writes to me and states, "Thank you again for contacting me with your concerns regarding the potential hazards involving Boeing 747s. As you know, I have passed the information you sent to Chris Paul and he has informed me of your findings. I have since forwarded the material you sent to the Commerce, Science and Transportation Committee for their review."

8. 5 February 1997, LCDR Don Lawson of US Navy Aviation Accident School emails me and states, "From the head of the NTSB team working TWA 800:
1. He personally, even again this morning, looked at all the doors from the airplane. All latches were either destroyed or in closed positions. The destroyed latches were adjacent to ones in closed positions.
2. Nobody associated with the investigation is considering further a cargo/passenger door malfunction to be part of the probable cause of this accident. Door problems have been
categorically ruled out because there is simply no evidence pointing to the doors (and latches)."

9. 10 Mar 97, Aviation Week and Space Technology, Page 35. "NTSB investigators have suggested unofficially that the streaks the pilot saw could have been light reflections from the skin of the aircraft, tongues of flame from the airliner or the forward door of the aircraft popping open, a possibility that still intrigues investigators, the second official said."

10. 22 April, 1997. Mr. James Wildey II signs report No. 97-82 of Docket No. SA-516, Exhibit 15C, Section 41/42, Forward Cargo Door, dated 22 April 1997, with Mr. Al Dickinson, AS-10, listed as investigator. Report states, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

11. May, 1997, TWA 800 reconstruction of fuselage wreckage is completed. Outward bulge of door frame, red paint smears above cargo door on white fuselage, missing/not hung aft midspan latch, outward peeled upper skin, rupture hole at aft midspan latch, and larger explosive decompression shape become apparent in photograph of reconstruction.

12. 19 May 1997, Mr. Ron Schleede emails me and states, "As I have told you before, the cargo door was locked and latched at impact."

13. 6 June, 1997. Senator McCain writes to me and states, "My staff reviewed the detailed information you provided concerning a faulty cargo door which could have caused the crash. They promptly contacted the appropriate agencies and were advised
they had received similar correspondence from you and were aware of and looking into your theory. Inasmuch as the investigation is not yet complete, I expect that the information you provided is being handled appropriately by the crash investigation team.

14. 11 June 1997. Congressman Sam Farr writes to me, "I have every confidence in the ability of the professional investigators who are looking into the cause of the accident. If one of the plane's doors was at fault, as you suspect might be the case, it is certain that evidence of this will be found. Further, since you have conveyed your ideas to the NTSB (National Transportation Safety Board), I have no doubt that NTSB staff will be in contact with you if the Board feels that this information would be useful to its investigation."

15. 24 October 1997. Chairman NTSB Jim Hall writes Congressman Farr and states, "Please be assured that our team has examined all of the structure recovered from TWA flight 800, approximately 95%--including all of the cargo door mechanisms and structures. Early in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors. This information has been forwarded to Mr. Smith by our investigators on previous occasions."

16. 29 October, 1997. Ronald T. Wojnar writes, (Darrell M. Pederson signs), "When the first bits of information became available that the nose section of TWA flight 800 had separated from the rest of the airplane, we were concerned that a possible in-flight opening of the forward cargo door may have caused the accident. However, when the wreckage of the nose section was
recovered if became evident that the forward cargo door had not opened in flight or separated from the nose section prior to impact with the water."

"The FAA structural engineer who assisted the NTSB at the hangar at Calverton, New York, verified that the forward cargo door was recovered at the same location as the rest of the nose section. A further examination of the recovered wreckage showed that the upper door hinge was still attached to both the fuselage and the door. In addition, the door latches at the bottom of the door were still attached to the fuselage lower sill structure. This indicates that the door was in the "latched and locked" position at the time of impact with the water."

"The nose section of the airplane impacted the water on the right side, causing severe hydraulic damage with the result that the door structure did not remain completely intact. However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the right side. This is additional verification that the forward cargo door had not opened in flight or separated from the airplane."

17. 20 November 1997. Mr. Peter Goelz of NTSB writes to Sandy Hentges of Congressman Farr's office and states, "As Congressman Farr was advised by letter dated October 24, 1997, early in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors."

18. 10 December 1997. Congressman Sam Farr writes me and states, "You will also note that the NTSB continues to stand by their findings that the cargo doors were latched and locked at impact with the water."
19. 19 December 1997. Chairman Jim Hall of NTSB writes me and states, "However, to repeat, the investigation of the accident involving TWA flight 800 has revealed no evidence to suggest that a failure of a cargo door precipitated the event."

Gentlemen of government, I assume you respect facts, evidence, data...eight is not ten. Most is not 'all.' That forward door has ten latches. Eight have been examined. A close reading of the correspondence to me reveals that when latches are mentioned, only the bottom eight latch status of one door is reported. The other two latches, the midspan latches, are unexamined and unreported. To say door is all latched is wrong; it is misstatement, it is exaggeration, it is an error. You may consider it not a serious error, but it is an error nonetheless. It can be corrected. Closely examine the other two latches on that forward door.

To drive point home; to say that all the latches are latched based on examination of only eight of the ten is to make the wrong conclusion entire door was latched at water impact. If you lose two toes to frostbite you can not say truthfully say to your wife you have all your toes, you have most of your toes. If you have ten marbles and a bully comes by and takes two, you can not fib to your buddies you have all your marbles, you have most of your marbles. If your test has ten questions and you get eight right you can not truthfully report to your parents you got them all right, you got most of them right. If a door with ten latches has eight latched, you can not truthfully issue a report stating the door is all latched, it is mostly latched.

The forward cargo door and aft cargo door are identical in size and number of latching cams, locking sectors and latching pins.
For each door there are ten latching cams and eight locking sectors. The midspan latches have no locking sectors. An Airworthiness Directive to strengthen locking sectors would have no direct effect on the midspan latches because there are no locking sectors to strengthen. A latching system consists of a cam sector turned around a latching pin. The pins are in the door frame. All ten latches of the door have a cam sector and pin. Only the bottom eight latches of each door have an additional locking sector for each latch system for safety to prevent inadvertent unlatching.

The total for the two identical starboard cargo doors and frames of TWA 800 is twenty latching cams, twenty latching pins, and sixteen locking sectors. There exist twenty latching systems for two cargo doors and only eight have been examined, the bottom eight latch system on the forward cargo door. Eight latching systems examined of twenty in two identical doors which have both opened in flight in the past is not a high percentage. In fact, it changes from most latched to some latched.

Facts, evidence, data...The bulk cargo door as reported in Exhibit 7A, page 15, is an approximate square of eleven feet wide and ten feet high and is aft of wing on port side. Assuming TWA 800 had one port side bulk cargo door, as stated in exhibit 7A, and although larger, has the same amount of latches as the two starboard side cargo doors, the total number of cargo doors for TWA 800 is three.

The total number of latch pins for the three cargo doors and frames is thirty, total number of latch cams is thirty, total number of locking sectors is twenty four, total number of door sides is twelve, total number of feet of cargo door frame edge cut out of fuselage is one hundred eleven, and total manual locking handles
is three.

Total number of cargo doors examined by FAA and NTSB of three available is three, 100%. Complete. None to go. Total number of latch pins examined of thirty available is eight, 26.6%. Incomplete. Twenty two latches to go. Total number of latch cams examined of thirty available is eight, 26.6%. Incomplete. Twenty two cams to go. Total number of locking sectors examined of twenty four available is eight, 33%. Incomplete. Sixteen locking sectors to go. Total number of sides of cargo door examined of twelve available is two, 16.6%. Incomplete. Ten sides to go. Total number of feet of cargo door frame examined of one hundred eleven available is eighteen, 16.2%. Incomplete. Ninety three feet to go. Total number of manual locking handles examined of three available is zero, 0%. Incomplete. Three manual locking handles to go.

To say all cargo doors conclusively determined as latched and locked, as Chairman Hall stated to Congressmen, is not true and needs to be true, and can be true. Just fully examine all three doors.

Or at least fully examine one previous faulty killer door, the forward cargo door, located just forward of the wing, where the first objects left TWA 800 as shown in Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 30 in dark numbers. The first item to depart TWA 800 is "A489, fwd lower cargo bay struct, FS 900."

Every aft and forward cargo door is 110 inches wide and 99
inches high, or about nine by eight feet square and each has four sides, one hinge, ten latch cams, eight locking sectors, thirty four feet of door frame cut out of fuselage, two over pressure relief doors, eight viewing ports, torque tubes, and one manual locking handle. Every cargo door frame in the fuselage has ten latching pins; eight on the bottom and two on the sides.

Total number of forward cargo doors examined of one available is one, 100%. Complete. None to go.
Total number of latch pins examined of ten available is eight, 80%. Incomplete. Two latch pins to go.
Total number of latch cams examined of ten available is eight, 80%. Incomplete. Two latch cams to go.
Total number of locking sectors examined of eight available is eight, 100%. Complete. None to go.
Total number of sides of forward cargo door examined of four available is two, 50%. Incomplete. Two sides to go.
Total number of feet of forward cargo door frame examined of thirty two feet available is eighteen, 52.9%. Incomplete. Sixteen feet of frame to go.
Total number of manual locking handles examined of one available is zero. 0%. Incomplete. One manual locking handle to go.

To say that forward cargo door was conclusively determined to be latched and locked, as said by Mr. Breneman, Mr. Schleede, Mr. Dickinson, and Chairman Hall is not true, and needs to be, and can be. Just examine fully the forward cargo door. For example, the TWA 800 cargo door hinge can be examined for overtravel impression damage similar to that observed on UAL 811 in AAR 92/02 on page 35. That will confirm door opened in flight or rule against it.
I suspect it is wrong to tell people they are wrong. I can't help it. To say eight equals ten is wrong. To say conclusively when only 50% is examined is wrong. Wrong, wrong, wrong. The top and bottom of the forward cargo door were examined but the sides were overlooked. It's an oversight. It was a hasty, time driven, wishful thinking error. It's not right. It can be corrected.

As a citizen I trust I am permitted to be impertinent once in a while.

Facts, evidence, data ...

A fact is a forward cargo door has burst open in flight before on a high time Boeing 747 during climb leaving a sudden loud sound on the CVR as the air molecules rushed outside to equalize the internal high pressure with the external low pressure followed by an abrupt power cut to FDR. The evidence is the mangled CVR and FDR of TWA 800. The data is the sudden loud sound on CVR tape and abrupt power cut to the FDR of TWA 800.

It is apparent that the conclusion of fully latched forward cargo door was made early on in the investigation based upon only examining eight of ten latch systems. That erroneous conclusion has held firm although new data has arrived with the TWA 800 wreckage reconstruction completed in May.

The reconstruction shows new evidence, that's one reason why it was built. The new evidence is the red paint smears above the door on the usually white paint between windows; outward bulged door frame at aft midspan latch; outward peeled skin at many places on nose, door hinge, the missing manual locking handle, the missing two overpressure relief doors, missing red trim paint, and the missing/not hung midspan latches of the
forward cargo door which are supposed to be there if latched and are not.

You can see it with your own eyes. The red paint smears are found only between seven passenger windows, all above the cargo door area. This indicates red paint transfer from a red object, most likely the red painted top of door below. An outward force would cause red door to open outward and rotate on hinge and slam into upper white fuselage. It happened that way on UAL 811, in principle and documented on page 41 of AAR 92/02. Parts of the TWA 800 red paint trim on top of the white base coat above cargo door is missing and may be source of the red paint smears. Outside force from water impact would not give red paint smears.

You can see the missing aft midspan latch location with your own eyes. The door frame in which the aft midspan latch pin is embedded is smooth with no latch cam attached. The frame is smooth and indicates unlatched latch.

The door frame at the aft midspan latch is bulged outward from within. You can see it with your own eyes. Other bulged outward skin in the area shows a round rupture hole at aft midspan latch.

The skin is peeled outward above the windows above the cargo door. You can feel it with your own fingers. Mr. Streeter and Mr. Wildey contributed the knowledge there were hoop stresses in the area, stresses the closed forward cargo door is supposed to prevent.

The cockpit voice recorder data plays a sudden loud sound at event time. You can hear it with your own ears. It is sudden, loud, an audible sound, and it lasts a short time. NTSB has
grouped AI 182, TWA 800, PA 103, and UAL 811 sounds together in Chart 12 of Exhibit 12-B. They match except in duration and that variable was determined by abrupt power cut, not the source of the sound which is probably rapidly rushing air molecules seeking to equalize high pressure inside to low pressure outside.

The Exhibits in the Public Docket reveal evidence. You can read it with your own eyes. For instance, Exhibit 7A, page 34, has red paint smears and an engine stator blade in the right horizontal stabilizer. Red painted top of door with red hinge and red trim on fuselage skin departed and blew back into object directly behind it, the right horizontal stabilizer. The engine, probably number three, came partially apart when it ingested foreign objects and spit stator blade out into slipstream into object directly behind it, the right horizontal stabilizer.

The cargo door, aft or forward, is a known killer of wide body airliners such as DC-10. The forward cargo door has caused a fatal accident in a high time Boeing 747, UAL 811. To rule out previously inadvertently opened in flight aft and forward Boeing 747 cargo door involvement in TWA 800 based on examination of only eight of twenty latching systems of the two cargo doors is not right. To rule out forward cargo door, a known killer of nine in a 747, who was at scene of recent crime and left early, based upon alibi of all latched when only eight examined is not right. The forward cargo door was not all latched; it was mostly latched. A mostly latched large door can rupture. The cargo door alibi has holes in it, a big hole, a four foot round hole at the aft midspan latch, as seen in NTSB reconstruction photograph.

Mr. Breneman and Mr. Schleede, under great time pressure, working in poor conditions, surrounded by hundreds of pieces of
twisted metal, under supervision of police forces not familiar with aircraft accidents, trying to please seniors and media with simple answers to complex problems, quickly examined eight bottom latches of the forward door and deduced the entire door was latched and reported it as such. The door all latched conclusion was later raised to all cargo doors latched without examination of other doors to support conclusion. The early conclusion was not reviewed in light of completion of the reconstruction and old report was not modified. Officials in senior positions have maintained that early stance of all doors all latched through good discipline and loyalty but it is not supported by facts, evidence or data. It is supported by wishful thinking.

Chairman Hall has written a yet to be substantiated statement to Congressman Farr. Mr. Hall states, "Early in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors." Mr. Hall wisely refers to all cargo doors, not only forward cargo door but the aft and port side bulk cargo door as well. He wants a comprehensive report.

There is evidence of failure of one of the latching mechanisms, the aft midspan latch which is not latched to its pin and should be, as seen on NTSB reconstruction photograph. The forward midspan latch is not hung also and should be. There are no reports stating the status of the aft or bulk cargo door latches. It is not conclusively determined all doors were all latched. Only eight latches of one door of thirty latching mechanisms of three doors were examined. Mr. Hall's statement is not yet true, but can be.
A good idea is to do what the Chairman Hall obviously wants done, conclusively determine all cargo doors latched and locked at water impact and find no evidence of any failure of any latching mechanism.

Conclusion means the logical consequence of a reasoning process. A proper reasoning process requires as much data as available. There is much more data now available since the reconstruction was completed upon which to reach a logical conclusion. That reconstruction data has not yet been considered; the reasoning process is flawed, the current conclusion is in error.

For one door, ten is total, ten is conclusive; eight is not total, eight is not conclusive. For all doors, as Chairman Hall refers to, thirty latches is total; eight is some. Eight is not conclusive.

To say no evidence found of any failure of a latch mechanism requires the mechanisms be examined. If they are missing or not examined, as twenty two latch mechanisms are, then the statement is not valid. It can be valid. Examine all the latching mechanisms Chairman Hall states have not failed.

Mr. Dickinson refers to "door/hatch/access panel/windows" but does not mention latching mechanisms at all.

Mr. Wildey repeats the eight bottom latched observation from Mr. Schleede and Mr. Breneman in final report used for Exhibit 15C, the latest official statement.

LCDR Lawson quotes the lead investigator as saying, "All latches were either destroyed or in closed positions. The destroyed latches were adjacent to ones in closed positions." No numbers are given. Destroyed latches may be missing latches
and are latches not examined. The bottom eight were reported as latched, that indicates the two midspan latches are destroyed; either way they were not examined and the word 'all' is not correct. Are the midspan latches destroyed, or missing, or recovered but not hung? Just what exactly is the status of the missing/destroyed/recovered midspan latches?

The only basis for the conclusion that the forward cargo door was all latched and intact at water impact as stated by Congressman Farr, Senator McCain, high FAA officials and NTSB Chairman Hall, is one report made 'early on' by an FAA structural engineer at Calverton, under stress, without benefit of wreckage reconstruction and who examined a few door pieces of many, and only eight of ten latches. That one person's best conclusion at the time has not been modified all these months even though new evidence has been observed in completed wreckage reconstruction such as red paint smears, bulging rupture hole, explosive decompression damage visible, absent aft midspan latch, smooth door frame and unattached aft midspan latch.

NTSB AAR 90/01, the original AAR about UAL 811, had the incorrect cause for the inadvertent opening of the forward cargo door in flight as improper latching. Upon later new evidence, the retrieval of the door from the ocean floor, the cause was changed to properly latched but electrical short and new AAR was issued, NTSB AAR 92/02. This shows that the NTSB responds to reason and logic supported by facts, evidence and data. It shows NTSB will modify itself when appropriate. It shows that the highest priority of NTSB is to find out conclusively what happened, regardless.

Docket No. SA-516, Exhibit 15C, Section 41/42, Forward Cargo
Door, dated 22 April 1997, with Mr. Al Dickinson, AS-10, listed as investigator and Mr. Wildey as author, states, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill." That's it. One door gets one sentence. This is an incomplete report based upon the new evidence of the completed reconstruction, and an addendum should be added based upon total, not most of, examination of the forward cargo door latches. A comprehensive report would include all three cargo doors, all twelve sides, and all thirty latch systems, as suggested by Chairman Hall.

The aft cargo door, identical in shape, function, and design, is reported in Docket No. SA-516, Exhibit 7A, Structures Group Report, page 15, 2.3, Aft Fuselage, (Section 46), "The upper fuselage structure broke into relatively large sections and the lower fuselage structure, including the aft main and bulk cargo doors, fragmented into smaller pieces." That's it, that's the total examination of the aft cargo door and bulk cargo door. There is no report of any latch status. Two doors get one sentence.

Three cargo doors get two sentences. These are known killers, gentleman. A main side cargo door opened and caused the crash of a DC-9. An aft cargo door opened and caused the crash of a DC-10. The forward cargo door opened and caused the fatal accident of a Boeing 747.

Each cargo door is a very complex mechanism. Each door includes a hinge, bottom eight latch cams, bottom eight locking sectors, two midspan latches, manual locking handle, two overpressure relief doors, two pull in hooks, eight viewing ports, and various torque tubes. Every item is affected when door rupture/opens in flight. Every item needs thorough examination
to determine conclusively if doors were all latched at water impact with no evidence of latching failures.

Chairman Hall's recent letter repeats position of no evidence found for cargo door as causing initial event but omits statement that all cargo doors examined totally and all latches latched. And there is lots and lots of NTSB provided evidence that the cargo door was the initiating event. What is missing is the NTSB interpretation of the evidence they recovered. For instance, Exhibit 7A, Structures Group Report, page 34, examination of right horizontal stabilizer revealed: "A section of the structure outboard of H7 exhibited evidence of red paint transfer marks on the upper skin (H8); ...

Picture above is Boeing photograph of -400 series of basic 747-100 design. The livery of Boeing demo is different than TWA 800. It's still the most beautiful airplane in the world.

The red paint has to come from somewhere. And somewhere some red paint has to be missing. There is a rare location on the wreckage reconstruction that fits that description. It's the spotted red trim area above the cargo door. The cargo door explanation/interpretation has door rupturing/opening inflight, blowing out, up, and away, smashing into white painted fuselage skin above, transferring red paint to white, and removing red paint from trim at impact, then red trim pieces and top of door which is red blows directly aft in the 300 knot slipstream and impacts the object directly behind, the right horizontal stabilizer, leaving "...evidence of red paint transfer marks on the upper skin (H8)"

There is no red paint skin down low under the wing where the center tank resides. There is a lot of red paint on the forward cargo door and trim above and some of it is missing.
Photo above shows principle of colored object at cargo door location flying aft at 300 knots would strike right horizontal stabilizer. TWA had different paint scheme than above.

The evidence is there, gentlemen; the interpretation is missing. And the one that exists officially is not exactly correct. Eight is not ten and red is not white. There is a more exact interpretation of the evidence. Forty two seconds earlier than center tank explosion and five thousand feet higher. Nose comes off. Still no fireball explosion. Before nose comes off a large hole had appeared on starboard side, forward of the wing. The large hole started from a small hole, located at the aft midspan latch of the forward cargo door. The aft midspan latch ruptured at the aft midspan latch because...because...I don't know the confirmed answer to that and need help. I have a good dozen possibilities why the fuselage rupture point of TWA 800 is located at aft midspan latch of the forward cargo door. Why, why, why?

TWA 800 is UAL 811 with bottom latches holding and the nose coming off. The evidence is there on the CVR, the FDR, the wreckage reconstruction, the Exhibits of Sound Spectrum Study, Structures Report, Trajectory Study and many more. The expensive evidence collecting devices such as CVR and FDR, the expensive accident recreation device of the reconstruction, and the expensive analysis of experts into Exhibits are very, very important. They were done for very good reasons. They have provided the facts, evidence, and data. They did their job. What is missing and now needed is interpretation. Cargo door explanation is an interpretation that fits as initial event, then center tank explodes seconds later and lower. Interpretation of center tank explodes first; then forward cargo door area shatters on water impact later does not fit the facts, evidence and data.
Come on now, gentleman, to confirm if a door was open or closed, you at least need to check the door locking handle, and you have not done that. The prime suspect, before bomb or missile or center tank or meteor, in a fuselage rupture accident forward of the wing on a high time Boeing 747 during climb after take off is the forward cargo door. They all could have done it, but which actually did it? Only one has done it before so I say the prime suspect is the one worthy of intense investigation.

There is one interpretation by NTSB of the evidence which supports the cargo door explanation:
Docket No. SA-516, Exhibit No. 18A, Sequencing Study,
Author: Mr. James F. Wildey II, page 20, "The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup." That is to say, initial fuselage opening gives explanation for observed evidence. Forward cargo door is within the STA 1000 to STA 600 zone.

Each step up the line the early, hasty conclusion of all doors all latched has been affirmed:
Mr. Breneman sees eight bottom latches of one door latched. That leads to assumption all ten latched.
Mr. Wojnar and Mr. Pederson confirm bottom latches latched so all latched and locked. That leads to assumption all three doors latched, locked and intact at water impact.
Mr. Schleede says all latched and locked.
Mr. Dickinson avoids direct statement about latches but refers to
LCDR Lawson quotes Mr. Dickinson saying all latches latched or destroyed.
Mr. Wildey repeats eight bottom latches latched so door all latched and intact at water impact based upon Mr. Dickinson's report.
Mr. McSweeny says no evidence of latching failure.
Mr. Goelz reports all latches on all cargo doors latched and locked to Congressman.
Chairman Hall says all cargo doors all latched and locked and no evidence of any latching failure to Congressman Farr and Senator McCain.
Mr. Farr and Senator McCain write to me all three cargo door latches latched and locked at water impact.
Chairman Hall writes to me and repeats no evidence for initial event as cargo door failure.

Here are the errors of deduction early on and not corrected, "A further examination of the recovered wreckage showed that the upper door hinge was still attached to both the fuselage and the door. In addition, the door latches at the bottom of the door were still attached to the fuselage lower sill structure. This indicates that the door was in the "latched and locked" position at the time of impact with the water."

"The nose section of the airplane impacted the water on the right side, causing severe hydraulic damage with the result that the door structure did not remain completely intact. However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the right side. This is additional verification that the forward cargo door had not opened in flight or separated from the airplane."
Absolutely not true. Absolutely not good science. Absolutely not American.

As Americans, we build them, we fly them, we break them, we fix them, and then we fly them again. To fix a broken airplane requires precision.

Here is rebuttal to erroneous conclusion of all latched and shattered skin caused by water impact only:

1. Because upper door hinge was attached to door and fuselage skin is no proof door was attached to nose. In fact, the wayward UAL 811 door stayed attached to hinge also. The entire top piece of door of TWA 800 and the attached hinge, and the attached fuselage skin tore away, as the reconstruction photo shows.
2. The eight door latches on bottom sill were latched. Fine. There at ten latches holding that door closed. Eight is not ten. Ten is conclusive; eight is maybe. Eight of ten latched does not indicate, "that the door was in the "latched and locked" position at the time of impact with the water."
3. The nose may have landed on the right side; however, the outward peeled skin in many places, not inward, and the red paint smears, indicate force from within, not outside, caused peeling evidence. The outward force is sharply outlined on reconstruction photo; a water impact landing and damage would give gradual damage from severe to less severe to mild, not an abrupt cut as shown by photo. Nearby passenger door is intact; cargo door is shattered. Water impact damage did not cause the shattered skin found only in the cargo door area, explosive decompression did.
4. Wreckage for the entire door was not recovered so could not be examined and said to be recovered at same location. The door
was shattered into many large, small and tiny pieces as shown by the reconstruction. To say entire door was examined is wrong; it's in hundreds of pieces, there is no door, only pieces. Only 20% of door material is visible. The larger door pieces were reported to be recovered on several different days of dredging and reported by recovery officials to be found closest to Kennedy airport, a finding later corroborated by trajectory study Exhibits 22 A and B showing pieces of the cargo hold, which the door belongs to, as the first to leave TWA 800 at initial event time.

5. Door wreckage does not exhibit the same impact damage as the surrounding fuselage on the right side, as shown by the picture. The surrounding fuselage around the shattered cargo door area is smooth and intact.

The entire rupture/blowout/explosive decompression damage can be seen on NTSB photo of starboard side forward of the wing. The small initial rupture hole can be seen at unlatched missing midspan latch position on the curved outward door frame and petal shaped outward skin. The door then opened outward and upward tearing off with hinge and piece of fuselage skin attached, striking the white painted fuselage above and transferring red paint from trim and door to paint between the passenger windows.

The total explosive decompression damage can be seen as approximate square with sharp delineation at vertical sides further out from cargo door sides to top as horizontal line just below top row of passenger windows. The flat bottom of blowout is the bottom sill of cargo door. The picture shows a small rupture round hole within a large blowout square. Reinforced stringers and bulkheads defined the square shape.

The explosive decompression zone of damage is clear to see and
resulted in severe, shattered, twisted skin and destroyed stringers, and downward movement of floor beams. It is a blowout frozen in metal. It is not water impact damage. Most of door is missing, including the crucial midspan latches where the blowout occurred.

The explosive decompression consequence is a huge hole on the right side of the nose of TWA 800, much larger than the huge hole on the side of the nose of UAL 811. It is easy to see the 300 knots of slipstream tearing that weakened and damaged nose off in three to five seconds.

Gentleman, we agree on so much about TWA 800.
1. Suspicion of forward cargo door opening in flight.
2. The cargo door area is shattered.
4. Two midspan latch status not reported.
5. Hinge attached to top of door.
6. Outward peeled skin.
7. Vertical cuts in fuselage skin.
8. Red paint smears between passenger windows and on right horizontal stabilizer.
10. First pieces to leave were just forward of the wing.
11. Port side forward of wing relatively smooth.
12. Center tank had fire/explosion.

Do we agree eight is not ten? Do we agree red paint is not white paint? If we do, then a comprehensive examination of all three cargo doors is warranted. If a suspicion exists, and it does, that forward cargo door failed in flight, then only an exhaustive evaluation of that possibility will satisfy.
We all agree that center tank exploded and cargo door area is shattered. Current official position is center tank exploded from unknown source, nose came off and fell into water shattering cargo door. My explanation is cargo door shattered from rupture leading to explosive decompression, nose comes off leading to disintegrating fuselage and wing tanks and engine number three ignites vapor into fireball seconds later and thousands of feet lower.

We agree on evidence, just disagree on timing and that is only seconds. Tank then door; or door then tank?

You were right at the beginning to suspect the door. You were right. Don't give up so easily. Check out that door thoroughly.

Why? Eight is not 'all.' It has to get past nine before it can get to ten and be called 'all.' The official last word to date, released 8 December 1997, is Exhibit 15C, Forward Cargo Door which states, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

The number eight is written above, not ten. Ten is 'all.' Eight is most. The forward door was mostly latched. Mostly latched large doors can rupture when subjected to high internal pressures and have in the past.

The forward door was mostly latched, and as it turns out, that's not good enough. That aft midspan latch area appears to have ruptured in flight for TWA 800 and the evidence is there for you to see in the reconstruction and it is there to see in NTSB AAR 92/02, UAL 811 report. AAR 92/02 has a good examination of
the forward cargo door and its adjacent fuselage after the door ruptured/opened in flight, killing nine. The rupture hole at the aft midspan latch on the door of UAL 811 can be seen in the photograph on page 36 of AAR 92/02. That UAL 811 rupture hole is smaller than TWA 800 rupture hole because the eight bottom latches held while they all unlatched completely on UAL 811. UAL 811 had all latches unlatch in flight. That's 'all,' as in ten.

Another Boeing 747 forward cargo door rupture description can be read about, Air India 182, that also broke apart in flight. The Indian and Canadian Occurrence report states the forward cargo door being frayed from an outward force and broken horizontally one quarter of the way up and bottom of door attached to fuselage. That is similar to TWA 800. Air India 182 and UAL 811 can be discussed together as relevant because NTSB grouped them together, along with PA 103, in Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. All four accidents are similar in all having a sudden loud sound on CVR at event time, a sound that was matched from TWA 800 to AI 182 in NTSB Chart 12. The Canadian report on page 23 links that AI 182 sudden loud sound to the DC-10 cargo door decompression sudden loud sound. The reports link TWA 800 to PA 103 sound which is linked to AI 182 sound which is linked to DC-10 cargo door event sound. Chart 12 links all sounds to UAL 811.

Air India 182 is the matching Boeing 747 door rupture event to TWA 800. UAL 811 is the matching door open event to PA 103. Both pairs have similar forward cargo door area wreckage descriptions, drawings and photograph matches. Why doors opened is not yet officially determined for two of them.
Center tank explanation is being tested for one Boeing 747 accident. Irregularities can be excused as random. Cargo door explanation has four high time Boeing 747 accidents to explain. Every evidence item or sequence for a ruptured forward cargo door has to satisfy four accidents, and does.

The recently adjourned but not concluded TWA fact finding public hearing and release of public docket was good and can get better by the further release into the docket of three already completed exhibits: eyewitness, wreckage plot, and powerplant breakdown.

There is interesting observation, already briefly referred to, in an exhibit: Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge."

Engine number three is on the right side inboard and would be the engine to throw off a stator blade to penetrate the right horizontal stabilizer. Engine number four is too far outboard of stabilizer. The left side stabilizer had no such engine part penetration.

A stator blade was embedded in the right horizontal stabilizer right behind engine number three. This indicates engine number three was foddled early on and threw off pieces which is consistent with cargo door explanation and inconsistent with center tank explosion as initial event in which engines windmill and fall intact to water.
The four engines hold vital accident clues. To ignore and omit that information is wrong. They are four vacuum cleaners at the scene of the crime. The door rupture or center tank explosion would send debris into the engines. How much debris, what kind it is, what did the engines do, and what happened to them is vitally important. Blade tip rubs and inlet cowl damage reports are extremely relevant. Pratt and Whitney was not even a party to the investigation and no exhibit item was released of the engine breakdown.

NTSB AAR 92/02, page 2, has engine number three foddered by baggage debris and throwing off fodder into engine number four which caught fire. Both engines had to be shut down. Early news reports had TWA 800 engine number three foddered with inlet cowl material and the only engine to show burn damage. UAL 811 also had dents in right horizontal stabilizer and torn, punctured, and dented inlet cowl material according to AAR 92/02, page 7.

The engine breakdown report is vital and is connected to the TWA 800 investigation by the stator blade in right horizontal stabilizer. The engines are involved; they are not innocent bystanders. Engine number three may be the center tank mysterious ignition source. P&W should be invited to the party.

Gentlemen, another clue to an accident cause is the sequence of breakup and that is determined from wreckage plot. What departs the aircraft first may well be near the initial event. The NTSB has provided a study: Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. Among all the charts of pieces of the plane coming off and when, there is one chart that shows the
first to go, that is page 30 chart, Forward Cargo Structure trajectories. The first item is "A489, fwd lower cargo bay struct, FS 900." That item left even before the last ASR radar beacon to Islip radar. The next item to go before anything else in the entire plane is "A470, R fwd lower cargo bay struct, FS 820." There are five other forward cargo bay structures which are plotted and leave soon thereafter.

The overall debris appraisal was made by Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

Please carefully agree, gentleman, cargo door is just forward of the wing and the center tank is not.

The wreckage plot exhibit is needed to corroborate this most important conclusion of first parts shed forward of wing.

Eyewitnesses saw orange-red streak near TWA and later Aviation Week reports an NTSB official as saying it could be forward door departing aircraft. "NTSB investigators have suggested unofficially that the streaks the pilot saw could have been light reflections from the skin of the aircraft, ... or the forward door of the aircraft popping open, a possibility that still intrigues investigators, the second official said." It may well be the shiny metal piece of door spinning away from sunlit TWA 800 and reflecting red-orange evening sunlight to ground observers who perceive the erratic, falling blur as a streak. NTSB has considered streak as door piece spinning away. They are probably correct. That NTSB hypothesis can be checked out by experiment of throwing out metal door sized objects at 13700 feet at 300 knots in evening sunlight and recording ground
observers statements.

The eyewitness group exhibit should be released to corroborate or rebut cargo door explanation of streak as shiny metal piece of door spinning away reflecting evening sunlight and appearing as orange-red streak to ground observers. The wreckage plot exhibit should be released to corroborate or rebut cargo door area material as first to leave TWA 800 at initial event time. The powerplant group exhibit should be released to corroborate or rebut cargo hold debris being ingested by engine number three causing it to catch on fire, provide ignition source for center tank explosion, and then disintegrate and throw stator blade into right horizontal stabilizer of TWA 800.

Please conduct an examination of the two identical starboard cargo doors of TWA 800 and the bulk cargo door in at least the same depth as was given to the two cargo doors of other high time Boeing 747s grouped by NTSB as being similar, AI 182, PA 103, and UAL 811, as shown in their government reports, Canadian and Indian Aviation Occurrence, UK AAIB 2/90, and NTSB AAR 92/02. (All scanned in and available for viewing at www.corazon.com) And at least as much examination as the landing gear doors of TWA 800 in Exhibit 7A which had twenty two paragraphs more than the one sentence about forward cargo door in Exhibit 15C.

Exhibit 7A, Structure Report, discusses twenty one landing gear doors and the aft and bulk cargo doors but nothing about the forward cargo door. The forward cargo door, a known previously faulty complex device in a fuselage rupture killer accident, is detected departing early and near the scene of another fuselage rupture accident, and is given one sentence among literally
thousands of pages of wreckage examination exhibits.


According to NTSB and FAA AARs and SDRs, the aft and forward cargo doors of Boeing 747s have opened inadvertently four times, 1987, 1989, 1991, and 1994. That's four in nine years by official numbers or one cargo door opening in just over two years. Cargo door explanation for TWA 800 adds three more, 1985, 1988, and 1996. That's seven in eleven years by my numbers or a cargo door opening every year and a half. It is now a year and a half after TWA 800. That gives me a sense of urgency. I have researched the forward cargo door on high time Boeing 747s for eight years. TWA 800 was no surprise to me.

The message is that inadvertent rupture/opening at the aft midspan latch of the forward cargo door in flight has caused the accident of TWA 800 and other high time Boeing 747s. The message is supported by official government released text, reports, documents, exhibits and photographs.

The medium is internet email and web, hard copy snail mail, face to face, telephone, the English language, high resolution color photographs, printed words, and stories.

The messenger is me. Why listen to me? Others have explanations. The only difference is I'm a survivor of a sudden night fiery jet airplane crash talking about a sudden night fiery jet airplane crash. My crash is documented on web site www.corazon.com, US Navy carrier jet crashed, one dead, one alive. I'm the live one. C.T. Butler was the dead one. Mr. Butler saved my life. Literally, as in exact. It was a sudden night fiery fatal jet airplane crash. We were practicing landings and heard a
strange noise on starboard side. Within three seconds he told me to eject and I did. He did too. I pulled my face curtain and waited, my canopy jettisoned, my ejection seat fired and then separated from me and my parachute deployed and opened automatically and two seconds later, I hit the nighttime flat dirt of Sanford Florida at 1130 at night on June 14th, 1967. My pilot, LCDR Charles T. Butler, pulled his face curtain, had his canopy separate after my canopy had gone, his ejection seat fired, separate from him and his parachute automatically deployed. But did not open in time as his body hit the ground and killed him from multiple traumatic injuries. In the two seconds coming down in my parachute, the RA-5C Vigilante with twin GE J-79-8 engines, Navy carrier reconnaissance two seater jet, exploded beneath us.

The suddenness of it is stunning. From perfectly normal to ejection seat firing within three seconds. From normal to death within ten seconds. That suddenness is what the passengers of TWA 800 knew and what the CVR and FDR recorded.

So, the messenger has the experience in the matter under discussion, a sudden, night, fiery fatal jet airplane crash. Few have that specific.

The messenger has the aviation knowledge of modeler, then Navy aircrewmman technician for 2000 hours, then Navy bombardier reconnaissance navigator in carrier jet for 650 hours, then private aircraft Mooney owner for 1000 hours, and commercial licensed pilot, instrument rated with FAA Part 135 certificate holder for 100 hours. Few have that breadth.

I also have the brilliant insight of intelligence to figure this problem out. In a flash I saw that eight is not ten. Red is not
white. Most have that genius.

Chairman Hall has said in his closing statement of the recent TWA 800 public inquiry, "We have presented all of the factual information available at this time." Well that's not exactly true as the exhibits on eyewitnesses, powerplants, and wreckage plot were available but not released or presented. The Chairman's statement can be made true by release of all the factual information available.

He also said, "We have sought to take a careful, objective look at all conceivable ideas and theories, and have called on a wide array of experts to assist us in this endeavor." Well, that's not exactly true either. A careful look has not been taken at the rupture at cargo door theory and only one engineer looked at a few pieces. The Chairman's statement can be made true by having a wide array of experts carefully look at cargo door explanation.

Chairman Hall continued by stating, "We are by no means finished. Our work will continue and we will spare no effort to determine the cause of the crash of TWA 800." Chairman Hall says the right words, let them be made true.

We are judged by our actions, not our words. Please examine all twenty latching pins, all twenty latching cams, and all sixteen locking sectors of the two identical cargo doors for comparison and damage consistent with inflight unlatching as described in NTSB AAR 92/02. In addition, for completeness, the other cargo doors on TWA 800 should receive the same thorough examination. Only then can Chairman Hall's statement to high elected government officials about conclusive determination that all three cargo doors are latched and locked and no evidence
found of any latching failure be correct or corrected. Only then can the statements of Mr. Goelz, Mr. Schleede, Mr. Dickinson, LCDR Lawson, Mr. Wildey, Mr. Breneman, Mr. Wojnar, Mr. Pederson, Mr. Kirkpatrick, Mr. Sweeney, Senator McCain, and Congressman Farr be correct or corrected.

Only then will the numbers add up.

What if I'm wrong?

If I am wrong, I want to know about it. I ask questions to determine if cargo door explanation holds up. Why are the red paint smears there? What is status of midspan latches of forward door? What is status of all latches.? Why is forward skin shattered and then close by smooth and intact? What is hinge status? Are locking handles locked or unlocked? What is position of the overpressure relief doors? Why is large rupture square shape apparent? Why is forward door frame aft so smooth with no midspan latch attached? Why is red paint missing on red trim? Why is red paint on right horizontal stabilizer? Why is engine stator blade in right horizontal stabilizer? Why is fuselage skin peeled outward? Why most of door material missing? Why port side smooth and starboard side shattered? Why did cargo door structure leave plane first? What caused the sudden loud sound? What ignited the center tank? Why so few forward passengers burned? (I know the answer to
that one, they were not there to be burned.) Why are statements made by high officials that are not exactly true, but could be with a little extra work?

I would hope someone here would ask the question, "What if he is right?"

In Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30, Mr. Wildey of NTSB writes: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

That is an open minded approach both reasonable and logical. It is possible and it has happened. New evidence, new interpretation, new scenario/sequence has emerged: aft midspan latch rupture in forward cargo door.

If cargo door explanation is wrong the downside is work done on examining three cargo doors which was not necessary to determine accident cause. But, if cargo door explanation is right, then...

There are no evil people involved with TWA 800; everyone is giving their best effort. It appears there is a blind spot regarding cargo doors on Boeing 747s. It may be legacy from UAL 811 where everybody looked bad. NTSB excoriated Boeing for not modifying door after DC-10 cargo door accident. It lambasted the airline for not complying with AD in time. If chided FAA for giving such a long compliance time for AD. And then NTSB got cause of opening door wrong and had to correct itself with new AAR, 92/02. But, the cause was eventually determined: Electrical short to door motor which overrode safety feature of
locking sectors coupled with a bad switch S2, caused unlatching of door which burst open, in a Òtremendous explosionÓ smashing outward and up into the fuselage above, leaving paint smears and a sudden loud sound on the CVR and an abrupt power cut to the FDR. As a result of NTSB recommendations and FAA ADs, the bottom latches were fixed so that they would not open again with the same problem, and they didnÕt. TWA 800 bottom latches held, the strengthened locking sectors worked.

But, the midspan latches have no locking sectors and a rupture hole is evident at that aft midspan latch point and the aft midspan latch is missing. The cause was conclusively determined for UAL 811 but not conclusively fixed. Now is that time.

In the short term cargo door confirmation looks bad but in long term it is best for Boeing and the US. Everybody, even me as a passenger demanding cheap fares and lots of luggage loaded fast, has to share blame for these accidents. We all have blood on our teeth. Boeing for designing large, squarish, outward opening, non-plug, doors cut into a highly pressurized hull. The airlines for wanting to operate the planes when out of warranty and wanting large cargo loading capability. Government for trying to please all parties and ending up pleasing none. And the lawyers for putting blame assessment first before the accident cause was conclusively found thereby bringing in the police, nondisclosure and secrecy in an area where information and idea exchanges are essential, aircraft accident investigation.

The police have been intimately involved in all four cargo door caused accidents and have adversely affected the professional aircraft investigators. AI 182, RCMP still have an active
investigation going. PA 103, United Nations still has inquiry going. UAL 811, the Coast Guard and Hickam Air Force Police had an active investigation going until further investigation revealed door was gone but not by bomb. TWA 800, FBI had sixteen months of primary active investigation and even when suspended the FBI controls release of relevant documents into the Public Docket and access to the evidence, the wreckage reconstruction.

Now is the time for openness for TWA 800; let a citizen have a chance to explain what happened. Everyone else has had a whack at it, from lawyers to cops to scientists to politicians to wackos. It's time for a survivor of a sudden night fiery fatal jet plane crash to be listened to.

Please engage my intellect. Check my numbers, confirm my sources, evaluate my reasoning. My goal is to prevent death, the only worthy adversary, by preventing plane crashes by preventing pressurized fuselage ruptures by preventing aft midspan latch area of forward cargo door of high time Boeing 747s from opening in flight. I am attempting to persuade the National Transportation Safety Board that a worthy line of investigation is the possible inadvertent rupture/opening of the forward cargo door in flight. If confirmed, NTSB will make recommendations to the Federal Aviation Administration. The FAA will then direct the manufacturer to fix the doors again. Boeing shall then makes changes to conclusively stop those doors from opening in flight.

Let Senator John McCain hold all the latches in his hand for examination. He is a jet pilot who has also ejected and understands mental and metal stresses as well as dangers of high speed structural failure and the suddenness of aviation accidents.
Let Congressman Sam Farr examine all the latches. He asked the key question, "What causes the doors to open?"

Let Chairman Jim Hall examine all the latches. He effectively made the definitive statement, 'all doors, all latched, no problems.'

Let everyone who has officially reported status of latches on cargo doors hold all of them in their hands and examine them closely.

There are mechanical problems associated with confirmation of cargo door opening on TWA 800. They can be fixed with workers, that's why the manufacturer makes the big bucks, that's his job, to fix things.

There are political problems associated with confirmation of cargo door opening on PA 103. They can be fixed with negotiation, that's why the politicians get the high respect, that's their job, to smooth things over.

There are administrative problems with confirmation of cargo door opening on high time Boeing 747s. They can be fixed in time, that's why government bureaucrats get steady tenure, that's their job, to handle the paperwork.

There are investigative questions raised in the confirmation of cargo door openings in airliner pressurized hulls. They can be answered. That's why aircraft investigators get their hands dirty, it's hard work to figure out what happened.

Chairman Hall stated, "I now declare this hearing to be in recess"
I request that the recess soon end and the hearing reconvene. The sequel should release all the information available, take a careful, objective look at all conceivable ideas and theories, call on a wide array of experts to assist, and take every effort to determine the cause of the crash of TWA 800.

Very Respectfully,

John Barry Smith
barry@corazon.com
408 659 3552
551 Country Club Drive
Carmel Valley, CA 93924
Taken from my deck.

Email attachments:

From: Schleede Ron <SCHLEDR@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: TWA crash cause
Date: Sun, 11 Aug 1996 11:39:00 -0400
Encoding: 13 TEXT
Status:

I have examined the cargo door from twa 800--it is locked and
Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been noted by the crew and recorded on the CVR. We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter. Thank you for your interest in aviation safety.
From the head of the NTSB team working TWA 800:

1. He personally, even again this morning, looked at all the doors from the airplane. All latches were either destroyed or in closed positions.

The destroyed latches were adjacent to ones in closed positions.

2. Nobody associated with the investigation is considering further a cargo/passenger door malfunction to be part of the probable cause of this accident. Door problems have been categorically ruled out because there is simply no evidence pointing to the doors (and latches).

- So, there it is. They had already looked at the doors (so I still have faith in the system) and they looked at it further and replied back basing their answer on the actual evidence in hand. It may not be the answer you were looking for, but I believe that you were looking for the attention to the possible problem and not a particular answer to that problem. And you accomplished that.

LCDR Don Lawson
Subject: Boeing 747 Information  
To: barry@corazon.com  

Dear Mr. Smith,

Thank you again for contacting me with your concerns regarding the potential hazards involving Boeing 747s.

As you know, I have passed the information you sent to Chris Paul and he has informed me of your findings. I have since forwarded the material you sent to the Commerce, Science and Transportation Committee for their review.

Again, thank you for contacting me. I am always glad to have the opportunity to be of assistance.

Sincerely,

John McCain  
U.S. Senator

JM/jes

ATA Code : 5230  
Aircraft Manufacturer : BOEING  
Aircraft Model : 747245F  
Aircraft Serial No. : 20826
Difficulty Date : 27 November 1994
Operator Desig. : FDEA
Operator Type : Air Carrier
A/C N Number : 640FE
Precautionary Procedure : Unsched. Landing
Nature : Warning Indication
Stage of Flight : Take Off
Station : ORD
Flight # : 77

Discrepancy/Corrective Action:

ON ROTATION, AFT CARGO DOOR OPENED. REPLACED SPRING ON LOCK PIN AND ADJ PER MM 52-34-12.

Part Name : SPRING
Manufacture Part Number : MS245851290
Part Condition : FAILED
Part/Defect Loc. : AFT CARGO DOOR
Name : FEDERAL EXPRESS CORP
Submitter Code : Carrier
District Office : Southern US office #04

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: And Mr. Wildey of NTSB relies on Mr. Schalekamp and Mr. Breneman of FAA

Dear NTSB and FAA aviation safety officials: 31 July 2000

Chairman Hall relies on Dr. Loeb who relies on Mr. Dickinson
who relies on Mr. Wildey for the conclusion that the forward cargo door was all latched and all locked until water impact. Mr. Wildey bases his conclusion on the information from Mr. Schalekamp and Mr. Breneman of FAA that the forward cargo door sill had all eight bottom latches all latched and locking sectors working and therefore the forward door was intact until water impact.

But, subsequent evidence contradicts that conclusion: The conclusion of forward cargo door sill bottom eight latches locked was made only days after the accident in a hangar with pieces coming in from all over. The assumption was made that a sill found was the forward sill when in fact it was later determined to have been found in the debris field area in which the aft parts of the aircraft were found. The other sill was never recovered. Regardless of which sill it is, only eight latches of the ten were recovered and that is not conclusive that door was fully locked.

The assumption at the beginning of the accident by FAA that a door may have blown open in flight was correct. The assumption that the found door sill was the forward sill is incorrect. The conclusion that the forward cargo door was locked and intact until water impact is wrong.

The forward cargo door opened flight, actually ruptured at the midspan latches, and is supported by photographs of the actual outward opening petal shaped ruptures. The midspan latches and forward door sill have not been recovered to be examined.

http://www.corazon.com/Forwarddoorblowupphoto.html
Therefore, the forward cargo door opening in flight, the initial thought of NTSB and FAA, is correct. The cause is probably electrical, as happened with UAL 811. The bomb explanation and missile explanation for TWA 800 distracted and diverted attention from door open explanation.

The center tank did explode but after the initial event. That timing of center tank explosion is clear to see by looking at the sharp demarcation line of soot and white fuselage skin on the wreckage reconstruction. An initial center tank explosion would give soot all over the middle of the fuselage and that's not there. A nose coming off and landing elsewhere would show no soot and no burns on victims as did happen, and the middle fuselage and wings and engines would fall and subsequently center tank explode when fiery foddered number three engine ignites fuel leading to sooty fuselage and tank parts as did happen.

The engine powerplant breakdown 8A report shows engine number three having missing blades and sooty parts, unlike the other three engines. A blade part was found embedded in the right horizontal stabilizer, right behind number three. Three was foddered and on fire because it was next to the open cargo door spewing parts out, just like UAL 811.

The further investigation into the wiring/cargo door explanation for TWA 800 is a worthy endeavor for the NTSB and FAA who have always said they would leave no stone unturned into finding out what happened. There is a mystery of ignition source for
center tank fire and wiring/cargo door explanation does provide a reasonable source, engine number three.

Wiring/cargo door explanation is certainly more plausible than weird stuff like bomb or missile conspiracy thinking and deserves at least as much attention and consideration.

I offer again my time and effort to be interviewed/questioned/cross examined about the wiring/cargo door explanation by aviation safety experts. To reject such research and analysis supported by documents and photographs from a former aviation professional with 35 years of experience is not right.

Cheers,
John Barry Smith
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www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV,
Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov,
Tom.McSweeney@faa.dot.gov, Lyle.Streeter@faa.dot.gov
Dear NTSB, 28 July 2000

The official reason for rejecting the wiring/cargo door explanation for TWA 800 is that the forward cargo door was latched and locked until water impact. That conclusion is based upon a cargo door sill found with the bottom eight latches locked.

However; that cargo door sill was found in the wreckage area which contained only aft parts of TWA 800 which is a logical location to find the aft cargo door sill, an identical looking part to the forward cargo door sill.

There has only been one cargo door sill located. It is the aft cargo door sill because it was found in the aft area of wreckage.

The forward cargo door sill is still out there. It has probably not been located since it was the first item to be ejected and is well out of the normal search area.

Regardless, both cargo doors have ten latches per door and only eight of one door have been found. The open cargo door explanation was the first official explanation and should not be
rejected based on an examination of only eight latches out of ten.

The above are facts as documented in the NTSB public docket.

I address this email specifically to Mr. Wildey, whose name is on the Exhibit 15C which discusses the only eight latches found on one cargo door sill. Mr. Wildey is a metallurgist and not an accident investigator and yet the rejection of the wiring/cargo door explanation rests on his opinion. Not Mr. Dickinson, an accident investigator whose opinion is nowhere to be found. Not Dr. Loeb who is not an accident investigator. And not Chairman Hall, who is not an accident investigator. All will point to Mr. Wildey's opinion as to why they reject the wiring/cargo door explanation.

The opinion that the forward cargo door was latched and locked until water impact is refuted by the photographs of outward rupture at the midspan latches of the forward cargo door. The opinion is not supported by conclusive and complete examination of the relevant parts because they are absent. The opinion is fatally flawed.

Much effort has been given to missile, bomb, electromagnetic interference, and spontaneous center tank explosion with absent ignition source; yet scant attention has been given to the first hypothesis, open cargo door in flight leading to explosive decompression, as has happened before with UAL 811. After the reports of faulty PolyX wiring became known, the wiring/cargo door explanation has gained credence over the past few years.

To not further investigate a mechanical explanation for TWA 800 which incorporates the center tank explosion as a symptom and not a cause, and has precedent, and which matches the evidence,
is to willfully ignore a credible and plausible explanation: wiring shorting on forward cargo door unlatch motor which caused rupture of the two midspan latches, (which don't have locking sectors) leading to explosive decompression leading to fodded on fire number three engine which ignited the center tank as the aircraft disintegrated after the nose came off.

To not query the proponent of the wiring/cargo door explanation, me, after repeated requests over four years is willful negligence.

I again request to be contacted and interviewed regarding the wiring/cargo door explanation for TWA 800.

Cheers,
John Barry Smith
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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA:Ronald.Wojnar@faa.dot.gov,
Subject: Wiring checks on TWA 800

Dear FAA,

Please check wiring in B747 cargo bays. The below from Public Docket for TWA 800 shows actual bare wire found in cargo bay which is in same area as bare wiring found in UAL 811.

Please reevaluate wiring/cargo door explanation for TWA 800, the first explanation that NTSB and FAA considered in the first days after the accident. Details on web site www.corazon.com

The evidence is there that wiring in cargo area is involved with TWA 800. Be the crash detectives you are shown to be on TV.

Cheers,
John Barry Smith
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barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.

At 8:20 AM -0400 9/13/99, Lyn S. Romano wrote:
TWA Flight 800 probe tests wiring
By Gary Stoller, USA TODAY
In an about-face, the National Transportation Safety Board has ordered tests to see how the primary type of wire in the TWA 747 jet that blew up in 1996 reacts when it short-circuits.

From Docket:

Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:
-Abrasion of the insulation in bundles installed in high vibration areas. (This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)
-Random flaking of the topcoat.
-Insulation radial cracks in tight bend radii.
Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor."

The Systems Exhibit 9A continues on same page 47, "Evidence of arcing or short circuiting was found in the fuselage of N93119, (TWA 800) in addition to what was found in the wiring from the raceway below the left cabin floor and near the forward wing spar.

The Systems Exhibit 9A continues, page 116:
"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core
conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

(Please note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811. Water has been seen pouring out of a forward cargo bay of a Boeing airliner. Water and leaking electricity make a powerful conductor. Both are known to exist in Boeing airliners.)

History in 747:

1. Exhibit 9C, Attachments to the Systems Group Factual Report page 44 45 46:
A. 1996, burning smell in forward cargo compartment, found damaged wiring shorted to ground, charring found.
C. Nov 1, 1997 Identical problem reported as A above. The fire from shorted wires in chafed wiring bundle in forward cargo compartment either happened twice, once in 1996 and once in 1997, as the report states, or it's the same event reported twice with a wrong date. Probably wrong date and right dates are both 1996.

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA:Ronald.Wojnar@faa.dot.gov,
John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov, Tom.McSweeny@faa.dot.gov, Lyle.Streeter@faa.dot.gov;
Subject: New AAIB wiring/cargo door problem

"associated tripping of the cargo bay door C/B remains unclear."

Dear FAA, please check out wiring/cargo door explanation for TWA 800 and others, documented at www.corazon.com.

Cheers,
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barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

AAIB Bulletin No: 7/99 Ref: EW/C98/9/3 Category: 1.1
Aircraft Type and Registration: Boeing 747-400, 9M-MPA
No & Type of Engines: 4 Pratt and Whitney PW4056
The aircraft had arrived from Kuala Lumpur and was parked on Stand J8, whereupon the passengers disembarked. Baggage handlers opened the rear main freight bay door to unload the mixed load of baggage containers and freight on pallets. They found there was no power to the container handling system and called for an Engineer to investigate. Whilst waiting for him they manually unloaded some of the lighter pallets adjacent to the door. The Engineer's first action was to attempt to re-cycle the door since, in his opinion, the most common cause of complete loss of power to the handling system is usually that the door is not fully open or the 'door open' switch is not properly made to supply power to the cargo handling system. He found that there was no power to the door system either so he went to the circuit breaker panel in the Main Equipment Centre (MEC) and found the associated door circuit breaker tripped. He reset this and received a 'thumbs-up' from the loaders, indicating that handling system power was restored. As he walked away, he was suddenly
alerted by shouts from the loaders and could see flames coming from under the cargo floor in the area of the inboard transverse container drive wheel. The fire was quickly extinguished with a powder extinguisher.

**Description of the cargo handling system**

In common with most wide-bodied aircraft, the Boeing 747 uses electrical power to load and manoeuvre cargo pallets in the freight bays. The operator uses a form of joystick control to selectively raise or lower retractable drive wheels which bear on the underside of the cargo and translate it laterally or longitudinally as required. The drive wheels form part of a Power Drive Unit (PDU), the other components being a linear actuator, mechanical linkage and supports (see Figure). The actuator provides the force to raise or lower the drive wheels whilst a separate electric motor rotates the wheel. The PDU's which provide lateral movement of cargo into and out of the bay are situated at roughly fuselage STA 1875 as shown in the figure. The cargo handling system is electrically isolated until the associated bay door is sensed to be in the fully open position. Circuit breakers (C/B's) which protect individual components of the system are located just inside the cargo doors. Provision is made for manual retraction of the drive wheels if required.

**Examination of the aircraft**

When first inspected by the AAIB the floor panels above the fire, in the area of the inboard lateral PDU, had been removed. It was apparent that the lateral translation wheel linear actuator had broken from its mounting bracket on the fuselage skin and was lying against a longeron. Still attached at the wheel end, it was resting on its electrical connector and it was clear that the wires had shorted against the structure, setting fire to the insulation blanket. The failure which allowed this to happen was of the light alloy link which connected the actuator to the bracket attached to the fuselage (see Figure). The rest of the mechanism
seemed to be free to move with no signs of abnormal friction or jamming.
The lateral actuator C/B located just inside the aft cargo door was found to have tripped, as was the door opening C/B in the MEC. It was noted that the fuselage bilges under the cargo floor were generally heavily littered with debris, such as paper cups and napkins, plastic bottles etc, but it was not possible to state whether this may have contributed to the fire. However, the particular bay in which the fire occurred appeared to have almost no litter.
The structure was examined by a metallurgist and pronounced fit for the return flight to Kuala Lumpur where permanent repairs were to be carried out. The overheated wiring loom was cut-back and taped as a temporary repair and the aircraft despatched with either the entire aft cargo loading system or just the lateral system disabled.

**Subsequent information**
Although the baggage loader did not initially mention the fact, it was subsequently found that he had discovered the lateral actuator C/B tripped after he had opened the door and he reset it. Unfortunately, he was not aware that the C/B had been deliberately tripped prior to departure from Kuala Lumpur as the broken PDU link had been discovered there. Although the aircraft's technical log had an entry to that effect, the airline did not have a policy of fitting collars to such C/B's or placarding them as inoperative.

**Discussion**
As found, the actuator was resting upside-down from its normal operating orientation and it was this which caused the electrical connector to rest on the structure. It is not known whether it had been placed in that position by maintenance staff or whether it had fallen thus after the link broke. The fracture of the link showed characteristics of tensile overload with no pre-existing
defects. Such overload was a known problem (albeit resulting in deformation of the support brackets grounding the link to the fuselage structure) and Boeing produced a Service Bulletin (SB), No. 747-25-3128 rev.1 dated 7 August 1997 to advise operators of the problem and to introduce a modification. The SB describes how a number of possible factors could conspire to enable the linkage to travel over-centre during manual retraction and, as the mechanism is then unintentionally locked, subsequent operation of the linear actuator causes failure of either the attachment brackets or the link, as occurred in this case. The modification provides for an additional link in the mechanism for actuators in the forward cargo compartment and for revised primary stops in both forward and aft compartments, the object being to prevent the over-centre condition from occurring. The reason why the additional link was not applicable to the rear compartment actuators is not known, but the aircraft was not modified and there was no regulatory requirement for it to be so. An additional possible factor was discovered when it was realised that the PDU assembly lacked two spacers which should have been fitted where the link was attached to the triangular support brackets on the aircraft structure.

The reason for the failure of the link is not known. Three possible causes have been cited:

a) Excessive loads applied to the link, for example by an excessively heavy pallet or container.
b) The PDU experiencing the over-centre condition described above.
c) The missing spacers allowing eccentric loads to be applied to the link.
Ultimately though, it was the failure to ensure electrical isolation of a known unserviceable system which caused the fire. The reported sequence of events has not been completely explained in that the reason for the apparently associated tripping of the cargo bay door C/B remains unclear. There is little doubt however, that the incident would not have occurred had the loader realised that the lateral PDU C/B should not have been reset. It is understood that the airline concerned has reviewed its procedures for isolating systems which are known to be unserviceable.

CLICK HERE TO RETURN TO JULY INDEX

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA:Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov, Tom.McSweeny@faa.dot.gov, Lyle.Streeter@faa.dot.gov;
Subject: Still time to pursue the wiring/cargo door explanation

With wiring problems becoming more and more real every day, the wiring/cargo door explanation for TWA 800, as offered years ago, becomes more and more plausible. A professional investigation would pursue the matchup between UAL 811 and TWA 800 which would finally explain the absence of ignition source for that center tank fire.

UAL 811 matches TWA 800

aged
high flight time
poly x wired
early model Boeing 747
and shortly after takeoff
experienced hull rupture forward of the wing
foreign object damage to starboard engines #3
fire in number three engine
more severe inflight damage on starboard side,
at least nine never recovered bodies,
torn off skin in forward cargo door area on starboard side,
post side smooth forward of the wing.
rupture at forward cargo door at aft midspan latch,
outward peeled skin on upper forward fuselage,
downward bent floor beams in cargo door area,
bare wire found in cargo door area.
vertical fuselage tear lines forward of the wing
parts initially shed from just forward of the wing.
first pieces of structure to leave aircraft in flight from
forward cargo bay.
forward cargo door frayed
hoop stress found in cargo door area
deroor skin shattered outward.
sudden sound on CVR
loud sound on the CVR
short duration sound on the CVR
abrupt data loss to FDR
inadvertent opening of forward cargo door in flight
considered
initially thought to be a bomb
but later ruled out.
Cheers,
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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Federal agency says TWA 800 investigation nearing end
Officials search for debris from the TWA Flight 800 crash, above, and display a recovered "black box"

July 15, 1999
Web posted at: 11:05 AM EDT (1505 GMT)

WASHINGTON (AP) -- Three years after TWA Flight 800
turned into a fireball in the skies off New York's Long Island, the end of the investigation is finally in sight. Investigators are certain that a fuel-air explosion in the center fuel tank brought down the Boeing 747 on July 17, 1996, killing all 230 aboard, but a final determination of the ignition source will have to wait until this fall or winter, Jim Hall, chairman of the National Transportation Safety Board, said Wednesday in an interview.

For the safety board, the investigation has been the longest and most expensive probe in its 30-year history. Hall said he didn't yet want staffers diverting their time to tallying the cost, but "it's clearly going to be millions and millions of dollars."

Bernard Loeb, the panel's head of aviation safety, said investigators already have examined the possibility of a static electricity buildup, stray current from nearby fuel pumps and electrical shorts in the tank's fuel gauge system. The final phase of their work is now focusing on possible electromagnetic induction, which occurs when electricity from an active source or wire causes a trace of activity in a nearby inactive wire.

Investigators have studied external sources such as radar-emitting military planes and ships. They have also looked at carryon items such as laptop computers and other personal electronics. Now they are testing electronics built into the plane itself, although they have not ruled out any of the earlier possibilities.

"We don't favor any particular ways of getting ignition, but
we know there are a number of them, and the FAA has addressed some of them," Loeb said.
In directives issued since the crash, the Federal Aviation Administration has ordered a series of safety changes on a variety of airplanes. They include new wiring checks on older aircraft, the installation of extra wire insulation and a prohibition on draining the center fuel tanks in 747s, a practice that can cause overheating in fuel-pump bearings. Both Hall and Loeb indicated the five-member safety board likely would recommend further safety precautions when it holds its final meeting about the crash.
"I'm still hopeful that we will be able to have our final board meeting and final report by the end of the year," the chairman said as he sat in his office with binders about the crash nearby. He said if there were delays, the meeting would occur by "early winter."
The Paris-bound flight exploded in a clear evening sky shortly after takeoff from New York's Kennedy International Airport. The wreckage fell 13,000 feet into the waters off Long Island. There were no survivors.
Over the following weeks, the Navy, FBI and other state, federal and local agencies mounted a massive recovery operation and investigation. It included checks for bomb-toting terrorists and eyewitness reports that a missile was seen streaking toward the jumbo jet.
Investigators also partially rebuilt the airplane in a hangar in Calverton, New York, in their search for clues.
The relatives of the victims planned a series of remembrances this weekend, including a memorial service and the dedication of a monument. Both Hall and Loeb
were to attend and also deliver an investigation update to the families. While some have speculated that the plane was blown up by terrorists or the military, the FBI concluded that no criminal act was involved. On Wednesday, Hall adamantly repeated that the plane was not harmed by a missile. "Stories will probably continue past my lifetime," he said. "One of the board's important roles is to protect the integrity of investigations and, in doing so, the integrity of the government we all work for."

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: Wiring/moisture

Dear FAA,

I wrote the letter to Mr. Jim Wildey a year a half ago. I was right then and I am right now, wiring/cargo door explanation for TWA 800 and others is the correct explanation.

Cheers,
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Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

To: Wildey
From: John Barry Smith <barry@corazon.com>
Subject: New sequence
Cc:
Bcc:
X-Attachments:

Dear. Mr. Wildey, 7 Jan 97

New sequence, all happened before and all documented and now I put it together. Informally but factual.

Suggested new sequence for initial event.

Cold air from air conditioning pack flows into hot humid air of summer New York in forward cargo hold on old airplane that has not had Section 41 retrofit. Water condenses and runs down metal cargo door to pool near chafed wire. Wire is poly x which has chafed through sheath, through insulation, to bare wire from the long term vibration of flight of old airplane. The wire bundle is near clamp which does the wear. The wire bundle houses the EPR info and cargo door motor power and unlatch signal. The
water shorts door motor to 'on' to ground and turns door motor on for just a few seconds. Latches try to unlatch. Bottom eight sectors stop the cams from unlatching because of AD 88 12 04. But the midspan latches have no locking sectors so try to unlatch. The torque tubes are stopped by the locking sectors from complete turning but turn enough through wear and tear of old plane to partial unlatch at aft midspan latch. Aft latch ruptures. Door opens. Big hole appears from explosive decompression. 300 knots tears nose off. Nose falls apart, rest of plane falls and disintegrates and fuel vapor and center tank explodes into fireball seconds later and thousands of feet lower when on fire engine number three or four ignites it.

The final answers as to why door opened were made clear in NTSB exhibits which show chafed wires and two fires in forward cargo hold in the past few years. Also the panel on aging aircraft which showed 800 had poly x wiring and no Section 41 retrofit.

I saw the water cascade out of cargo hold. And potable water tanks are in there too and the tops explode on those once in a while too, puncturing the floor above.

800 103 and 811 all had about 16000 cyles while flight times were different. 16000 cycles is the danger, not 20000.

So, Mr. Wildey, what to do?

You said a new sequence was possible based on new evidence or new interpretation. Here they are. Documentation upon request.

EPR problems were reported on all four planes; that's were I got the wire bundle with EPR. The chafing wires were shorting and giving a problem in the cockpit about EPR.
Wiring takes the hit as well as design of outward opening.

Wiring failed because of chafing from vibration, so blame it on vibration. Nose comes off because of 300 knots so blame it on speed.

In a sense 800 crashed because it was flying which has vibration and speed. They killed themselves. Sort of like skiing into tree, not the tree's fault.

Time for action, Mr. Wildey. Got to give right answer and it's not center tank as initial event. And it's not missile.

It's bare wire and water. Bad combo.

Regards,

Barry Smith

http://www.boeing.com/commercial/aeromagazine/aero_05/textonly/m01txt.html

**Controlling Nuisance Moisture in Commercial Airplanes**

Moisture-related problems have been reported
on commercial airplanes for the past 40 years. They include water dripping onto passengers, electrical equipment failures, and wet insulation blankets. All airplanes will experience moisture-related problems, but the extent of these problems will vary tremendously among operators and among individual airplanes depending on how they are used. Boeing has studied moisture-related problems extensively and has developed recommendations for minimizing moisture problems in its commercial airplanes.

All commercial airplanes that carry passengers will experience moisture-related problems in service. The chief source of moisture inside these airplanes is passenger respiration and the resulting condensation on the airplane skin. After working with operators to evaluate existing and proposed moisture-control methods, Boeing can now offer information to help mitigate the effects of moisture.

A Boeing team formed to address the moisture issue—known as "rain in the plane"—reviewed operator documentation on the subject and examined in-service airplanes with reported moisture problems. Operator reports identified where moisture problems were occurring and which operators were affected. The team then worked to develop cost-effective solutions for moisture control in all Boeing models, including out-of-production as well as current-production and future models.
The team developed these solutions after examining the following issues:

1. Root causes of moisture problems.

2. Service experience with moisture problems.

3. Available moisture-control systems.

**Root Causes of Moisture Problems**
When studying the origin of moisture problems, Boeing considered the following factors:

* Moisture sources and condensation.

* Drainage and dripping.

* Variables affecting condensation.

* Varying degrees of condensation and moisture problems across model fleets.

**Moisture sources and condensation.**
Most condensation on airplane structure occurs during flight when the temperature of both the outside air and the structure are very cold. Structure temperatures are usually below the dew point of the cabin air, causing some amount of condensation to form during most flights. In addition, because structure temperatures are normally below the freezing point of water, most condensation forms as frost
Condensation results when moist air moves to the cold structure (fig. 2). The cabin air passes through small gaps in the insulation coverage and cools rapidly. Buoyancy forces induce a continuous flow of air and continuous movement of moisture to the cold structure. The rate of condensation depends on the rate of buoyancy-driven air movement to the structure as well as the cabin humidity level. In-flight cabin humidity levels are low from a standpoint of human comfort (usually less than 20 percent relative humidity). However, the air is not completely dry, and any moisture it contains will condense as the air moves over the cold structure.

**Drainage and dripping.**
Frost melts rapidly during descent if conditions allow the airplane skin temperature to rise above freezing. This causes a sudden onset of drainage, which, if not managed completely, drips into the crown area (attic) of the airplane and possibly into the passenger cabin (fig. 3).

The insulation blankets that cover the structure typically are fiberglass batting covered with waterproof nonmetallic Mylar. This allows water to drain over the outboard Mylar surface similar to how rain drains over roof tiles or shingles. Ideally, all of the water flows to the bilge areas in the belly of the airplane, where it can drain overboard. However, some water may leak through gaps and drip into the crown and possibly into the passenger cabin. Some water may seep through unavoidable holes in the Mylar covering into the insulation blankets (fig. 2). Insulation blankets generally keep most of the water out of the airplane crown. However, a small amount of water may drip onto passengers or cause electrical equipment failures.

**Variables affecting condensation.**
The amount of condensation that forms depends on many factors, all of which belong to one of four categories (table 1):
Condensation on structure and the resulting moisture problems are influenced heavily by seating density and airplane operations, especially load factors and utilization rates. High passenger loads result in higher cabin humidities and higher condensation rates. High airplane-utilization rates result in more time during which the structure is below the dew point or frost point and greater accumulations of frost on a daily basis. Some of the most severe moisture problems occur on airplanes with combinations of high seating density, high load factors, and high utilization rates. Varying degrees of condensation and moisture problems across model fleets.

The amount of condensation and the severity of resulting moisture problems vary dramatically across airplane model fleets. The variation in daily crown area condensation for the 757 fleet is illustrated in figure 4.

Service Experience With Moisture Problems
As part of its study, Boeing reviewed operator reports to learn where moisture problems were occurring and which operators were affected. Many operators have reported water dripping into the passenger cabin and problems with extremely wet insulation blankets. Inspection of the upper surface of ceiling panels and stowage bins for water stains indicated that water was dripping through penetrations and gaps in the insulation blankets. Inspection also
showed that water pooling on the upper surface of the ceiling panels and stowage bins (fig. 5) migrated through joints into the passenger cabin. Boeing conducted numerous in-service reviews to determine the scope of the moisture problem. As an example, while inspecting airplanes with the most severe moisture problems, Boeing weighed each existing insulation blanket on three 737-300 airplanes (fig. 6). Comparing these weights with a new shipset of insulation blankets revealed that the removed blankets contained up to 80 lb (36 kg) of water per airplane. Other service experience results showed that water dripping into electrical equipment has caused some failures.

**Available Moisture-Control Systems**

Because moist air will inevitably come in contact with cold structure, condensation cannot be eliminated. As a result, Boeing chose to evaluate potential moisture-control systems that can help operators accomplish the following:

* Minimize condensation.
* Minimize dripping onto equipment and into the passenger cabin.
* Maximize liquid drainage.
* Optimize evaporative drying from wet surfaces and insulation blankets.

Boeing used a test section of a 757 airplane in an environmental test chamber to simulate flight cycles. Over an extended period of time, the test section was used to evaluate frost levels, the amount of water retained in insulation blankets, and new moisture-control methods. Video cameras recorded frost
formation, melting, drainage, pooling, and drip paths into the passenger cabin. Cameras were also used to evaluate the performance of some potential moisture-control methods: insulation types, water diverters and collectors, and evaporative materials.

In-service airplanes, including those equipped with alternative materials for water collection and evaporation, were also tested. Results of these in-service evaluations determined that proper placement of moisture-control devices is crucial for their performance.

An analytical model was created to simulate the buoyancy-driven airflow from the crown volume to the skin. The model also estimated the amount of condensation (frost) that forms on the structure. The model was validated using in-service data and lab testing and showed how gaps in insulation, structural temperature variations, and cabin humidity levels affect condensation.

The testing produced the following information to help Boeing and operators reduce moisture-related problems:

* Test results.

* Moisture-control system design recommendations.

* Maintenance recommendations.

**Test results.**
Testing and inspections revealed the following findings:

* All blankets have holes and penetrations. Attempts at sealing them during testing were not effective.

* The best way to reduce condensation is by eliminating holes and gaps around the insulation blankets next to the structure.
* Nomex felt is an excellent material for collecting and evaporating moisture.

* Dehumidification systems (ground-based or onboard) are effective at removing moisture but are not cost effective.

* Water will seep into the insulation blankets through holes, penetrations, and edge seams. A drainage path is necessary to allow the water to drain.

* Evaporation is required to dry wet insulation blankets.

* Spray-on insulation is too heavy to meet thermal and acoustic requirements and makes visual inspection of the structure difficult.

* Inspections of aging airplanes revealed that corrosion in the crown area is extremely unusual and should be eliminated by incorporating corrosion-inhibiting compounds in the crown.

* Fiberglass batting treated with an enhanced hydrophobic coating does not reduce water retention.

* Any type of system that increases cabin humidity will exacerbate the moisture problem.

**Moisture-control system design recommendations.**

Boeing determined that a system (fig. 7), rather than an individual component, is required to effectively address a moisture problem. The system includes

* Insulation blankets.
* Moisture-control devices.

* Airflow systems.

* Structural drainage.

* Bilge trays.

* Electrical-equipment protection.

INSULATION BLANKETS.
Key to controlling moisture, overlapped blankets (fig. 2) and minimal gaps for structural supports can reduce air movement and condensation. Penetrations for wire runs, electrical brackets, and other equipment should be kept to a minimum. In addition, all blankets should have a drainage path.

MOISTURE-CONTROL DEVICES.
Nomex felt should be used to control water on ceiling panels (fig. 8), stowage bins (fig. 9), and structural penetrations. Active airflow will promote the evaporation of water collected in the felt.

AIRFLOW SYSTEMS.
Onboard systems for ventilating the crown space will help control moisture problems. A crown ventilation system that provides a small portion of the cabin-supply air to the crown space will help reduce in-flight condensation and enhance drying of wet surfaces and wet insulation. The addition of a crown ventilation system is not recommended for airplanes that have overhead recirculation fans as part of the air-conditioning system.

STRUCTURAL DRAINAGE.
Water drainage through holes and channels should be considered in structural designs such as stringers and intercostals.

BILGE TRAYS.
Bilge trays are sheets of molded plastic (fig. 10) intended to support the insulation blankets. Bilge trays should be used in the lower lobe of the airplane to keep insulation blankets away from any water that has traveled toward the drain valves.

ELECTRICAL-EQUIPMENT PROTECTION.
Equipment that is sensitive to wet environments should be protected or moved from these environments. Sealed electrical connectors should be used to minimize moisture entry and to reduce the number of system failures.

Maintenance recommendations.
Operators can take several steps to reduce moisture-related problems. These actions are related to

* Insulation blankets.

* Moisture-control methods.

* Bilge trays.

* Ground-based dehumidification systems.

INSULATION BLANKETS.
Reducing exposed structure and excessive gaps between insulation blankets will decrease the amount of condensation that forms. Ensuring that blanket joint areas--whether butt joints or overlaps--are properly installed will also reduce the creation of condensation and subsequent
dripping into the crown area. If the blankets are overlapped, drainage holes will remove most of the water and keep it away from the passenger cabin. Maintenance personnel remove wet insulation blankets during maintenance checks and often wring them to expel water. This helps dry the blankets, but it also damages the insulative material, reducing the blanket's thermal and acoustic capabilities.

MOISTURE-CONTROL METHODS.
A service letter (see sidebar) has been distributed to all Boeing operators regarding the use of Nomex felt on ceiling panels and stowage bins. Applying Nomex felt to these areas will reduce the amount of water that could drip into the passenger cabin.

BILGE TRAYS.
Bilge trays provide better protection than strings and nets currently used in the cargo compartments of most airplanes.

GROUND-BASED DEHUMIDIFICATION SYSTEMS.
Ground-based dehumidification systems can maintain very low humidity levels in an airplane. They can significantly enhance the drying of wet surfaces and wet insulation. However, a considerable amount of time is required to dry an airplane using these systems, and the airplane doors must be kept closed for the duration of the process. As a result, most operators are not likely to choose this method in their daily operations. However, the systems may be useful for drying airplanes parked for longer periods.

**Summary**
Moisture in commercial airplanes is a complex issue, and its severity depends on many variables. Condensation on
airplane structure is impossible to eliminate without prohibitive cost. However, Boeing has developed cost-effective methods for managing moisture once it has condensed that are both feasible and effective. The design improvements and other solutions recommended by Boeing were developed with assistance from operators and considered cost, weight, and ease of installation.

Boeing Service Letter
Boeing issued the following multipart service letter regarding the installation of felt to prevent water from dripping into the passenger cabin of 707, 727, 737, 747, 757, 767, and 777 models. The letter was issued on Jan. 16, 1998.

707-SL-25-024
727-SL-25-035
737-SL-25-076
747-SL-25-166
757-SL-25-062
767-SL-25-081
777-SL-25-017

Table 1

<table>
<thead>
<tr>
<th>Airplane Design/Configuration</th>
<th>Configuration</th>
<th>Effect</th>
</tr>
</thead>
</table>

Seating density  More people produce more moisture, causing higher cabin humidity levels and increased condensation rates.

Insulation design  An insulation design that minimizes gaps will reduce condensation rates.

Air-conditioning system design  The amount of outside air per occupant supplied to the airplane affects the in-flight humidity level. Increasing the outside air per occupant decreases the cabin humidity, which decreases the condensation rates.

**Airplane Operations**

**Configuration**  Effect

Load factor (percent of available seats occupied)  More people produce more moisture, causing higher cabin humidity levels and increased condensation rates.

Utilization rate (hours per day the airplane is operating)  High airplane-utilization rates result in more time during which the structure is below the dew point and subject to greater accumulations of frost on a daily basis.

Mach number  High-speed flight results in aerodynamic heating of the structure. Higher Mach numbers will result in warmer structure temperatures and lower condensation rates.

Cruising altitude  In general, the outside air temperature and the airplane structure temperatures will decrease with altitude. Higher cruise altitudes will generally result in higher condensation rates.

**Environment**

**Configuration**  Effect

Air-conditioning system operation  For airplanes with
overhead recirculation fans or crown ventilation systems, operating these fans or air-conditioning packs on the ground will help dry out the crown space.
Outside temperature Colder structure temperatures cause higher condensation rates. Colder structure temperatures on the ground inhibit the evaporation of moisture from wet insulation.
Outside humidity level Outside humidity level is not a major influence on condensation on structure. Most condensation on structure occurs during flight when the structure temperature is very cold and the outside air is very dry. In most cases, rate of condensation on structure will be much lower during ground operations than in flight, even if the outside humidity level is very high.

**Maintenance**

**Configuration**

**Effect**

Insulation blanket installation Gaps in insulation coverage created during maintenance can increase condensation rates. Damage to insulation cover material can increase moisture problems with wet insulation.

Use of ground-based forced-air systems Ground-based forced-air systems can be useful for drying airplanes parked for extended periods.

---

**From:** John Barry Smith <barry@corazon.com>
**Date:** September 6, 2009 12:03:08 AM PDT
**To:** FAA
**Subject:** Check wiring in 747 cargo areas

Dear FAA officials, 23 May 99
You have just ordered wiring checks on 727s based upon evidence of 'severe wear' on wires. That is prudent. Evidence has been discovered by NTSB of cracks in wiring in cargo areas of 747s including TWA 800. It would be prudent to order checks on wiring in cargo areas of 747s.

Cheers,

John Barry Smith  
(831) 659-3552 phone 
551 Country Club Drive, 
Carmel Valley, CA 93924 
www.corazon.com 
barry@corazon.com

Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:  
-Abrasion of the insulation in bundles installed in high vibration areas. (This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)  
-Random flaking of the topcoat.  
-Insulation radial cracks in tight bend radii. Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor."
The Systems Exhibit 9A continues on same page 47, "Evidence of arcing or short circuiting was found in the fuselage of N93119, (TWA 800) in addition to what was found in the wiring from the raceway below the left cabin floor and near the forward wing spar.

The Systems Exhibit 9A continues, page 116:
"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

(Please note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811. Water has been seen pouring out of a forward cargo bay of a Boeing airliner. Water and leaking electricity make a powerful conductor. Both are known to exist in Boeing airliners.)

1. Exhibit 9C, Attachments to the Systems Group Factual Report page 44 45 46:
A. 1996, burning smell in forward cargo compartment, found damaged wiring shorted to ground, charring found.
C. Nov 1, 1997 Identical problem reported as A above.

NTSB Safety Recommendation Brief

Data_Source: U.S. NTSB Safety Recommendations
Rprt_Nbr: A-91-83
Last Updated: 03-13-95
[O] On June 13, 1991, United Airlines (UAL) maintenance personnel were unable to electrically open the aft cargo door on a Boeing 747-222B, N152UA, at John F. Kennedy Airport (JFK), Jamaica, New York. The airplane was one of two used exclusively on nonstop flights between Narita, Japan, and JFK. This particular airplane had accumulated 19,053 hours and 1,547 cycles at the time of the occurrence.

Recommendations:
A-91-83. Issue an Airworthiness Directive applicable to all Boeing 747 airplanes with a flexible conduit protecting the wiring bundle between the fuselage and aft cargo door to require an expedited inspection of:

(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);

(2) the conduit support bracket and attached standoff pin on the upper arm of the forward lift actuator mechanism;

(3) the flexible conduit for the presence of cracking in the convoluted innercore.

Wires with damaged insulation should be repaired before further service. Damage to the flexible conduit, conduit support bracket and standoff pin should result in an immediate replacement of the conduit as well as the damaged parts. The inspection should be repeated at an appropriate cyclic interval.

Responses:
FAA LTR DTD: 11/1/91

The FAA agrees with the intent of these safety recommendations and is considering the issuance of a notice of proposed rulemaking to address these issues. I will provide the Board with a copy of any document that may be issued.
National Transportation Safety Board is investigating another possible malfunction of a Boeing 737 rudder system, still considered a prime suspect in at least two major jetliner crashes.

The latest incident occurred Tuesday, when a Metrojet 737 en route from Orlando, Fla., to Hartford, Conn., suddenly swerved to the left while flying at 33,000 feet on autopilot.

The swerve apparently was caused, in large part, by an uncommanded deflection of the jetliner's rudder--a hinged slab on the vertical tail that helps a plane turn right or left by pushing the tail in the opposite direction.

Officials said the problem seemed to involve the Metrojet 737's yaw damper, an automated rudder component that is supposed to cancel out the plane's natural tendency to fishtail slightly.

NTSB investigators said that the yaw damper had to be disconnected--and a standby rudder-control system activated--before the rudder on the Metrojet plane functioned properly again.

The crew declared an emergency and diverted to the nearest airport, Baltimore-Washington International, where the jetliner landed without difficulty. There were no injuries.
Air Accidents Investigation Branch

Aircraft Incident Report No: 1/98 (EW/C95/10/4)

Report on the incident to Boeing 737-236 Advanced, G-BGJI 15 nm north-west of Bournemouth International Airport on 22 October 1995

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Registered Owner: British Airways PLC
Operator: British Airways PLC
Aircraft Type: Boeing 737-236 Advanced
Nationality: British
Registration: G-BGJI
Place of Incident: 15 nm north-west of Bournemouth International Airport
Latitude: 50° 55.72' North
Longitude: 002° 12.55' East
Date and Time: 22 October 1995 at 1609 hrs
All times in this report are UTC
Synopsis

The incident was notified promptly to the Air Accidents Investigation Branch (AAIB) by the operator and the investigation began that evening. The AAIB team comprised Mr D F King (Investigator-in-Charge), Mr P D Gilmartin (Operations), Mr C G Pollard (Engineering), Mr S W Moss (Engineering), Mr A N Cable (Engineering) Ms A Evans (Flight Recorders).

The crew reported at 1330 hrs at Gatwick to carry out a post-heavy maintenance check, test flight on the aircraft. The first officer (F/O) completed the external check, while the commander completed the 'Flight Deck Preparation' items of the aircraft checklist. A Standby (STBY) Rudder system check was carried out with no abnormalities noted and during taxi before take-off, the Yaw Damper indicator showed normal response to turns.

When the aircraft was in straight and level flight at FL200 with an indicated airspeed of 290 kt, Autopilot and Autothrottle engaged and Yaw Damper ON, the aircraft experienced roll/yaw oscillations. The Flight Data Recorder (FDR) showed that the Autopilot and Autothrottle were disengaged, and the commander reported that the Yaw Damper was switched OFF but the crew were unable to stop the oscillations.
A MAYDAY call was broadcast at 1609 hrs. The crew had the impression that the bank angle would have continued to increase had opposite roll control inputs not been applied.

A descent was made to around FL75 and as the airspeed was allowed to reduce towards 250 kt the oscillations began to decay rapidly and stopped. The total duration of the roll/yaw event was about seven minutes.

A low speed handling check was carried out, and it was found that the aircraft handled well at a speed 150 kt, with Flap 15 selected and with the landing gear down. It was decided to return to London Gatwick Airport in this configuration, and the MAYDAY was downgraded to a PAN. The crew recovered the aircraft to Gatwick without further incident.

The investigation identified the following causal factors:

(i) Contamination of the connector on the Yaw Damper Coupler, in the Electronic and Equipment Bay, by an unidentified fluid had occurred at some time prior to the incident flight and compromised the function of its pin to pin insulation.

(ii)
Sufficiently conductive contaminant paths between certain adjacent pins had affected the phase and magnitude of the signals transmitted to the Yaw Damper Actuator, thereby stimulating a forced Dutch Roll mode of the aircraft.

(iii) The location of the Electronic and Equipment (E&E) Bay, beneath the cabin floor in the area of the aircraft doors, galleys and toilets made it vulnerable to fluid ingress from a variety of sources.

(iv) The crew actions immediately following the onset of the Dutch Roll oscillations did not result in the disengagement of the malfunctioning Yaw Damper system.

Four safety recommendations were made.

1 Factual information

1.1 History of the flight

1.1.1 Pre-flight checks
The crew reported at 1330 hrs at Gatwick to carry out a post-P6 maintenance check (Ref 1.6.6.1) test flight on the aircraft. The first officer (F/O) completed the external check, while the commander completed the 'Flight Deck Preparation' items of the aircraft checklist. The fuel load was 10,500 kg, with about 2,000 kg in the centre tank. Neither wing tank was full, with the right wing containing more fuel than the left because of earlier ground running of the engines and the Auxiliary Power Unit (APU).

As the APU was not available, due to the unserviceability of its fire detection system which was damaged during final closure of its cover panels, a ground air start was made on both engines. A Standby (STBY) Rudder system check was carried out with no abnormalities noted. The take-off configuration warning check was carried out which entailed selecting Flap 25¡. During this selection there was a momentary double hydraulic 'A' system low pressure warning, indicating failure of the output from both engine driven pumps, but this quickly cleared and did not repeat itself.

During taxi before take-off, the Yaw Damper indicator showed normal response to turns.

1.1.2 Incident flight

The commander was the handling pilot when, at about
1555 hrs, the take-off was made from Runway 26L with full power and Flap 1; selected. After take-off, the aircraft was found to be out of trim laterally, needing left rudder and left aileron trims to achieve wings level flight. The crew assessed this to be due to the fuel imbalance. The crossfeed was opened, and fuel was used from the right wing tank until lateral balance was achieved. The fuel system was then returned to normal and the flight controls then felt normal until the incident occurred. The remainder of the flight until the recovery to Gatwick was conducted in an area between the Southampton VOR and Boscombe Down Airfield.

The pressurisation system was put in Standby (STBY) mode, with a cabin altitude of 4,000 feet set and the rate selector set to high rate. A climb was then carried out in stages to FL200. Handling was transferred to the F/O, Autopilot B was engaged in Command (CMD) mode and the Autothrottle engaged. The STBY cabin altitude was reset to 13,990 feet to check the passenger oxygen mask automatic deployment system, in accordance with the test schedule.

A Spoiler Isolation/upfloat check was also carried out, which involved selecting the Speedbrake to the 'Flight' detent, then operating the Spoiler A and B switches to OFF. The commander went into the cabin to visually check the spoiler upfloat. The left outboard spoiler trailing edge was approximately 3 inches up, all others
were about 2 inches up. The ground spoilers were fully retracted. The commander returned to
the flight deck, reset the Speedbrake lever to down and reset the Spoiler switches to ON. This was carried out less
than two minutes prior to the start of the incident.

The crew attention then turned to the cabin altitude, which
was climbing as required by the test schedule. Both pilots
donned their oxygen masks as the cabin altitude passed
through 10,000 feet and the cabin
altitude horn began to sound. (Note: after the incident, it
was found that the passenger masks had not deployed,
indicating that the cabin altitude had remained below the
nominal 14,000 feet activation altitude)

The aircraft was heading 270¡M at FL200 with an indicated
airspeed of 290 kt, Autopilot B in CMD mode, Autothrottle
engaged and Yaw Damper ON. The aircraft started to roll,
which was initially countered
by the Autopilot applying opposite roll control. The
aircraft then began to oscillate in roll, and oscillatory
activity was noted on the Yaw Damper indicator. On
instructions from the commander the F/O
disconnected the Autopilot and Autothrottle and
attempted to stop the roll oscillations using control wheel
inputs. The timing of these actions was confirmed by the
FDR. The commander recalled switching OFF
the Yaw Damper at this time in accordance with Flight
Crew Notice FCN 38/95, issued in August of 1995. This
FCN, issued by the commander in his capacity as Flight
Manager Boeing 737 (Technical Projects), reflected the revised Boeing procedure for Uncommanded Yaw or Roll (Appendix 9). The commander then took control and continued to use control wheel inputs in an effort to stop the rolling. He also decided to initiate an immediate descent so that crew oxygen was no longer a consideration and requested the F/O to retard the thrust levers.

A MAYDAY call was broadcast at 1609 hrs. In response, Air Traffic Control (ATC) offered radar vectors to the nearest airport, which was initially a left turn onto 170¡M. The commander was reluctant to apply too much bank in order to turn as the roll excursions would have resulted in too steep a bank angle at the extremity of the oscillations. The crew had the impression that the bank angle would have continued to increase had opposite roll control inputs not been applied.

A descent was made to around FL75, with the airspeed maintained at 290 kt or greater. During the descent, control was passed between the pilots, with no change in the oscillations. A further change of handling pilot occurred when the crew oxygen masks were removed, again with no noticeable change in aircraft behaviour. Neither pilot could recall any movement of the rudder pedals and no deliberate rudder pedal inputs were made by the crew. Some power was re? applied once the aircraft had levelled off, and the airspeed
was allowed to decay towards 250 kt. As the aircraft approached this speed, the oscillations began to decay rapidly and stopped. The total duration of the roll/yaw event was about seven minutes.

After the oscillations had stopped, the F/O went back into the cabin to check for any abnormalities on the wings but found none. A low speed handling check was carried out, and it was found that the aircraft handled well at a speed 150 kt with Flap 15\degree selected and with the landing gear down. It was decided to return to London Gatwick Airport in this configuration, and the MAYDAY was downgraded to a PAN. The weather at Gatwick for the landing was surface winds southerly at 5 kt, CAVOK and Runway 08R was in use. The crew considered that the most appropriate checklist for landing in a Flap 15\degree configuration was the One Engine Inoperative Descent/Approach/Landing checklist, which was actioned.

On checking the Master Caution Recall in the Landing Checklist, the commander noted that the amber FLT CTL caption was illuminated. On checking he saw that the Yaw Damper OFF amber light was illuminated and he switched the system back ON. However, on final approach, at about 3,000 feet, he felt that there may have been a small roll/yaw oscillation commencing. He therefore switched OFF the Yaw Damper, and continued the approach for an uneventful landing at 1644 hrs.
On reaching the maintenance hangar the circuit breaker for the Cockpit Voice Recorder (CVR) was 'pulled', but due to the 30 minute duration of the CVR tape the period of the incident had been erased.

Following the event the crew recalled that, during the initial climb out, a layer of cloud had been encountered between 3,000 and 4,000 feet, thickness about 500 feet, but the total temperature was in excess of +10°C at that time. There was no cloud above this and no icing was encountered. At the time of the incident, it was daylight, in clear air, no turbulence and with a good horizon above a general overcast.

During debriefing the crew reported that the oscillations were similar to Dutch Roll, with a period of about 2 to 3 seconds. The roll control felt normal to apply, with no signs of any mechanical reversion. There were no indications of any abnormalities associated with the hydraulic systems throughout the flight. The characteristics of the oscillations did not appear to change when the Autopilot was disengaged.

Following an initial examination of the aircraft (\textsection 1.12.1-2), a test flight (\textsection 1.16.2) was carried out on 10 November 1995. With additional recording equipment installed on the aircraft attempts were made to reproduce the roll/yaw oscillations.
1.2 Injuries to persons

<table>
<thead>
<tr>
<th>Injuries</th>
<th>Crew</th>
<th>Passengers</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Serious</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Minor/None</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

1.3 Damage to aircraft

A small panel, the left wing fuel booster pump access panel, was found to be missing after the incident flight.

1.4 Other damage

None.
1.5 Personnel information

1.5.1

Commander: Male, aged 44 years

Licence: Airline Transport Pilot's Licence

Aircraft ratings: Boeing 737, Viscount, Beech 55/58

Medical certificate: Class 1, Renewed 26 September 1995

Instrument rating: Renewed 4 May 1995

Other Ratings: Instrument Rating Examiner
Type Rating Examiner - Boeing 737

CAA Approved C of A Test

Pilot

Last base check: 12 October 1995

Last line check: 20 October 1995

Flying experience:
Total all Types: - 8,290 hours
Total on Boeing 737: - 5,500 hours
Duty time: 2 hours 39 minutes
Previous rest: In excess of 24 hours

1.5.2
First officer: Male, aged 44 years
Licence: Airline Transport Pilot's

Licence
Aircraft ratings: Boeing 737, Vanguard,

Beech 55/58
Other ratings: Instrument Rating Examiner
Type Rating Examiner -

Boeing 737
Medical certificate: Class 1, Renewed 27 July

1995
Instrument rating: Renewed 3 November 1994
Last base check: 29 March 1995
Last line check: 18 December 1994

Flying experience:
Total all Types: - 8,600 hours
Total on Boeing 737: - 6,000 hours
Duty time: 2 hours 39 minutes

Previous rest: In excess of 24 hours

1.6 Aircraft information

1.6.1

Leading particulars
Type: Boeing 737-236 Advanced
Constructor's number: 22030
Date of manufacture: 1980
Certificate of registration: British Airways, 5 September 1983
Certificate of airworthiness: issued 3 October 1995

Total airframe hours: 37,871 hours (20,267 landings)

Engines: 2 Pratt & Whitney JT8D-15 turbofan

Maximum weight authorised
for take-off: 52,750 kg

Actual take-off weight: 39,376 kg

Estimated weight at time of incident: 38,300 kg

Estimated fuel remaining at time of incident: 9,300 kg

Centre of gravity (CG) at time of incident: 205 inches AoD (Within limits)

1.6.2 Dutch Roll

The Dutch Roll lateral-directional interaction mode is a coupled banking, sideslipping and yawing motion. It is often oscillatory, and when lightly damped creates control difficulties for pilots and discomfort for passengers. The Dutch Roll motion can begin with a yawing motion produced by a gust or a rudder input or with a rolling motion, which in turn results in adverse yaw. If the aircraft is designed with positive directional stability the fin tends to re-align the aircraft into the airflow when the temporary yawing moment stops. However, the nose does not return to a position of zero sideslip but tends to overshoot, setting
up the cyclic roll/yaw motion of Dutch Roll. The degree of dihedral and wing sweep dictate the lateral qualities and the fin and rudder size influence the directional qualities. If the oscillation is positively stable the roll and yaw amplitudes reduce over successive oscillations and eventually damp out.

The Boeing 737 has natural positive damping in the Dutch Roll mode, (i.e. the motions reduce in amplitude with each cycle), and therefore meets the airworthiness requirements for lateral-directional oscillations without the need for an active Dutch Roll (yaw) damping system. Nevertheless, a Yaw Damper is fitted, which, although not required for flight dispatch, is provided to improve passenger comfort by more quickly damping the Dutch Roll oscillations. To provide active Dutch Roll damping, a rate gyro in the Yaw Damper Coupler senses yaw motion and feeds a signal to the Yaw Damper Actuator in the rudder Power Control Unit (PCU), to oppose the yaw. The period of the basic aircraft Dutch Roll oscillation for the Boeing 737 without Yaw Damping varies with airspeed, reducing from just over 4 seconds at 200 kt to 3 seconds at 280 kt (about 0.25 to 0.33 Hz).

1.6.3 Description of the Yaw Damper system (Appendix 1)

As described in $\S$ 1.6.2, the Boeing 737 series of aircraft have positive lateral directional stability but the aircraft still have a tendency to 'Dutch Roll' when disturbed,
although the oscillations damp-out over a period of time. The aircraft are fitted with a Yaw Damper system which moves the rudder, with limited authority, to oppose such oscillations. Since it is not essential to the controllability of the aircraft, the system is simplex and powered by the 'B' hydraulic system. It should be noted that the Yaw Damper is independent of the Autopilot, since the latter has no input into the rudder control.

The principal components of the Yaw Damper system are the Yaw Damper Coupler located in the E&E Bay and the Yaw Damper Actuator which is part of the main rudder PCU. The Yaw Damper Coupler contains a rate gyro which senses lateral oscillations and, where these are of a frequency corresponding to the aircraft's natural Dutch Roll, a signal is output to the actuator to oppose the motion.

The Yaw Damper Actuator receives the electrical signals from the Yaw Damper Coupler which modulate an electro-hydraulic valve which ports hydraulic fluid to the appropriate ends of the actuator piston. Movement of this piston is mechanically linked to the input mechanism of the main PCU, which moves to command rudder movement. Rudder response is monitored by a Linear Variable Displacement Transducer (LVDT) and a feedback position signal is transmitted back to the Yaw Damper Coupler. The geometry of the linkage is such that the Yaw Damper
authority is limited to +/-3¡ of rudder movement on this Boeing 737-200. Yaw Damper motion is not transmitted back to the pilot through the rudder pedals. A small indicator in the cockpit advises the pilot of any Yaw Damper activity.

1.6.4 Activation of the Yaw Damper system

The pilot can select the Yaw Damper ON and OFF using an engage switch on the flight deck overhead panel. Appendix 1 shows the layout of the Flight Control panel in the cockpit overhead (Figure 1) and a highly simplified electrical schematic diagram (Figure 2) which shows only those circuits involved in effecting engagement of the Yaw Damper system. All the major electrical circuits affecting the operation of the Yaw Damper system are supplied from dedicated 28V dc and 115V ac circuit breakers. As depicted in the schematic, the Yaw Damper is switched OFF but the B Flight Control switch is in the normal, guarded, ON position.

For the system to become active, the Yaw Damper Actuator has to be supplied with hydraulic power via a solenoid-controlled hydraulic shut-off valve (SOV). This solenoid opens the valve when it receives a 28V dc supply from the Yaw Damper engage switch on the Flight Controls panel, via contacts in the k12 relay which is in the Autopilot Accessory Unit. The solenoid of relay k12 is supplied with 28V dc from
the Yaw Damper Coupler (pin 12 of Connector D295), provided that a logic circuit within the coupler senses that 115V ac is available at pin 2, and that 28V dc has been applied to pin 14 of D295 from the Yaw Damper engage switch. D295 is the connector joining the Yaw Damper Coupler to the aircraft wiring. The solenoid of k12 relay is earthed through the time delay circuits within the Autopilot Accessory Unit, which cause this relay to operate 2 seconds after the engage switch is operated.

When relay k12 is energised, three sets of contacts relevant to the Yaw Damper system, annotated a, b, & c on the schematic, are switched. When switched ON, the contact 'a' supplies 28V dc to a number of additional circuits in the Yaw Damper Coupler; contact 'b' supplies the 28V dc from the Yaw Damper switch to the SOV solenoid (as above); contact 'c' breaks an earth path for the 'Yaw Damper' light on the Flight Control panel and extinguishes the light which, when illuminated, indicates that the Yaw Damper is not in operation.

The Yaw Damper switch is spring loaded to the OFF position and is held ON electro-magnetically. The hold on solenoid is permanently connected to the 28V dc supply to the switch and takes its earth from the Yaw Damper interrupter circuits in the Autopilot Accessory Unit. This earth is routed via a set of contacts in the B Flight Control switch. When the Yaw Damper switch
is in the OFF position, the terminal which supplies 28V dc power to the actuator SOV is earthed.

1.6.5 Description of the E&E Bay

The E&E Bay on the Boeing 737 contains avionics equipment including the Yaw Damper Coupler. It is an area of the lower fuselage below the passenger floor and extends from the nosewheel bay aft bulkhead to the forward face of the forward cargo bay (stations 304.5 to 378.9). On the Boeing 737-200 most of the equipment is mounted in three racks labelled E1, E2 and E3 (Appendix 2) with three or four shelves in each rack. These are labelled -1, -2, -3 etc from the top, so that the upper shelf of rack E1, for example, is designated E1-1. In general, each individual avionic unit is designed for rapid removal from or refitting to its location in the rack. This is achieved by mounting it in a tray equipped with a multi-pin socket so that, as it is slid into engagement in the tray, a mating plug in the back of the unit connects with the socket. The unit is then locked in place with quick-release fasteners at the front.

The trays and racks themselves are commonly removed during major maintenance and thus a further connection is required to interface with the main aircraft wiring looms which are not routinely disturbed for avionics component removal. This is achieved by a series
of rack disconnect connectors which are mostly located behind the relevant rack and are sealed against moisture ingress. It should be noted that this is not the case with the unit/tray plug-and-socket arrangement described above.

On the Boeing 737 (and indeed other types of aircraft) the location of the E&E Bay is directly underneath the forward left passenger door vestibule area. With the cabin configuration used on G-BGJI, the galley and forward toilet areas are also above the forward end of the bay, but generally outboard of the equipment racks themselves. G-BGJI was equipped with hydraulically actuated airstairs below the forward left door. As the stairs were retracted, they were stowed in the E&E Bay between racks E1 and E2 and E3 (Appendix 2). Although not directly above the racks, the airstairs are an obvious potential source of moisture ingress into the bay. A fibreglass drip-tray was fitted under the full length of the retracted stairs, with an overboard drain tube to dispose of any water brought into the bay by this route. An early modification further introduced a rubberised fabric 'shroud' which clipped on to the top forward lip of the drip tray and was stretched forward over the E1 rack to attach to the nosewheel bay aft bulkhead, thus forming a moisture barrier over the bay in this area. The fall on the shroud was such that fluid leakage from above should run down the shroud and into the drip?tray.
In addition to the shroud, other measures were taken to prevent fluid spilt above the floor from dripping into the E&E Bay area, principally concerned with sealing the floor panels and toilet/galley areas. Procedures are laid-down in the Boeing Maintenance Manual for these measures but many operators adapt them according to their own custom and practice, and to use locally available materials.

CLICK HERE TO RETURN TO INDEX

1.6.6 Maintenance history

1.6.6.1 P6 inspection

Immediately prior to the incident flight, a major inspection of G-BGJI had been completed, known as a 'P6 Check' in the operator's Maintenance Schedule. It is scheduled every 5 calendar years or 11,200 hours flying time, whichever occurs first, and typically takes about 30 days to accomplish. One of the major objectives of the check is to inspect the structure for corrosion or other defects and to achieve this requires extensive dismantling of the airframe and systems. The individual elements of the check are too numerous to mention in this report, which will concentrate on the activity surrounding the E&E Bay area and the rudder/Yaw Damper system.

Prior to entering the hangar, the aircraft was washed
externally and the toilet and potable water systems drained. Early in the check itself, the toilet and galley components were removed from the aircraft. The floor panels were also removed and several required renewal, as is quite usual for an aircraft of this age.

The airstairs and drip-tray were removed from the E&E Bay as were the avionics racks, the individual avionics units being stored on covered shelving alongside the aircraft awaiting refitment. All soundproofing bags were removed and, having gained access to the basic fuselage structure, the area was given a high-pressure wash of water and detergent. To achieve this it was necessary to protect the rack disconnect connectors which, apart from the looms themselves, were the only electrical components of the E&E Bay remaining in the aircraft. Plastic bags were taped around the connectors in an attempt to guard against contamination by the cleaning process.

Visual inspection of the structure was carried out and evidence from the technical records along with the recollections of the individuals involved indicated that the degree of corrosion found and rectified was typical of any aircraft on such a check. There were no indications of any abnormalities which may have indicated heavy fluid contamination. Evidence of dried blue fluid (toilet sanitising fluid) contamination was noted on the floor structure under the toilet but again this was considered commonplace. AAIB examination of
several similar aircraft after a few years post-check service confirmed this to be so.

Upon completion of the structural inspection, the E&E Bay was re-assembled and the avionics units re-fitted. The records show that no relevant units required rectification or replacement and thus the ones removed were re-installed. As the aircraft approached completion, when electrical and hydraulic power were re-applied, every system on the aircraft was subjected to a full function test since every system had been disturbed during the check. In the case of the Yaw Damper system this included a Built-in Test Equipment (BITE) check on the Yaw Damper Coupler. No malfunctions were found. The main rudder PCU had been replaced by a unit modified to Boeing SB 737-27-1185 (Rudder PCU - Replacement of the Dual Servo Valve) but in all other respects the rudder/Yaw Damper system components were the same as those fitted prior to the P6 maintenance check.

1.6.6.2 Technical Logs

The Technical Log for the aircraft was examined for evidence of any Yaw Damper problems reported by crews since February 1995 up to the P6 check. Although the Log revealed a very large number of repetitive defects affecting system 'B' Autopilot over the period, there were no entries for the Yaw Damper system. Later, the Technical Log and the Cabin Log were examined
for entries which might suggest that significant fluid spillage may have occurred in the forward toilet/galley area over the same period. Only one entry was found, dated 5 March 1995, in which the cabin crew reported:

"Fwd galley floor area wet, no spillages reported. Please check for leaks."

The Action Taken column reported:

"Slight leak traced to toilet sink drain seeping under floor & wetting carpet. Drain fitting tightened, now no leak."

The technical records also showed that the aircraft had departed on the incident flight with the APU inoperative because its fire detection system was unserviceable, the rear toilet servicing panel was 'speedtaped' shut and the forward toilet was not serviced. In addition there was some cosmetic furnishing work to complete in the passenger cabin and the airstairs drip-tray access and drain panel was not fitted. All the above was permissible in accordance with the operator's Despatch Deviation Manual.

It had been intended to charge the forward toilet for normal service which involved introducing an initial charge of one gallon of fresh water via the recharging point in the toilet servicing panel. However, it was found that the forward toilet tank would not retain the
water due to a misrigged and therefore improperly seated dump valve. As there was some urgency in despatching the aircraft, the decision was taken to rectify the fault after the flight.

Such a fault would allow the water to flow into the 4 inch drain pipe shown in Appendix 2 and, assuming the outboard flap valve was closed, it would stay in the pipe. If the charging process was continued in this situation, the pipe would fill up and, in the presence of the improper sealing described in \( \S 1.12.4 \), fluid could run down the outside of the pipe and into the E&E Bay. However, the leaking dump valve was found early in the charging process and the quantity required to fill the pipe (estimated at about 5 gallons) was never introduced. The toilet system was completely drained prior to the flight.

1.6.6.3 Yaw Damper Coupler history

The Yaw Damper Coupler, part number 4030952-902, serial number 79100850 was manufactured in 1979. Although the recorded history of the unit showed that it had been subject to removals since that time, the records suggested that these were to service other aircraft shortages and not for any unserviceability reasons. Indeed, there was no record of the unit ever having entered workshops since new, nor would there be any requirement for it to do so unless it was defective since the part is operated 'on condition'. Physical
inspection internally also showed that the rate gyro, probably the most likely component to cause problems over a period of time, was in original condition and had not been subject to repair or overhaul.

1.7 Meteorological information

1.7.1 Incident flight

At the time of the incident a south to south-westerly airstream was established over the area. The visibility was greater than 20 km, with scattered cloud, base 2,500 feet. The mean sea level pressure was 1022 mb.

The winds/temperatures were:

<table>
<thead>
<tr>
<th>Height</th>
<th>Wind Direction</th>
<th>Wind Speed</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>180°</td>
<td>10 kt</td>
<td>+15°C</td>
</tr>
<tr>
<td>2,000 feet</td>
<td>240°</td>
<td>17 kt</td>
<td>+10°C</td>
</tr>
<tr>
<td>5,000 feet</td>
<td>220°</td>
<td>15 kt</td>
<td>+03°C</td>
</tr>
<tr>
<td>10,000 feet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>Direction</td>
<td>Wind Speed</td>
<td>Temperature</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>18,000 feet</td>
<td>230°</td>
<td>15 kt</td>
<td>+01°C</td>
</tr>
<tr>
<td>24,000 feet</td>
<td>230°</td>
<td>25 kt</td>
<td>-28°C</td>
</tr>
</tbody>
</table>

1.7.2 Test flight

The weather prevailing at the time of the test flight on 10 November 1995 was significantly worse than that on the day of the incident. A waving warm front was lying across the Boscombe Down area, moving slowly and erratically north-west. Occasional rain and drizzle was associated with the frontal zone, with surface visibility of 3 to 5 km. The mean sea level pressure was 1003 mb and the zero degree isotherm was at 6,300 feet. The cloud was broken, base 1,000 feet, tops 5,000 feet. Higher level overcast prevailed from 6,000 feet, tops 12,000 feet. There were further broken layers between 16,000 and 18,000 feet and between 21,000 and 24,000 feet. The winds/temperatures were:
5,000 feet
160¡
11 kt
+01¡C

10,000 feet
195¡
21 kt
-05¡C

18,000 feet
195¡
37 kt
-22¡C

24,000 feet
200¡
53 kt
-32¡C

Moderate icing and moderate turbulence were forecast in cloud.

1.8 Aids to navigation

Not relevant.

1.9 Communications

The crew was being provided with a Radar Advisory Service outside controlled airspace by London Military Radar on VHF frequency 128.7 MHz at the time of the
incident. A recording of the radiotelephony transmissions was available for this investigation.

1.10 Aerodrome information

Not applicable

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1.11 Flight recorders

1.11.1 Flight Data Recorder

The aircraft was equipped with a Davall 1198 re-cycling wire, accident protected digital Flight Data Recorder (FDR). This had a recording duration of 25 hours and was part of a Teledyne recording system. This system also incorporated a Quick Access Recorder (QAR) which recorded essentially the same information as the mandatory recorder onto a cassette. The FDR was replayed satisfactorily by the AAIB and the data checked with the readout from the QAR performed by the operator. There were some areas of invalid data on the FDR which were not evident on the QAR. A total of 27 analogue parameters plus 73 discrete parameters (events) were recorded.

Among the analogue parameters recorded were Pitch Attitude, Roll Attitude, Rudder Pedal Position (RPP), Control Position Pitch (CPP) and Control Position Roll
(CPR). After the incident these parameters were calibrated and a number of anomalies were found. Roll Attitude had a datum error of approximately 4¡. The CPP was found to be indicating -4.4¡ throughout the incident but there were some indications during large movements of the control column, such as during the control checks, or at rotation. CPP was found to have been unserviceable on the flights prior to the incident for which recordings remained on the FDR. Other parameters checked were within calibration limits.

The RPP is measured by a position sensor on the rudder control system forward quadrant situated just below and aft of the pedals. This therefore only detects the pedal movement from the pilots; there is no feedback to the pedals of the Yaw Damper movement. No recording is made on the FDR of the rudder surface position. The engagement of the Autopilot is recorded on the FDR, however the Yaw Damper engagement is not recorded.

1.11.2 Data timing

Data is acquired by the Digital Flight Data Acquisition Unit (DFDAU) in 0.125 second time slots, parameters acquired in the same time slot will be synchronised to within 0.125 seconds. Lateral Acceleration, CPR and RPP are all sampled 4 times a second, within the same time slot. Roll Attitude is only sampled twice per
second, and is sampled 0.125 seconds after the first and third samples of the previous parameters.

The following table shows the relationship between the parameters:

<table>
<thead>
<tr>
<th>Timing Offset</th>
<th>Normal Accel</th>
<th>Lateral Accel</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>0.125</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>0.25</td>
<td>18</td>
<td>26</td>
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<tr>
<td>0.375</td>
<td>26</td>
<td>34</td>
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<tr>
<td>0.5</td>
<td>34</td>
<td>42</td>
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<tr>
<td>0.675</td>
<td>42</td>
<td>50</td>
</tr>
<tr>
<td>0.75</td>
<td>50</td>
<td>58</td>
</tr>
<tr>
<td>0.875</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Position</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>Long Accel</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Heading</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CPR</td>
<td></td>
</tr>
<tr>
<td>16</td>
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<tr>
<td>32</td>
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<tr>
<td>48</td>
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<td></td>
</tr>
<tr>
<td>64</td>
<td>CPP</td>
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</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
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<tr>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
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</tr>
<tr>
<td>61</td>
<td>RPP</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
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<td>30</td>
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<tr>
<td>46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Roll</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Note: the numbers in the boxes above are the DFDR word slots for the parameters in the 64 word frame.

1.11.3 Cockpit Voice Recorder

The aircraft was equipped with a Fairchild model A100 recycling Cockpit Voice Recorder (CVR) which records the latest 30 minutes of audio information on four tracks. In this case aircraft power had been re-applied to the aircraft after landing which allowed the CVR to continue to record, automatically erasing the recording of the incident and thus providing no useful information.

1.11.4 Data interpretation

Pre-flight control checks were carried out and the aircraft took off at 15:53 hrs and climbed normally to 20,000 feet. During the climb there were some small oscillations evident from the lateral acceleration record. These small oscillations occurred between 200 and 260 kt with a frequency of 0.26 Hz and varied in both magnitude, up to ±0.03g lateral acceleration, and duration.
As such, they went unnoticed by the crew or were regarded as insignificant.

At 16:02:08, as the aircraft approached 20,000 feet at 288 kt on a heading of 270¡M, the crew began the spoiler upfloat check, identified from the Speedbrake lever being moved to the 'Flight Detent' position for approximately four minutes. The Autothrottle was already engaged and the 'B' Autopilot was engaged at the top of the climb. Intermittent small oscillations were still evident during the test. Figure 1 at Appendix 3 shows the data throughout the incident, from the movement of the Speedbrake lever to the 'Down' Position; Figure 2 at Appendix 3 shows an expanded plot of the initial part of the incident. Two seconds after the Speedbrake lever was returned to the 'Down' position, at 16:06:28, there was a 2¡ CPR input to the right and there were coincident small lateral accelerations of ±0.018g with a frequency of 0.36 Hz at an airspeed of 294 kt. These small oscillations continued with varying amplitude for the next minute, with a slight rise in airspeed to 296 kt and did not cause any detectable roll movement.

At 16:07:35 there was a more significant lateral acceleration oscillation, frequency 0.35 Hz, and up to 0.06g which lasted for three cycles. This was accompanied by a roll of 3¡ left wing down, and an opposing CPR movement, from the Autopilot of -4.9¡ to 8.5¡ right wing down within two seconds. There was no further
input of CPR during this initial oscillation. The amplitude of the lateral acceleration cycles increased, by approximately 0.04g per cycle, and reached a maximum in around 20 seconds. The Roll Attitude and CPR began to oscillate in opposition as the Autopilot tried to correct the roll of the aircraft. The Autopilot and Autothrottle were disconnected 15 seconds after the initial left roll, at 16:07:53 with the aircraft at 20,000 feet, 296 kt.

The large oscillations continued, with a frequency of 0.36 Hz, and a magnitude of around ±0.5g lateral acceleration, and ±15¡ roll around a varying datum with opposing CPR inputs of around ±30¡ from the pilot. After the Autopilot disconnect the airspeed initially reduced to 277 kt. At 16:07:58 the engine power reduced from 1.48 to 1.11 Engine Pressure Ratio (EPR); the aircraft descended and airspeed increased to a maximum of 313 kt.

Ten seconds after the Autopilot disconnect there were some oscillations evident in the rudder pedal position, however the movement was only ±0.25¡ with the same frequency as the lateral acceleration. There were also oscillations in other parameters, including Pitch Attitude (up to ±1¡) and heading (±5¡ about a varying datum between 270¡ and 040¡M).

The aircraft levelled at 7,000 feet with an increase in EPR from 1.0 to 1.24/1.19 on Nos 1 and 2 engines respectively;
and then decelerated through 275 kt when the oscillations began to damp out. Throughout the oscillations the aircraft was in a left turn, finally reaching a heading of 040¡. Figure 3 at Appendix 3 shows this data in expanded form; the oscillations lasted for over 7 minutes and finally disappeared at an airspeed of 250 kt.

After the large oscillations there were some minor, quickly damped oscillations in lateral acceleration of up to ±0.002g. At 16:17:52 flap was selected initially to 1¡ at a speed of 212 kt and then to 5¡ and 15¡ at airspeeds of 200 kt and 165 kt respectively. As the airspeed further reduced, 15 seconds after passing through 170 kt coincident with the scheduled Yaw Damper gain change, there was a kick of 0.025g in lateral acceleration, followed by small oscillations lasting around 12 cycles. There were then some similar small oscillations with a magnitude of ±0.02g and frequency of 0.2 Hz, which occur periodically during the rest of the flight. The oscillations in lateral acceleration are accompanied by oscillations in roll of up to ±0.5¡. Figure 4 at Appendix 3 shows one of these oscillations which lasted for around a minute before damping out. At 16:45 the aircraft landed without incident, with a flap setting of 15¡ and a touchdown speed of 135 kt.

1.11.5 Quick Access Recorder data
The Quick Access Recorder (QAR) recorded essentially the same information as the mandatory recorder onto a readily removable cassette. The operator routinely removed and replayed the cassettes from the QAR; approximately two weeks of flying data from each aircraft having been kept as an archive. This archived QAR data was analysed for G-BGJI, consisting of 85 flights having taken place prior to the P6 check. On two separate flights on the 8 and 11 September, small oscillations were found; firstly at 36,000 feet between 240 to 245 kt there were intermittent oscillations of ±0.05g with a frequency of 0.35 Hz. On another separate flight one period of small oscillations was observed, damping out in 3 cycles, with a frequency of 0.4 Hz. No other significant oscillations were found on the flights reviewed.

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1.12 Aircraft examination

1.12.1 General

Examination of the aircraft began on the evening of the incident flight. It had been impounded in a hangar at Gatwick Airport and had not been disturbed since that flight, other than by those actions necessary to tow it into the hangar.

1.12.2 Non-intrusive tests conducted between incident and
test flight

Initial analysis of the recorded aircraft behaviour during the incident flight had indicated that the characteristics were most consistent with erroneous operation of the Yaw Damper system. Therefore, immediately after the incident had occurred, a policy decision was made not to disturb, by disconnection or disassembly, any of the aircraft systems which might have any influence on the operation of the Yaw Damper before a test flight was made. The object of the test flight was to attempt to induce the aberrant behaviour, with additional flight monitoring systems temporarily fitted. It was, however, decided to perform, together with functional tests, such isolation and continuity testing as could be done within this stricture.

It was agreed that the examination would commence by subjecting the aircraft to practically every check in the Maintenance Manual of the flying control, Autopilot and Yaw Damper systems which could be achieved without breaking in to any systems (non-intrusive).

The airframe was inspected visually, including the E&E and landing gear bays, the angle-of-attack sensors and pitot probes. Nothing significant was found with the exception that the hydraulic oil quantity was approximately 1/8" below the FULL line on the sight gauge and the left wing fuel booster pump access panel
was found to be missing.

The next stage involved a rigging check on all of the flying control surfaces and cables which could be accessed without extensive removal of panels. Some discrepancies were found relative to the Maintenance Manual requirements for both control surface rigging and cable tensions but there was nothing found which could have been responsible for the aircraft's aberrant behaviour during the incident flight. It was noted that, when the technicians attempted to check cable tensions, they found that nearly all their stock of tensiometers gave different readings. Some instruments were considerably at variance with others despite all being within their calibration dates. There was no system at the operators engineering facility at Gatwick for checking the accuracy of tensiometers upon issue from stores.

The next phase involved full flying control, Autopilot and Yaw Damper function tests and BITE checks where appropriate. Although the Autopilot failed one of its parameter checks on the BITE test, analysis showed this could have had no effect which would explain the aircraft's behaviour. None of the wiring checks performed at this stage revealed any abnormalities.

Since the exhaustive series of checks generally had not revealed any significant defects or abnormalities, it was decided that the aircraft would be left in this condition for
the next phase of testing, which was to be a pressurisation test of the aircraft in a simulated flight condition (\textsection 1.16.1). The minor defects remained unrectified and no rigging adjustments were made to the flying controls between the incident and test flights (\textsection 1.16.2).

In consultation with Boeing and the Civil Aviation Authority (CAA) and after analysis of the DFDR data from the incident flight, a series of structural checks were required, mainly concerned with the fin and rudder attachments, before the aircraft could be allocated a 'B' conditions certificate for the test flight. These checks did not reveal any damage or excessive clearances in the attachment fittings or structure.

1.12.3 Directional control system component examination

Following completion of the test flight and non-intrusive checks which had not revealed any significant abnormalities with the directional control system, the decision was taken to subject the individual components of the system and the associated wiring to function and strip examination as necessary. In addition, the three hydraulic system filter elements were removed from each system and, together with fluid samples, were despatched to an independent laboratory for analysis. The laboratory report did not indicate any abnormalities with either the fluid or filter elements associated with either system. The wiring
checks are described in §1.12.5.

The components returned to their respective manufacturers for testing/examination under AAIB supervision were:

a  Yaw Damper Coupler
b  Rudder PCU
c  Standby Rudder PCU
d  Rudder Feel and Centring Unit
e  Digital Air Data Computer (DADC)

In addition, the Autopilot Accessory Unit was examined in the AAIB laboratories.

1.12.3.1 The Yaw Damper Coupler

This unit was returned to the manufacturer, Honeywell and placed on their Automatic Test Equipment (ATE). Tested repeatedly at ambient conditions, these comprehensive tests did not reveal any significant defects in the unit. The Yaw Damper Coupler was also subjected to the same test regime but manually executed. It was then hot-soaked and tested on the ATE, again
performing to specification. There was no facility for performing these checks under humid conditions, so this was not achieved.

The above tests were able to prove the serviceability of all the Yaw Damper Coupler circuitry but could not fully check the rate gyro which is incorporated in the unit. Accordingly, the unit was opened to remove and despatch the rate gyro to another facility for testing as an isolated component. It was at this point that apparent contamination/corrosion deposits were found on the back of the multi-pin connector inside the unit. This took the form of bluish-white powdery deposits around some of the wire-wrapped connections to the back of the pins (Appendix 4, Figure 1). Closer inspection also showed evidence of light grey deposits on the outside of the connector shell (Figure 2). These observations, which pointed towards moisture impingement on the outside of the connector and subsequent ingress into the unit, were reinforced when the lower cover plate for the unit was examined and signs of dried fluid residue were seen on its inner face (Figure 3). There was, however, no sign of moisture on the outside of the black casing itself.

The decision was made to return the unit (minus the rate gyro) to the UK to embark on humidity and other tests described in §1.16.5. The rate gyro, when tested, proved to be in good serviceable condition.
1.12.3.2 Rudder PCU

The rudder PCU, incorporating the Yaw Damper Actuator, was tested at the unit manufacturer's facility on a rig used for acceptance tests on production and overhauled components. The rig essentially operates the PCU with hydraulic and electrical power connected and plots the response of the unit to mechanical (pilot) and electrical (Yaw Damper) inputs. The performance of the unit was satisfactory in all respects. Measurements were taken of the Yaw Damper solenoid pull-in voltage which were requested in connection with the testing described in §1.16.7.

1.12.3.3 Standby rudder PCU

This was examined at the Boeing Equipment Quality Analysis Laboratory in Seattle, USA under AAIB supervision. It passed an overhaul function test with only minor out-of-limits measurements in two areas. Strip examination showed no abnormalities apart from some scoring of the input lever bearing, the origin of which was not clear but did not appear to affect its operation.

1.12.3.4 Feel and Centring Unit

No evidence was found of failure, defect or malfunction of this unit. Functional testing did not reveal any abnormal behaviour although some excessive backlash in the system
was identified, predominantly in the trim actuator. It was uncertain whether this was simply a feature which might be expected on a unit with some considerable time in service but was not considered to have been capable of precipitating the aberrant behaviour of the aircraft during the incident flight.

1.12.3.5 Digital Air Data Computer (DADC)

The DADC was initially tested at the Honeywell facility in Seattle, USA at the same time as the Yaw Damper Coupler. Its interface with the Yaw Damper system is limited to switching the gain of the Yaw Damper Coupler output according to the aircraft's indicated airspeed. In this respect it functioned normally.

1.12.3.6 Autopilot Accessory Unit

Amongst the functions of the Autopilot Accessory Unit is the enabling of the Yaw Damper system. It was tested to establish its conformity with specification with respect to those features which might affect the operation of the Yaw Damper. These tests involved the measurement of contact to contact resistance and the insulation of the terminals of the k12 relay within the unit, in both its switched conditions and testing of the time delay and interrupter circuits. The results of all these tests indicated that the functions under consideration operated correctly and within limits.
It was decided to establish, additionally, the voltages at which the k12 relay engaged and disengaged. This was done by adjusting, in both the rising and falling senses, the voltage applied to the actuating solenoid. Under the test conditions the relay pulled in at 18.7 (Volts) V and dropped out at 18.4V. It was observed, whilst adjusting the voltage very slowly around the changeover voltages, that the relay sounded as if it operated in two stages, as it emitted a double click. The change of voltage over the double click was very slight and it was established that all contacts operated simultaneously on one of the clicks.

At a later stage of the investigation, studies of the characteristics of the Autopilot Accessory Unit, Yaw Damper Coupler and Shut-off Valve Solenoid as a group showed slightly different operating voltages for the k12 relay with an engage voltage of 18.16V and 17 ma current and a dropout voltage of 17.71V and 9 ma current. (았1.6.7)

1.12.4 The E&E Bay

With the discovery of apparent moisture contamination of the Yaw Damper Coupler connector, described in 1.12.3.1, attention was turned to the E&E Bay in an effort to determine whether there were any obvious sources of such contamination. The P6 check items
included washing and so there was little chance of finding evidence of a source of moisture occurring in the past.

Examination commenced with an inspection of the avionics cooling plenum which is situated directly above the E1-1 rack which houses the Yaw Damper Coupler. This had clearly been washed and bore numerous watermarks on its polished aluminium alloy surface. One of these marks, however, was of particular interest since it ran directly above the Yaw Damper Coupler in the rack. The fluid appeared to run forwards from about the mid-point of the plenum on the top surface and then run rearwards to about the same point on the lower surface. A search for a corresponding leak in the rubberised shroud above this apparent path proved negative.

The shroud itself was then removed and examined. Although it had evidently been partially cleaned during the P6 check it was still heavily stained on its upper surface and bore heavy deposits of a waxy substance similar to that used during the floor panel sealing operation. When tested for leakage, the shroud proved water-tight apart from a small area of porosity which had resulted from chafing where it was folded and fastened over the lip of the airstairs drip-tray. This area was fairly remote from the E1-1 rack and it was difficult to conceive any situation whereby fluid entering the bay by this route could contaminate the rack. Doubts were expressed concerning
the installation status of the shroud during the incident flight. This arose because, initially, it was not suspected that fluid contamination of the Yaw Damper Coupler was responsible for the incident and investigation was centred on the key components of the directional control system. At an early stage the airstairs drip-tray was removed to greatly facilitate access in the E&E Bay requiring the shroud to be unclipped and rolled back. There is no doubt that it was in the aircraft, attached to the nosewheel bay bulkhead but the inspection team could not recall with absolute certainty that it had been fully fitted. The technician involved with preparing the aircraft for the incident flight had, however, stated that it was completely and correctly installed prior to the flight.

The large-diameter toilet drain pipe, routed laterally across the E&E Bay (Appendix 2), was a potential source of contamination in precisely the area to affect the back of the E1-1 rack components, although such a scenario would still require penetration of the shroud before fluid could reach this location. The pipe is normally empty of fluid except during the toilet drain operation on the ground, although any improper seating of the toilet dump valve in the tank would result in the pipe starting to fill-up. The operator indicated that this was a commonly reported defect and just such a condition was present immediately before the incident flight (see §1.6.6.2). In this case, however, the leaking dump valve was detected and
the aircraft despatched with the forward toilet empty.

Externally, the pipe had a number of dried fluid residue paths visible, some of which were probably by-products of the cleaning and corrosion protection processes during the P6 check. Tests on the pipe itself showed that it did not leak but the potential for leakage did exist because of faulty assembly at the interface of the pipe with the tank. Essentially, a screw had been trapped between two mating flanges such that, if the pipe filled up as described above to the level of the aircraft floor, fluid could have escaped and run down the exterior of the pipe into the E&E Bay. As described in §1.6.6.2, there should not have been sufficient fluid introduced to allow this to happen.

A further imperfect seal was discovered around the area where the handbasin drain pipe passed through the toilet compartment floor. Any fluid escaping from the toilet/handbasin systems behind the vanity unit would run onto the floor. Since this area is not subject to passenger weight, floor panels are not used and a thin metal diaphragm is used instead. This has to be sealed to prevent leakage below the floor, including the holes where utility piping passes through it. As noted an improper seal had been achieved with the handbasin drain pipe such that, when the diaphragm was deliberately flooded, the fluid dripped down the flexible tube below the floor. However, this location was well forward of the E&E Bay and it was not
considered that it could have migrated back towards the Yaw Damper Coupler.

A potential path for fluid dripping forward of the E&E Bay to migrate rearwards was discovered during examination of another Boeing 737?200. The aircraft had extensive toilet fluid contamination of the E1-3 rack disconnect shelf on the left side of the E&E Bay (note: not the racks themselves). Testing showed numerous leak paths allowing fluid to drip below the floor forward of the E&E Bay where the drips impinged on the two Captain's instruments pitot-static drain tubes. These run aft and downwards towards the bay, where they are routed above the E1-3 rack disconnect shelf. The somewhat encrusted and corroded appearance of the pipes suggested that this had been happening for some time. Fluid from a leaking toilet dump valve was thought to have been the source of the contamination. Boeing has recognised this path as an undesirable feature and proposed a simple modification to put 'drip-triggers' on the line to prevent fluid running aft along the pipes. (The E&E Bay Assessment Team report on this subject is discussed in 1.16.8.)

1.12.5 Post-test flight intrusive wiring and connector checks

A programme was drawn up so that, immediately following the test flight, electrical integrity testing of all the
wiring and connectors which might affect operation of the Yaw Damper system could be conducted. This involved the wiring of all systems which had any connection, direct or via other equipment, to the connector D295 of the Yaw Damper Coupler.

Before doing some of these tests, which included high voltage insulation checks, it was necessary to remove the electronic modules involved, both to avoid damaging them and to gain access to the connectors. It was also necessary to isolate the affected wiring by disengaging the 28V dc and 115V ac circuit breakers. Apart from the Yaw Damper Coupler, which had to be removed to gain access to the pins and sockets of connector D295, other units disconnected were:

Component Location Connector

i. Air Data Computer No 1 E&E Bay D309A

ii. Autopilot Accessory Unit E&E Bay D293(A & B)

iii. Flight Control Module Flight Deck Overhead D630

iv Rudder Power Control Unit Fin base D291

v Yaw Damper Position Indicator Centre Instrument Panel D309A

The first test applied to connector D295 was a check of the
physical engagement of the two halves; both of the tightness of individual pin to socket connections and the depth of engagement of the pins as a group into the sockets.

The first part of this test was done by inserting a single pin, with a light wire 'pull' attached, into each socket of the aircraft rack connector and established that it required perceptible force to draw the pin out of the socket. A similar test was done using a single socket pushed over each individual pin of the connector on the Yaw Damper Coupler itself. Both the elements of connector D295 were demonstrated to have satisfactory grip on all electrical contacts.

The second part of the test, to determine the depth of engagement, was done by impaling a sheet of .004 inch thick paper, cut to remain inside the connector periphery, on all the pins of the Yaw Damper Coupler connector. The connection was then made and secured and then released and separated. The depth to which the paper had been driven down the pins showed that the depth of engagement was satisfactory.

Before disturbing the rudder PCU connectors, other than D295, measurement of the resistance of components within the rudder PCU, together with the intervening wiring and connectors, was made. This showed that all the electrical components in the rudder
PCU which could affect the Yaw Damper system were within specification and their connections through to D295 were good. After this, the measurements were repeated whilst the connector at the PCU (D291) was shaken, by hand, to simulate the effects of vibration. This showed that the connection was sound.

Following these tests, the electrical bonding of all the components listed above was verified. They were then removed and the wiring, with all intermediate connectors, was subjected to continuity and insulation tests. These demonstrated that there were no detectable breakdowns in the isolation of any wire resulting in unwanted wire/wire or wire/earth faults; nor were there any breaks in the continuity of any tested conductive path.

The final action in this series of tests was to perform pin grip and connector depth of engagement tests on the rack connector of the Autopilot Accessory Unit (D293A) and the connector of the rudder PCU (D291). All proved satisfactory.

1.12.6 Tests on Yaw Damper engagement circuits (Appendix 1, Figures 1 & 2)

After examination of the Yaw Damper Coupler unit had raised concerns about the possibility of electrolytic activity between the pins of connector D295 inside it, consideration was given to the possibility that
unwanted electrical paths could be generated between pins. The theoretical effects of these paths could be broadly divided into those which affected the behaviour of the electronic control circuits, which are reported on at paragraph 1.16.3, and those affecting the power switching which activates the Yaw Damper.

An initial test was made to establish the resistance, to aircraft ground, of the path from pin 14 on the rack side of connector D295 (with the Yaw Damper Coupler removed), through the earthed OFF pole of the Yaw Damper engage switch on the Flight Control panel. Comparison of this resistance on the incident switch with another showed the incident switch to have a persistently higher resistance of about 2 Ohms.

As a result of these tests, the switch itself was later subjected to destructive examination; see paragraph 1.12.7

A series of tests was then performed, on the subject aircraft, which demonstrated that the Yaw Damper engagement interlocks and indications could, under dormant fault conditions, be defeated by the addition of particular unwanted paths bridging between the pins of connector D295. These were performed using a specially constructed extension lead which permitted electrical access to pins 4, 12 & 14 of connector D295 by means of breakout flyleads. These tests were extended by setting up electrolytically formed conductive paths between the breakout leads and are described at
1.12.7 Yaw Damper system engage switch examination

As a result of finding that the engage switch had a persistently high resistance on the ground contact, approximately 2 Ohms, it was decided that it should be fully examined in the presence of the aircraft and switch manufacturers. The switch was presented for this examination still installed in the flight controls module from the flight deck. Since the incident flight and before the time of first checking the switch OFF pole earth resistance, the switch had been functioned an indeterminate number of times.

When subjected to laboratory testing, both whilst installed in and later after removal from the flight controls module, the switch did not demonstrate any high resistance earth path. The switch unit was tested and found to be in compliance with its manufacture specification, both in terms of contact resistances and electromagnetic hold-on characteristics. Testing of the wiring within the flight controls module did not reveal any evidence of potential intermittently high resistance paths.

The switch unit was disassembled and the basic micro switches from within operated whilst being observed by real-time X-ray techniques. This showed that the movement of the contacts during switching was
correct and effecting the designed self wiping action.

The basic micro switches were then dismantled and the contacts examined. This revealed the presence of a carbon rich contamination of the earth switch contacts but no evidence of loose particle contamination. It was considered that the carbon rich contamination of the contacts might have accounted for the earlier measurements of high contact resistance but did not appear to be sufficient to have been responsible for a contact resistance greater than the measured 2 Ohms observed whilst fitted in the aircraft.

1.13 Medical and pathological information

Not applicable.

1.14 Fire

Not applicable.

1.15 Survival information

Not applicable.

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1.16 Tests and research

1.16.1 Function tests of the flying control and Yaw Damper
Although the detailed series of checks described in § 1.12.1 had involved several function tests of the flying control and Yaw Damper systems, it was decided that further testing should be carried out with the aircraft pressurised and undergoing a depressurisation cycle, as occurred during the incident flight. To this end the aircraft was towed out of the hangar and placed in a 'flight' condition by disabling the air/ground sensors and using a pitot-static test set to simulate an airspeed of roughly 290 kt. Using a ground pneumatic rig and the APU, the aircraft was pressurised to a differential appropriate to flight at 20,000 feet and hydraulic and electrical power was applied.

The Autopilot and Yaw Damper were engaged with no malfunctions evident. The entire aircraft was 'nudged' several times using the nosewheel steering tiller to evoke a response from the Yaw Damper, and also by using the Yaw Damper test switch. This was repeated during the depressurisation cycle, again with no abnormal responses from either the Autopilot or the Yaw Damper.

1.16.2 High speed taxi and test flight

A Portable Airborne Digital Data System (PADDS) was installed in G-BGJI by the aircraft manufacturer to record parameters additional to those available on the FDR/QAR. These included rudder control
system aft quadrant and surface position, Yaw Damper engaged signal and other Yaw Damper system control parameters, plus lateral accelerations at the fin and rudder.

Ground tests were performed by the manufacturer to determine whether the rudder and Yaw Damper system were operating correctly prior to the flight test. These included a frequency response check of the rudder and Yaw Damper LVDT, the results showing the correct phase and gain data for both. Yaw Damper engagement and disengagement via the flight deck overhead switch and the circuit breaker were also checked, and found to operate correctly.

Initially a high speed taxi run was carried out to identify whether any unusual rudder/Yaw Damper system characteristics could be generated during normal taxiiing and by applying aggressive nosewheel steering inputs to produce yaw rate inputs to the Yaw Damper Coupler. Cyclic nosewheel steering inputs with a period of 3 seconds (approximately the Dutch Roll frequency) were used during normal taxi, and a high speed run up to 80 kt was carried out; no unusual system characteristics were observed.

A flight test was then planned in an attempt to reproduce the oscillations seen in the incident. The aircraft was loaded to a similar gross weight and CG position and prepared for flight under 'B' conditions. It was crewed by the same commander as the incident flight.
together with a Boeing 737 test pilot provided by the manufacturer. The manufacturer's regular complement of a flight test director and observers were also on board. The flight test plan was to incrementally approach the flight conditions of the incident (290 kt and FL200), initially with the Yaw Damper OFF to ensure that there was no basic airframe/flight control anomaly. The aircraft was equipped with an alternative method of electrically isolating the Yaw Damper system.

The aircraft took off from Runway 08R at Gatwick and was flown to the same test area, between the Southampton VOR and Boscombe Down Airfield. The weather conditions on the day of the test flight (10 November 1995) were significantly worse than those existing at the time of the incident. There was light to moderate turbulence present generally, and the crew had to ensure that the aircraft did not sustain any ice accretion by avoiding cloud layers as much as possible during the climb to test altitude.

At each test point, the test pilot performed rudder doublets in order to excite the Dutch Roll mode and the aircraft response was monitored. Final tests were conducted with the aircraft depressurised, again to simulate the actual incident flight conditions. Some testing was also carried out with the Autopilot engaged, as on the incident flight.

The testing was unable to reproduce the forced lateral
oscillations experienced during the incident flight. All of the tests indicated that the rudder/Yaw Damper systems on the aircraft were operating correctly.

1.16.3 Simulator studies

The aircraft manufacturer provided access to and support in using a mathematical computer model and a versatile three axis engineering simulator in attempts to simulate the incident flight characteristics.

1.16.3.1 Initial Engineering Simulator Evaluation (M-Cab)

The aircraft Manufacturer's Engineering Simulator was used to perform an evaluation of the pilot's influence over driven Dutch Roll oscillations. In this case the oscillations were driven from the rudder deflection calculated as a function of yaw rate. The relationship between rudder and yaw rate was chosen to generate behaviour consistent with the aircraft during the incident in terms of lateral g oscillations and magnitude of maximum and minimum bank angle, and thus demonstrated the effect of driving the Dutch Roll mode. Figure 1 and 2 at Appendix 5 show this effect.

The simulation was performed at flight conditions representative of the incident, level at 20,000 feet and 295 kt. During the manufacturers tests with a company test pilot in the left-hand seat, "the pilot's first reaction was to reduce airspeed which resulted in the
oscillations becoming damped....further cases involved maintaining the flight condition which provided a continuous oscillation with controls free. The pilot was not able to reduce the oscillation nor did he drive the oscillation to greater amplitude while using normal control inputs."

1.16.3.2 EASY 5 computer simulation

A manufacturer's control system simulation/analysis tool, EASY 5, was used to investigate the effect of fluid contamination of the Yaw Damper Coupler connector causing shunt resistance between pins. The EASY 5 consists of a control system model of the Yaw Damper Coupler with mathematical approximations for the behaviour of the hydraulic system and aerodynamics at various flight conditions. The simulation is excited using a crosswind pulse gust, and the response of the model is then computed and output as a time history of various parameters.

Theoretical analysis of the Yaw Damper Coupler circuitry was carried out by the manufacturer to identify shunt resistances between pins which could have been possible candidates to cause the aircraft response seen in the incident flight. The coupler connector has 57 pins, and for this analysis the unused pins and those used as part of the BITE were not considered. The analysis also assumed that the fluid saturated the region of the connector surrounding pins 3, 4, 12 and 14
(Appendix 6, Figure 1) and below these pins it was assumed that pins were coupled to each other by a fluid film which ran along the adjacent wires. Only the effects of shunt resistances between adjacent pins were considered. The effects of both 400 Hz and dc power shunts were discounted. The bandwidth of the hydraulic servos are two orders of magnitude less than 400 Hz, so any signals injected with a frequency of 400 Hz would have no effect. Similarly any dc power shunts would have introduced a bias into the system, an effect which would have been shown in the incident flight, and was not evident. A summary of the pin to pin shunt analysis is at Appendix 7.

Of the possible candidates identified, the effects of three shunt resistances were modelled in the EASY 5, both singly and in combination. These were the most likely to have caused the effects seen during the incident. The first was between pins 46 to 47, the case where the rudder feedback signal from the LVDT is attenuated, and corresponded to the open feedback condition. It produced an oscillation with a frequency in the 0.8 to 1.0 Hz range, and only small bank angle changes. This response had been predicted in the Failure Modes and Effects Analysis (FMEA), and was not the response seen in the incident case.

The second case was a shunt between pins 37 to 38, which established a path from the output of the rate gyro
demodulator directly, rather than applying the normal 180° phase shift necessary for the rudder motion to be applied in a direction which would counter the yaw rate. The shunt bypassed the phase shift, so the gyro signal was in phase with the yaw rate. The effect of this shunt therefore was to produce an instability which resembled that seen during the incident. A gain of -10 was used in the simulation which approximated to a shunt resistance across the pins of 89 Kilohms. This produced a rudder demand from the Yaw Damper Coupler which saturated to maximum within 7 seconds at 350 kt; the frequency of the oscillation produced was about 0.4 Hz, with ±25° roll oscillations within 17 seconds of the disturbance; the oscillation was undamped but stable. At an airspeed of 250 kt the same gain produced a damped oscillation. Figures 2 and 3 at Appendix 6 show the results from the EASY 5 for these cases.

A shunt resistance between pins 40 to 51 would change the gain characteristics of the rate gyro path; it does not produce a phase change. The effect of this shunt is to attenuate the signal going into the washout filter and thus reduces the ability of the Yaw Damper Coupler to provide control. It was reasonable to model the effect of a shunt between pins 40 to 51 as pins 40 to 50 are adjacent and pins 50 to 51 are electrically equivalent. Simulation of this shunt had no effect on the response on its own, but with a combination of this and a shunt between 37 to 38 the effect was to
modify the frequency from 0.43 Hz to 0.35 Hz.

1.16.3.3 Final M-Cab simulation

The EASY 5 simulation had shown that there were possible shunt resistances which could cause the aircraft response seen in the incident. In order to model the complete system it was necessary to have a better aerodynamic model and include a production Yaw Damper Coupler unit. The manufacturer's M-Cab simulator was used for these tests. The M-Cab is a full motion engineering simulator capable of being flown either from the simulator cab flight deck, or from data inputs. In this case the yaw rate signals from the simulator were input to a Yaw Damper Coupler unit, and the subsequent rudder demand signal was output to the M-Cab simulation of the rudder hydraulic system. The M-Cab was set up at the airspeed, altitude and configuration required for the test and then either allowed to respond without intervention, or flown from the simulator cab to maintain the required conditions. The Yaw Damper Coupler system gain changes with airspeed in the Autopilot Accessory Unit were accomplished manually. The shunt resistances were simulated using a set of decade resistance boxes which could be put between any two individual or combination of pairs of pins. A beta (yaw) release and/or a gust (turbulence) model was used to excite the simulation.
The first tests were to reproduce the shunt resistance from the EASY 5 simulation. An open circuit between pins 46 to 47 produced a 1 Hz oscillation, confirming again the FMEA. A shunt resistance of 110 and 89 K Ohms between pins 37 to 38 produced no oscillations. Reducing the resistance to 30 K Ohms, lower than the value of the shunt resistance in the EASY 5 simulation, produced an oscillation similar to the incident, with roll angles of ±15\(^\circ\), and lateral acceleration of ±0.5 g. This case is shown in Figure 1 at Appendix 8. The rudder demand saturated in 20 seconds, and the frequency of the oscillation was 0.4 Hz at 350 kt IAS, and 20,000 feet.

The effect of a shunt resistance between pins 40 to 51 was then investigated, varying between 60 and 500 Kilohms at 20,000 feet, 290 kt and using light and medium turbulence as well as a beta release to excite the simulation. A shunt resistance up to 300 Kilohms produced small oscillations after the beta release, which in medium turbulence had a frequency of 0.33 Hz and ±0.02 g oscillations in lateral acceleration. Figure 2 at Appendix 8 shows the oscillation produced with a shunt resistance of 230 Kilohms. In light turbulence the lateral acceleration was ±0.01 g. This compared with the oscillations seen in the Yaw Damper disengaged case which in medium turbulence has the same frequency and magnitude of lateral accelerations. Figures 3 and 4 show the normal aircraft response with
Yaw Damper engaged and disengaged respectively. At 500 Kilohms the oscillations had a smaller magnitude, similar to the Yaw Damper engaged case, showing that at this value of resistance the Yaw Damper was able to reassert control. These tests were repeated at 7,000 feet, 250 kt, shunt resistance varying between 120 and 300 Kilohms with light and medium turbulence. Similar small oscillations were evident.

A combination of the shunt resistance varying from 200 to 400 Kilohms between pins 37 to 38 and 40 to 51, was then tested. At 20,000 feet and 290 kt, the results showed that the combination of resistances on both pins produced an oscillation which resulted in roll angles of up to ±15¡, and lateral accelerations of up to ±0.46 g, with a frequency of 0.3 Hz. The time of the Yaw Damper rudder demand to saturate to maximum increased with the resistance; above 250 K Ohms the oscillation was slow to develop and above 350 K Ohms the oscillation was damped. The same shunt resistance test conditions were used at 7,000 feet, 250 kt. This generated an oscillation which, at shunt resistances at and above 230 Kilohms damped out. The time for the oscillations to damp decreased with increasing resistance. Figures 5 and 6 at Appendix 8 show these oscillations.

A number of flight profiles were then flown in the M-Cab, following the descent and speed reduction seen on the
incident flight. Figure 7 at Appendix 8 shows one of these profiles using a shunt resistance of 230 K Ohms between both 37 to 39 and 40 to 51.

1.16.4 Normal aircraft behaviour with and without Yaw Damper

The QAR data was examined from another Boeing 737-200 aircraft, where the Yaw Damper had been engaged and disengaged for periods during the flight. This data showed that when the Yaw Damper was disengaged, small oscillations similar to those seen on G-BGJI prior to the incident, were present. This demonstrated also the basic Dutch Roll mode of the aircraft. The oscillations had a frequency of around 0.32 Hz and produced small lateral accelerations of less than ±0.05 g. With the Yaw Damper engaged there were no significant lateral oscillations.

1.16.5 Humidity testing and detailed examination of Yaw Damper Coupler connector

The presence of corrosion/electrolytic deposits around the wire-wrap posts of the Yaw Damper Coupler connector first discovered during the manufacturer's testing and examination of the unit (☞ 1.12.3.1) had not apparently had any effect on the coupler's operation during testing at ambient and high-temperature conditions.
It was therefore decided to test the electrical properties of the Yaw Damper Coupler in humid conditions having first taken samples of the deposits on the connector shell and the cover plate in an attempt to discover the nature of the apparent fluid contaminant. A description of this examination appears in §1.16.6.

Unfortunately, there were no facilities which could subject the unit to functional testing equivalent to that achieved by the ATE whilst it was in an humidity chamber. An attempt was made to measure the resistance between adjacent pins of the connector at ambient conditions (18°C/46%RH) and under conditions of about 94% RH at 35 to 40°C. Measurements of the ambient impedance values between adjacent pins were taken and the unit placed in a humidity chamber with a 'breakout' lead routed outside the chamber to measure the impedances under humid conditions.

As expected, there was a wide variation in impedance values, without exception the humid values were less than the ambient. The significance of these findings is, however, open to question when it is realised that the impedances measured are not simply those between adjacent pins of the connector. Since it was considered unwise at that stage to isolate the connector from the internal circuitry, the impedance values measured had to include those of the individual components and printed circuits of the Yaw Damper Coupler itself as well as the resistance between the
connector pins. Typically, impedances measured as greater than 30 Megohms in ambient conditions fell to fractions of a Megohm when placed in the chamber.

Since it was impossible to determine how much, if any, of the lost impedance was due to shorting between the connector pins, it was then decided to compare the performance of a known serviceable Yaw Damper Coupler under the same conditions to see whether the impedances were markedly different under humid conditions. Only certain selected pins on the latter were sampled under humid conditions. At ambient conditions, similar impedance readings were obtained between adjacent pins and, as expected, these values fell off markedly under humid conditions. In general, the results were similar to those measured on the incident Yaw Damper Coupler, with only a few, apparently random, occasions where the humid impedance of the spare unit was better by an order of magnitude.

1.16.6 Connector pin contamination testing

Connector D295, and the Yaw Damper Coupler lower closing panel, with the evidence of a dried fluid run on its inside face, were submitted to a specialist company of electrical research engineers for laboratory analysis. The focus of this effort was to determine the nature of the fluid contaminant and to confirm that electrical current had flowed between the
pins. It was considered that the latter would be proven if it could be established that the blue/green and white deposits seen around the wire-wrapping of the pins were the products of electrolysis as opposed to simple corrosion.

The chemical tests could only be conducted using an X-ray dispersive technique which can only detect the individual elements of a substance and cannot identify the compound which is constructed from these elements. Such a method will detect all elements present in the sample, such as those used in the construction of the connector, not just those from the contamination. Thus metals such as copper, gold, cadmium, nickel and zinc were present in nearly all the sampled areas along with a range of other elements, including chlorine, phosphorous, calcium and sulphur. Unfortunately, it was not possible to positively identify the nature of the contaminant fluid, despite comparing it with samples of toilet sanitising fluid used by the aircraft operator. This was largely because, although the specimens and the fluid samples both contained similar elements, it appears that samples of other common fluids found on aircraft, such as waste water and galley waste would yield similar results. An independent analysis conducted by the Boeing Company came to a similar conclusion with the additional observation that there were no signs of urea, which could be reasonably expected were the contaminant to contain toilet waste. During
dismantling of the connector, however, it was found that the contaminant had also penetrated between the two halves of the insulator block (Appendix 6, Figure 1b) as evidenced by dried stains. Also noted was the fact that none of the pins themselves seemed to have suffered from corrosive attack - the gold plating was intact and not pitted. However, when the pins were later sectioned, repolished and examined under high magnification small pits were identified beneath the gold plating.

Whilst contamination was observed on most of the pins to a greater or lesser degree, the blue/green and white deposits were mainly in evidence around the pins and wires in the top-left quadrant of the connector (viewed from the back). Some of these pins were found to be those which would carry 28V dc for the Yaw Damper engage circuitry and were therefore most likely to cause electrolysis of the contaminant to occur if partial short-circuiting did take place. Variations were found in the composition of the deposits on various pins, most notably on pin 4, which exhibited a strong chlorine peak as expected for negative ions in an electrolyte, and pin 14 which had strong sodium peaks. Pin 14 is at 0V when the Yaw Damper is turned OFF and pin 4 is at 28V. It was therefore concluded that electrolysis of some form of liquid contaminant containing sodium chloride (salt) had occurred and that current had flowed between the pins.
1.16.7 Generation of errant electrical paths in connector D295 (Appendix 1, Figs 1 & 2)

As considerable amounts of the products of electrolysis had been found at pins 4, 12 & 14 of connector D295 inside the Yaw Damper Coupler, consideration was given to how this might have caused bridging between pins leading to errant electrical paths, capable of sustaining Yaw Damper system engagement for 7 minutes after it was selected from ON to OFF. To establish the viability of such bridges required the formulation of a series of tests and trials based on conditions which other testing indicated to have existed.

The operation of the Yaw Damper system electrical engagement interlocks has been described in § 1.6.4, but the rationale for sustaining the engaged state even though the Yaw Damper engage switch was selected to OFF, the basis for formulation of the test series, can be summarised as follows:

1. For the Yaw Damper Actuator to be active, the solenoid valve on the rudder PCU must be held open to allow hydraulic pressure to the actuator. This required that sufficient voltage was present at the solenoid 'live' terminal to maintain it in the open position.
Tests on the Yaw Damper solenoid valve, when isolated from
the Yaw Damper system, indicated that the minimum current
for holding this valve in the 'active' position was 56 ma. and
about 3.2V was required to sustain this.

2 As the basic aircraft wiring tests showed no evidence of
insulation weaknesses in any of the Yaw Damper system wiring,
the electrical supply to activate the solenoid valve had to be
provided from the 'b' contacts of the relay k12 in the Autopilot
Accessory Unit.

3 For the 'b' contact supplying the PCU solenoid to be
'live', relay k12 had to remain activated.
Again, as there was no evidence of insulation weaknesses in any
of the Yaw Damper system wiring, the electrical supply to
activate the relay had to be supplied from pin 12 of the connector
D295 at the Yaw Damper Coupler.
Initial tests at the AAIB, showed that the voltage at pin 12 had
to rise above 18.7V to activate the relay k12 and remain above 18.4V to maintain relay engagement. Similar tests were made on a later occasion, with the whole Yaw Damper engagement system connected together complete with actuator valve solenoid. These showed that to activate relay k12 the voltage at pin 12 had to rise above 18.2V with a current of 17 ma. and remain above 17.8V with 10 to 11 ma to maintain engagement.

The maximum current that the relay would draw was about 40 ma when full aircraft dc voltage was applied. Pin 12 could be supplied from pin 14 through circuits within the Yaw Damper Coupler. In that event, the minimum voltage which would be required at pin 14 would imply a current of at least 380 ma flowing from pin 14.

With the 'b' contact supplying the PCU solenoid 'live', the voltage required to hold the solenoid in the open position had to be
present at pin 14.

5

If the Yaw Damper system was selected to OFF, pin 14 of connector D295 should be connected to 'aircraft earth' through contacts in the Yaw Damper engage switch. If any voltage was to be sustained at pin 14, the earth of the Yaw Damper switch would have to have had significant resistance.

6

Unintended dc supply to either pin 12 or pin 14, within connector D295, was judged to be viable only from pin 4; the other permanently 'live' dc pins, 8 and 57, being considered too remote. (Appendix 6, Figure 1) Dc supply to pin 4 was via a 5 amp circuit breaker; implying a minimum resistance of about 0.7 Ohms in the engage switch earth path if pin 14 were to sustain only about 3V but more if the voltage on pin 14 were allowed to rise.

In order to test the viability of such a mechanism, under
conditions most conducive to success, the series of tests on the subject aircraft using the breakout flylead (1.12.6) was extended into an electrolytic bridge growth trial. The techniques used and the scope of this 'ad hoc' trial were reviewed and amended as it progressed.

In this trial, the pins were represented by the two single strand copper conductors of a length of domestic power cable (2.5mm2), with their insulation cut back for about 1cm. The bare conductors were placed parallel separated by about 1mm for the preliminary tests, and for the later test at the same separation as the pins within D295 (0.1 inch). During this later test, to simulate the effect of the insulated wirewrap looming of the connector, a single short length of this wire was used as a non-conducting physical bridge between the two conductors. One of the copper strands was connected to pin 4 and the other to pin 12 of the breakout leads with meters connected to measure both voltage at pin 12 and current from pin 4 to pin 12. Normal operation of the engage system was checked at this point.

Two preliminary tests were done, with the electrodes only separated by about 1 mm, one using tap water and the second using a saline solution. To start electrolysis, the Yaw Damper engage switch was set to ON, the electrolyte placed between the conductors and the switch then set to OFF. In both cases, electrolysis started immediately the system was switched OFF. In the water
test however, although the current rose to the measured 'sustain' value, when the system was switched ON and OFF again, the electrolytic cell would not sustain engagement for more than a few seconds. With the saline solution, however, the current rose to the point where the relay k12 pulled into engagement and held, even though the system was not selected ON.

The electrodes were then reconfigured to the more realistic geometry, separated by 0.1 inch, with the insulated wire bridge. Having started the electrolysis with weak saline solution, as in the preliminary tests, the current rose to the 'sustain' level. The system was then switched ON and OFF again and the bridge maintained relay k12 closed. The current through the electrolytic cell continued to increase and finally peaked at about 40 ma, the potential drop across the cell being only 1.5V. No additional electrolyte was added from this point but the current remained stable at 40 ma for about 20 minutes.

In the preliminary tests the electrolyte was introduced as a drop of liquid which was suspended between the two conductors by wetting and surface tension. When the realistic separation of the pins was modelled the gap was too wide for this mechanism to be feasible but, with the insulated wire bridging between the two electrodes, the electrolyte clung to this bridge and the conductors and thus formed an electrolytic
bridge between the two. It was noted during the second test that the current increased as the electrolyte clinging to the bridging wire dried out. It remained stable for a long time when there was little apparent moisture bridging the gap between the electrodes.

Following this test, an attempt was made to support the complete Yaw Damper system through the electrolytic cell. Before doing this the engage switch earth was taken out of the circuitry by removing the flight control panel. The electrolytic bridge was re-established and then pins 4 & 12 were connected together with a conductor. Pins 12 & 14 were then connected and the connection between 4 & 12 removed. This left the electrolytic bridge supporting the currents to maintain the engagement of relay k12 and the solenoid shut-off valve. It was able to do this with little moisture apparent, supplying a current of approximately 300 ma for about 10 minutes; the current flow stopped abruptly, however, when the bridge dried out completely. Confirmation that the system had been active was demonstrated by operating the system test switch and observing appropriate rudder response.

Whilst these tests were being conducted, there was clear evidence of electrolysis occurring and deposits formed on the two electrodes which were similar to those found on pins 4 and 14 within connector D295. It was also noted that little obvious surface damage was
inflicted on the electrodes although closer inspection revealed that surface damage had occurred. The appearance of the bridge formed between the electrodes was blackish and appeared to be an oxidised copper film deposition.

Having demonstrated that electrolytic bridges, in particular those with limited moisture apparent, were able to maintain engagement of the system, with no earth path available through the engage switch OFF contacts, it was decided to attempt to generate electrolytically formed bridges between representative connector pins; first between correctly spaced pins and subsequently within a replica of connector D295. It was also decided to simulate a high resistance earth rather than no earth at the engage switch.

A comprehensive series of tests and experiments was formulated by the AAIB, the manufacturer and the operator jointly, and performed at the manufacturer's physical laboratories. The intent of the tests was to resolve whether it was possible to generate and maintain suitable pin to pin bridges without damaging the pins significantly more than those of connector D295 were observed to be. The sustained currents which it was considered essential to demonstrate in these tests were the minima established for the individual components of the Yaw Damper system and assuming an open circuit on the engage switch earth.
The preliminary tests of this series involved a large number of simple pin to pin bridges with specific electrolyte mixes which were done in two batches; the first using wet bath electrolyte bridges and the second using electrolyte drops on physical bridges of wirewrap wire. These tests were intended to establish the amount of damage which the pins sustained under the test conditions and, therefrom, the electrolyte most likely to have been involved. The electrolytes were those determined from the results of the earlier analysis on the connector performed by the specialist laboratory. These had shown the presence, amongst other elements, of chlorine, phosphorus and some sulphur, implying the presence of chloride, phosphate and sulphate ions.

These tests showed that if chlorine was a significant element in the electrolyte, its activity was so aggressive that the pins suffered far more severe damage than had been seen on the pins from the incident connector. However, both phosphate and sulphate ions were able to act as charge carriers without inflicting significant damage on the pins. It was also observed that, in the 'near-dry' bridges formed in the second batch of preliminary tests, copper, in some form, was deposited on physical bridge paths as they became dryer. It was noted, however, that where new insulated wiring was used to form physical bridges, it did not 'wet' readily and, consequently, it was difficult to achieve the electrolyte bridge necessary to start
the process of generating a stable pin to pin path.

As a result of the findings of these preliminary tests it was decided to proceed with tests on wirewrap connectors configured as nearly as possible identical to connector D295 from the incident aircraft; particular attention being given to the geometry of the wire wrapping around the pins of greatest interest. Having reviewed the possible scenarios for generation of conductive bridges and features noted in the initial tests, it was decided to attempt to form 'near-dry' conductive paths by two different methods one which was predominantly a steady slow generation process and the other a pulsed generation process. The 'slow' process was intended to imitate what might happen if power were left on the aircraft for about ten days, the approximate period that this condition was estimated to have existed during the P6 inspection, following a single run of contaminated fluid onto the connector followed by an afterdrip. The 'pulsed' method representing persistent slow dripping of contaminated fluid onto the connector throughout the same period.

The wirewrap wired connectors were artificially aged before testing to improve the tendency of the new insulated wires to be wetted. Each connector was, in turn, then used as part of the circuitry of a near complete Yaw Damper electrical system (the BITE and indicator circuits were not connected) so that it fed and
received power from the appropriate components, including the Yaw Damper Actuator solenoid. To do this the connector was installed in the middle of a fly?lead connection to the Yaw Damper Coupler and placed in an agreed controlled environment which attempted to emulate estimated conditions in the E&E Bay during the P6 check. The currents in and out of the relevant connector pins and their voltages relative to ground were continuously monitored and recorded throughout the attempts to grow the bridges as well as during the subsequent test phases. The resistance of the earth path on the OFF side of the Yaw Damper engage switch was initially very high but it was intended to reduce this if sustained 'hung' engagement was achieved. The method of initiating sustained hung engagement was agreed to be:- to engage the system normally, add a small amount of extra wetting to the connector and then switch OFF the system. The rationale behind this procedure was that it was only necessary to generate electrical paths capable of carrying enough current to sustain engagement but not to initiate it.

For the slow path growth, the conditioned connector was moistened, in the area of pins 4, 12 & 14, with a spray of composite contaminant consisting of 0.5% Sodium Chloride solution combined with 6% saturated solutions of Potassium Phosphate and Sodium Sulphate. Six hours later, the same area was rewetted using a micro-pipette. At the time of rewetting, the voltages on
pins 12 & 14 rose sharply, relay k12 activated and the solenoid pulled in. This caused the pin voltages to fall sharply, k12 then deactivated, the solenoid dropped out and the pin voltages then rose sharply again. This cycle persisted for about 23 minutes but stable solenoid engagement was not achieved. Following this episode the circuit was then left for about 10 days for the unwanted paths to develop without any further wettings. At the end of this period, the voltage on pin 12 resulting from leakage along the 'near-dry' bridge which had developed was not of the right order to hold the relay k12 in the activated state and an attempt to demonstrate hung engagement of the system failed. The area around pins 4, 12 & 14 was rewetted using a pipette but even after this, 'hung' engagement would not occur. A final attempt to produce conditions in which 'hung' engagement could be demonstrated was made by spraying the area of the pins. This lead to a wet path short circuit between the 115V ac resident on pin 2 and the earth pin 3 which rendered this connector useless for further testing.

Post-test examination of this connector showed that much of the electrolytic activity had been taking place between pin 4 and its two adjacent earths at pins 3 and 5 rather than the intended activity between pin 4 and pins 12 & 14. It was also observed that, ignoring the damage caused by the final wet short circuit, the damage inflicted on pin 4 by the electrolytic activity was
considerably greater than had been seen on the incident connector.

For the pulsed path growth, a good sized drop of fairly clean water (provided from Gatwick) was dropped onto the pin 4, 12 & 14 area of the connector for three days and then a 50/50 mix of this water with the solution used in the slow growth experiment was applied twice daily for the remainder of the 10 days. Attempts were then made to induce 'hung' engagement, with a series of rewettings being performed, and the assembly left with power applied to achieve a subsequent 'slow' bridge growth several times. Although short periods of 'hung' engagement were observed, the longest being 28 seconds, several periods of rapid cycling of relay k12 occurred. Examination of the connector after testing again revealed much greater pin damage than in the incident connector and evidence of copper deposition between the pins.

1.16.8 E&E Bay Assessment Team

Arising from concern that fluid contamination might be more widespread than they were aware, Boeing launched an 'E&E Bay Assessment Team' initiative in January 1996. In addition to a large number of Boeing personnel, airlines and vendors were co-opted and canvassed for their experience with this problem.

The terms of reference of the team were; 'To develop
recommendations that when implemented will preclude liquid leakage and contamination within the E&E Bay from having an adverse effect on the equipment/systems'. The team's strategy was essentially to define the scope of the problem, and to attempt to see whether individual operator experience and aircraft build/modification standard might give clues as to which modifications or operator practices were effective in minimising E&E Bay contamination.

The team's findings and recommendations were extensive, reflecting the very large number of manhours spent in producing the report. Much of the report deals with detail improvements both to hardware and maintenance practices. As an example of the latter, the team found that many airlines treated water/waste system components as 'on-condition' items and recommended that periodic inspection and overhaul should be performed.

In general, however, the team found a wide variation in operator experience but the findings may have been influenced by a lack of appreciation by some operators that they had an E&E Bay fluid contamination problem. For example, one aircraft showed a history of a particular item of avionics equipment being returned from the repair shop repeatedly with reports of fluid contamination over a period of four months. Clearly the operator had failed to make the connection between the high removal rate of this component and a
persistent leak somewhere in the aircraft. Equally so, there was variation in operator expectation regarding the condition of the underfloor area, with some, including the operator of G?BGJI, apparently accepting that evidence of blue staining is inevitable after a few years in-service whilst others managed to achieve high standards of cleanliness.

This underlines the report's conclusion that most problems with E& E Bay contamination '....related to aircraft maintenance and servicing, rather than how components are originally designed and installed". The report also "....did not uncover any evidence that a specific fluid leakage event will produce a near term, unexpected, aircraft flight path deviation.'

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1.17 Organisational and management information

None relevant.

1.18 Additional information

1.18.1 Aircraft manufacturer's Operational Bulletin

On 4 August 1995, the aircraft manufacturer issued an Operational Bulletin detailing the 'Uncommanded Yaw or Roll Procedure'. The procedure is reproduced below and the full contents of the Bulletin is at
UNCOMMANDED YAW OR ROLL

Accomplish this procedure if uncommanded yaw or roll occurs in flight.

AUTOPilot (if engaged) .............

DISENGAGE

The pilot should be prepared to make control wheel corrections to return to wings level upon disengagement. The autopilot may be putting in an appropriate correction for an uncommanded yaw or roll. Allowing the control wheel to go to neutral after disengagement may allow the aircraft to roll even more.

If yaw and/or roll forces continue:

YAW DAMPER SWITCH ......................

OFF

The YAW DAMPER Light illuminates when the yaw damper is disengaged.
If it is confirmed that the autopilot is not the cause of the uncommanded yaw or roll, the autopilot may be re-engaged at the pilot’s discretion.

1.19 Useful or effective investigative techniques

None new.

2 Analysis

2.1 General

The uncommanded roll activity experienced during this incident was unusual. The flight crew carried out the correct initial actions, as defined by the manufacturer earlier in 1995. These actions were intended as part of a memory recall drill in the event of an uncommanded yaw or roll occurring in flight. The initial action was to disengage the Autopilot, while being prepared to make control wheel corrections to return the aircraft to wings level upon disengagement, as the Autopilot may have been putting in an appropriate correction for an uncommanded roll or yaw induced roll. In this case, after Autopilot disengagement, the roll oscillations continued despite the best efforts of the crew to control the aircraft using opposite roll inputs. The next item in the sequence (if the roll/yaw continues) was to select the Yaw Damper switch, which is located on the overhead panel just above the
Captain's head, to OFF. During the post-incident debrief, the crew stated that the Yaw Damper had been switched OFF at the time in accordance with the procedure, but again this had no noticeable effect on the roll/yaw motion being experienced. With two pilots making individual attempts at reducing the oscillation in sequence, and with a handover occurring between the two, it is most unlikely that the continuation of the oscillation was a result of 'pilot coupling' with the aircraft, inducing the motion, without some form of additional input from an aircraft control system.

With the Autopilot removed from the control loop and the Yaw Damper manually switched off, then all of the flight controls should have been in the hydraulically actuated/mechanically signalled state, with pilot inputs causing essentially linear control responses at the elevators, ailerons and rudder. In this basic configuration, there should have been no mechanism for an oscillation to continue. The fact that it did so meant that the flight crew were initially somewhat alarmed and unsure as to the precise nature of their situation. The possibility of the Yaw Damper system remaining active after its control switch on the overhead panel had been switched OFF had never been considered as a possible scenario by the aircraft manufacturer.

During this investigation, some consideration was given to
the possibility that the crew may have misidentified the Yaw Damper ON/OFF switch and operated some other switch. The switches adjacent on the same overhead panel are shown diagramatically in Appendix 1. The majority of these switches have lift-flap type, guard covers. Of the remainder, there is no other switch on this panel which, when switched off, would produce a FLIGHT CONTROLS amber warning caption on the Master Caution system. The flight crew recalled that this amber Master Caution caption was illuminated during the pre-landing checklist completion at the Master Caution recall check and that the commander switched the Yaw Damper back on at that time. He sensed a further roll/yaw disturbance and so switched it OFF again prior to landing. It was not possible to confirm, from the DFDR, when these switch selections had been made.

2.2 M-Cab simulator analysis

From the M-Cab simulator testing it was possible to conclude that shunt resistances between combinations of pins in the Yaw Damper Coupler connector could cause an aircraft response similar to that experienced by G-BGJI during the incident. Initially a shunt resistance of at least 300 K Ohms between pins 40 to 51 would have caused the small oscillations that were seen prior to and post the large oscillations. Similar oscillations were detectable on the QAR data from flights prior to the maintenance activity
which could be caused by a shunt, or due indeed to the Yaw Damper being disengaged. The effect of this shunt was to reduce the ability of the Yaw Damper Coupler to provide control, and so the response of the aircraft was similar to the Yaw Damper disengaged case.

However, when a resistance of at least 230 Kilohms was applied between pins 37 to 38 and 40 to 51, the aircraft immediately would have started to experience the large oscillations. It can be concluded that the pin 40 to 51 shunt resistance may have been an incipient problem, the only symptoms of which were to produce aircraft behaviour consistent with the Yaw Damper being disengaged. However when a shunt resistance appeared between pins 37 and 38, in conjunction with the pre-existing condition, the Yaw Damper system would immediately start to drive the Dutch Roll mode, and the aircraft would respond accordingly with the rolling/yawing motion seen during the incident.

2.3 Continued engagement of Yaw Damper system

Analysis of the aircraft's flightpath, from the recorded Flight Data, showed that its aberrant motion was consistent, in form and frequency, with a fairly constant amplitude 'Dutch Roll' motion. Because the aircraft type has a naturally damped 'Dutch Roll' mode, this indicated that the motion was being forced. This conclusion directed attention to the Yaw Damper system
early in the investigation.

The occurrence of unstable Yaw Damper characteristics should not have been a continuing problem if the system had been switched OFF. Since the crew recollection was that they had selected it OFF early in the sequence of events following the onset of the aberrant behaviour (ref; §2.1), it was necessary to investigate if and how it might be possible for the system to remain active when selected OFF.

Critical analysis of the Yaw Damper system (Appendix 1) had shown that, in addition to the two faults required to destabilise it (see §2.2), two further stray connections had to be made to keep it engaged when switched off; one supplying dc power to relay k12 in the Autopilot Accessory Unit and the other supplying dc power to the engage solenoid valve. Furthermore, it required the earth path attached to the OFF terminal of the Yaw Damper engage switch to have considerable resistance if the 28V dc supply circuit breaker were not to trip.

The physical evidence of liquid ingress into the connector D295 in the Yaw Damper Coupler module and the fact that this connector appeared to be the only single place where all the necessary stray connections and reduced resistances could be made, further focused the investigation onto this connector. The evidence of fluid ingress did not indicate that the whole connector had been
affected but only a few pins. However, the contaminated pins included those indicated by the M-Cab analysis to be critical. The analysis made of the contaminants observed within the connector showed that some electrolytic activity had taken place there; an undesirable state of affairs even if it were not to give rise to instability or loss of control of the Yaw Damper system.

The tests on the aircraft using breakout flyleads (1.12.7) confirmed the analysis that in order for the Yaw Damper System to remain engaged due to stray connections at connector D295, after it had been switched OFF, the interlock relay k12 in the Autopilot Accessory Unit had to remain made. Furthermore, sufficient current had to continue to flow through the contacts 'b', of this relay, and the solenoid of the Yaw Damper Actuator solenoid valve, in order to hold this valve in the 'active' position. These tests also confirmed that the OFF terminal earth path of the Yaw Damper engage switch had to have significantly raised resistance, if the necessary stray connections to engage the system were not to cause the 28V dc circuit breaker to trip.

To get these conditions to occur due to stray connections at connector D295 required that current paths became available from pin 4, which carries dc power directly from the system circuit breaker, to pin 12, to keep the engage relay k12 activated, and to pin 14, to
supply the actuator solenoid valve. It can be seen, in the diagram of connector D295 at Appendix 6, Figure 1, that the pins 4, 12 & 14, are grouped together. Furthermore, these pins showed evidence of contamination and local electrolytic activity.

A scenario was postulated that, if contaminated water got into the wire wrapping at the back of the plug unit of the Yaw Damper Coupler (D295), an electrolytically driven process might generate electrically conductive paths from pin 4 to both pins 12 & 14.

For electrolysis to have taken place, the presence of 28V dc on pin 4 was required, which would be true whenever the dc bus was live. It would also have required paths to earth to exist from pins 12 & 14; from pin 12 via the k12 relay coil and from pin 14 via the engage switch earth path or, if this were open circuit, through the solenoid valve coil after k12 relay had been activated. If dc power were available on the bus and the Yaw Damper selected ON, pins 12 & 14 would also be at 28V dc and so the conditions for the electrolysis to take place would not exist. It is, therefore, only when the dc bus is live and the Yaw Damper selected OFF that the right conditions can exist.

The electrical system status for it to be possible to lay down the requisite conductive paths by this kind of mechanism had been available as the aircraft had just been on a major check during which it spent many
days with dc power live but the Yaw Damper switched OFF. However, the physical conditions and the effect of the connector's history, over the 17 years it had been in service, were recognised as potentially important in influencing the likelihood of a path forming. Another unquantifiable influence was the unique lie of the wirewrap wires between the pins of the connector which could be seen to affect the likelihood of damp paths between the relevant pins being a possibility.

When the Yaw Damper is switched off, the electrical paths to earth which exist, by design, from pins 12 & 14 are fundamentally different. That from pin 12 is through the (k12) engage relay coil and the time delay circuits in the Autopilot Accessory Unit, which limit the maximum current to about 40 ma even when full aircraft dc voltage is applied. By contrast, the earth path from pin 14 is through the engage switch OFF contact which should be a dead short to aircraft earth and effectively maintain pin 14 at aircraft earth potential whenever the switch is selected to OFF.

This difference was reflected in the relative ease of generating effective stray paths during test. The natural current limiting characteristics of the relay k12 coil circuits meant that the stray path between pins 4 & 12 was only required to carry a maximum of 40 ma and to have sufficiently low resistance to maintain at least 18.2V at pin 12.
The path to pin 14, however, had to be able to satisfy a more demanding role, one affected by both its own resistance and the resistance of the engage switch earth path. As an absolute minimum, on the assumption that the engage switch earth path was close to being an open circuit, the 4 to 14 path had to be capable of carrying 60 ma whilst dropping the voltage to 3.2V dc at pin 14, to keep the solenoid valve energised. The lower the resistance of the pin 4 to 14 stray path, the higher the voltage at pin 14 and consequently an increased current flow through the solenoid so the more robust the stray path would need to be.

The minimum permissible resistance of the engage switch earth path would have be about 0.7 Ohms if pin 14 were to sustain only about 3V as the dc supply to pin 4 was via a 5 amp circuit breaker. However, if the voltage on pin 14 were to be higher, the resistance at the engage switch earth path would also have to be higher in order to limit the total current to 5 amps, the capacity of the circuit breaker which did not trip on the incident flight. In order to reduce the current flow through the stray connection, 5 amps demanding a very robust path, the resistance at the engage switch earth path would need to have been higher still.

Therefore, a very particular set of circumstances had to
pertain for a stray path to develop between pins 4 and 14 capable of supplying the 'hold on' voltage and current requirements of the Yaw Damper Actuator solenoid valve without the 5 amp circuit breaker tripping. For the 4 to 14 path to develop at the same time as the 4 to 12 path, the engage switch earth path had to be sufficiently resistive to restrict the total current and be sufficiently conductive enough to allow the electrolytic formation of the path. If the engage switch earth path were open circuit, formation of the 4 to 14 path could not occur until a sufficiently robust path had been generated between pins 4 & 12 for the k12 relay to have pulled in without being selected.

The basic aircraft wiring integrity testing had not revealed any relevant discrepancies of continuity or isolation except the persistent existence of a relatively high resistance (about 2 Ohms) at the earth contacts of the engage switch. During the course of testing, this resistance was established to be associated only with the Flight Controls module which was fitted during the incident flight. This indicated that it was possible that a raised switch earth resistance had existed at the time of the incident. Detailed examination of the module wiring and the switch itself indicated neither evidence of undue contact or joint resistance nor a possible explanation for it, beyond the presence of some deposits around the micro switch contacts but these were not confirmation of an open circuit. However, the switch had been functioned an
indeterminate number of times since the incident with an unquantifiable effect.

The Yaw Damper system had to be positively engaged by the crew, as part of the pre-flight checks. It can be inferred that if the stray paths to pins 12 & 14 existed at that time, they were not sufficiently conductive to cause the system to engage itself and thus extinguish the warning light. The crew would have been expecting to energise the system and its being live without being selected should have been noticed and, if so, would have been a matter of concern. If, however, the stray paths had developed to the point where once the Yaw Damper was engaged, they were sufficiently robust to sustain the requisite voltage and current combinations at pins 12 & 14 (see 1.16.7) to maintain engagement, they could have been exploited when the crew selected the system OFF.

The experimentation and tests, using both plain copper conductors and gold plated pins as used in D295, showed that it was relatively easy to form an electrolytic current path capable of sustaining the currents needed to keep the Yaw Damper system engaged. It was observed, however, that the degree of damage sustained, particularly by the pins, was considerably more severe than that suffered by the pins of the incident Yaw Damper connector. This indicated that pure electrolytic conduction of the stray currents needed to keep the system engaged had not been a potential mechanism
for causing this incident.

The experimentation was, therefore, focused on developing, what were called 'near-dry', current bridges which were, in effect, attempts to see if it was possible to lay down a basic metallic current path using phosphate and sulphate ions as charge carriers; rather than chlorides which were chemically too aggressive to leave the pins of the connector as little damaged as was found in the incident connector.

The current carrying capacity of those paths and the voltages which had to be sustained at the pins were specific to the units of the system which were installed at the time of the incident. The tests done on the aircraft system to prove which stray connections were needed had shown that actuator solenoids, in particular, could vary considerably in their voltage and current demands for the 'held on' condition. The tests to see if it was possible to reproduce any 'hold on' condition were, therefore, conducted using the components fitted to the aircraft at the time of the incident.

When looking at the attempts to introduce the necessary stray connections into a representatively wired up connector, it was seen that none could be classified as successful, in the sense that the Yaw Damper system did not remain solidly engaged after being selected OFF, although some type of stray connection had clearly formed.
In summary, the experiments demonstrated that it might be possible to generate stray current paths capable of sustaining engagement of the Yaw Damper system when selected to OFF, but only in the presence of a high resistance in the engage switch earth path. Although the evidence was tenuous, the possibility that such a resistance was present during the incident flight cannot be discounted.

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2.4 Possible sources of connector contamination

The nature of the deposits observed on the Yaw Damper Coupler connector pins appeared to be relatively long term, almost certainly pre-dating the P6 check activity. As such, it was highly unlikely that the investigation and testing would reveal a contamination source from that period and indeed none was found. The only evidence indicating a fluid path into the connector was the whitish dried deposit on the connector shell, suggesting a very particular localised drip (as opposed to a more general soaking of the unit). The tray in which the Yaw Damper Coupler was located bore no signs of any contamination although its mating connector did have some of the dried residue similar to that found on the Yaw Damper Coupler connector, indicating that the two were joined at the time of the contamination. The Technical
Log entry in March 1995 indicating a leak in the toilet handbasin drain may be relevant, but for the same reasons discussed below, moisture should still have been prevented from contaminating the E1 rack.

Attempts to analytically determine the origin of the deposits were unsuccessful. The conclusion in §1.16.6 that electrolysis of a solution containing sodium chloride had definitely occurred, whilst demonstrating the passage of current, did not assist in identifying the contaminant since this is obviously such a common substance and could have come from almost any source.

The scenario connecting the incident to the connector contamination requires a further source of moisture nearer to the time of the incident to activate the electrical 'bridge' between the pins. Chemical analysis of the dried deposits did not point towards any particular source of fluid and, although some defects were found in the wet systems of the aircraft, these systems were essentially non-functional and drained during the incident flight. The weather was dry whilst the aircraft was outside the hangar preparing for the flight.

It would appear that for any fluid leak to drip onto the subject connector, it is necessary to penetrate the rubberised fabric shroud which is fitted above it. Once through this, it may drip onto the cooling plenum, whose forward lip coincides with the array of connectors at the back of each unit on the E1 rack, particularly the Yaw
Damper Coupler which is at the top. The evidence of a dried fluid run on the upper and lower surfaces of the plenum was of interest because it did indeed correspond to the centreline of the Yaw Damper Coupler but there was no indication of a leak in the shroud at the location from where the run appeared to originate. Notwithstanding this, G-BGJI's operator has developed a modification which puts an aluminium tray between the plenum and the shroud which completely covers the forward face of the E1 rack thus preventing any fluid which penetrates the shroud from dripping onto the connectors. A Boeing modification to achieve a similar standard of protection already existed but was not applicable to aircraft fitted with airstairs.

The E&E Bay Assessment Team were not specifically tasked with finding the cause of contamination which caused this incident but it formed part of their statistics and the operator of G-BGJI was one of the airlines whose procedures and aircraft were examined, after the operator had conducted their own internal checks. As mentioned in 1.16.8, the team generally found that occasional E&E Bay contamination was an accepted fact-of-life by many airlines. This appeared to be the case at the operator's Gatwick facility, where the condition of aircraft after a few years service following a P6 check, both by physical examination and discussion with the technicians, was expected to show signs of the characteristic blue staining of
toilet sanitising fluid under the floor area. G-BGJI's operator did not necessarily regard water/waste system components as 'on-condition' as they were generally overhauled or renewed at each P6 check, but this represents 5 years service of systems which are often troublesome and prone to abuse. This incident led the operator to review all aspects of E&E Bay protection and maintenance practices and it might be speculated that other airlines would be well advised to do the same rather than wait until they, too, have an in-flight incident. By its nature, a contamination event is unpredictable as is demonstrated by this incident. It is unlikely that anyone could have foreseen the dramatic effect that contamination of the connector had on the behaviour of the aircraft.

The following recommendations were made in January 1996:

It is recommended that the FAA:

1) Require as soon as practical a visual inspection of all Boeing 737 aircraft Electrical and Equipment (E&E) Bays to check for fluid ingress into avionics components, their connectors and associated wiring. Such inspection should involve the minimum disturbance of equipment and connectors commensurate with a thorough examination for contamination. Where such contamination is found, the component should be removed and despatched to workshops for
examination.

2) Require as soon as practical an inspection of the area in and around the E&E Bay for evidence on the structure and fittings of recent fluid leakage such as wet corrosion, staining and crystallised deposits. Such evidence should be investigated to ensure that, where the source of the leak is not apparent or readily rectifiable, no potential exists for it to impinge upon the avionics components, their connectors or wiring.

(Recommendation 96-3)

It is also recommended that the FAA and Boeing:

3) Conduct an urgent review of the measures incorporated into the Boeing 737 to prevent fluid ingress into the E&E Bay, its equipment, connectors and wiring and as necessary require modifications to ensure that the equipment, connectors and wiring are provided with protection consistent with reliable operation.

4) Conduct a review of the Aircraft Maintenance Manual to ensure that clear and specific instructions are contained therein to enable evidence of fluid ingress, even if not apparently directly impinging on electrical equipment, to be identified during routine maintenance. It should also be ascertained that any routine testing for leaks in the toilet, galley and airstairs systems
should be done with the systems functioning fully throughout their normal operational cycle to ensure that any leaks which only occur during, for example, draining or replenishment cycles are detected.

(Recommendation 96-4)

It is accepted that the findings of the E&E Bay review team identified differing maintenance practices as being highly significant in determining the in-service condition of the E&E Bay and its associated avionics components, their connectors and wiring. However, the location of the bay, below the cabin floor in areas susceptible to fluid leaks from toilets, galleys and aircraft doors does make the bay unnecessarily vulnerable. Although the chances of fluid contamination directly affecting aircraft handling, as in this case, would appear to be a most unlikely outcome, the wetting of sensitive avionics equipment will undoubtedly lead to unserviceabilities. This will become of more significance as aircraft continue to develop an increased dependence on electronic equipment. The location of the E&E Bay was undoubtedly arrived at following a variety of design considerations but in modern aircraft is possibly based on historic precedent as much as current design constraints.

It is therefore further recommended that:

The Boeing Airplane Company promulgate the findings of
the E&E Bay Assessment Team to all operators and that the recommendations be actioned through Service Bulletins to maximise the protection from fluid ingress of bay housed electronic components in current aircraft.

(Recommendation 97-60)

The CAA with the FAA review FARs and JARs with a view to requiring that the location of electronic equipment be arranged during the aircraft design so as to minimise the potential for contamination by fluid ingress, with the intention of ensuring that the equipment, connectors and wiring are provided with protection consistent with reliable operation less heavily dependant on maintenance practices.

(Recommendation 97-61)

3 Conclusions

(a) Findings

1  The crew members were properly licensed, medically fit, adequately rested and technically qualified to conduct the test flight.

2
The aircraft was on a test flight before being returned to line service following a scheduled major (P6) service and was operating within the normal limits of weight and centre of gravity.

3 The aircraft was being operated within the normal flight envelope at the time of the incident, using the Autopilot and Autothrottle systems and with the Yaw Damper system engaged.

4 The aircraft entered a cyclic oscillation in roll and yaw which was consistent with a critically damped Dutch Roll motion and persisted for seven minutes. The aircraft type has natural positive damping of the Dutch Roll mode.

5 The crew's initial actions, as they recalled them, of disconnecting the Autopilot and Autothrottle, and switching OFF the Yaw Damper were in accordance with the manufacturer's recommended procedure.
The commander's decision to issue a MAYDAY call in response to the incident was appropriate.

7 The ATC response to the MAYDAY call was timely, helpful and appropriate.

8 The crew's decision to conduct a low speed handling check to determine a suitable configuration in which to carry out a landing demonstrated good airmanship.

9 The decision to maintain the Flap 15\textdegree, landing gear down configuration for the return to London Gatwick was judicious.

10 The decision to re-engage the Yaw Damper system during the final approach sequence was unwise, but the system was switched OFF once again prior to landing.

11 The main rudder PCU had been replaced but in all other respects the rudder/Yaw Damper system components were the same as those fitted prior to the check.
After the incident, all components (mechanical, electrical and electronic) capable of affecting rudder movement were tested and none was found to be significantly out of specification.

From the M-Cab simulator testing it was possible to conclude that shunt resistances, simulating the effect of fluid ingress, between combinations of pins in the Yaw Damper Coupler connector could cause an aircraft response similar to that experienced during the incident.

The Yaw Damper Coupler had not been overhauled during its life and had run 17 years and about 34,000 hours without any recorded defects.

Examination of the aircraft's Technical Log did not reveal entries related to Yaw Damper defects during the last two years.
No component defects were found in the Yaw Damper Coupler apart from those on the connector D295.

17 The portion of the connector D295 on the outside of the Yaw Damper Coupler enclosure had evidence of liquid spillage onto it.

18 Despite various attempts it was not possible to analyse the contaminant and hence identify its origin.

19 There was a considerable build up of products of corrosion and electrolysis between pins of the connector D295, within the Yaw Damper Coupler enclosure.

20 The nature of the deposits observed on the Yaw Damper Coupler connector pins appeared similar to those produced when attempting to create stray electrical paths.

21 The pins most affected by these deposits were related to the 28V dc power supply and the circuits involved in activation of
the Yaw Damper system.

22 The scenario connecting the incident to the connector contamination, requires a further source of moisture nearer to the time of the incident to activate the electrical 'bridge' between the pins but no such source of moisture was identified.

23 The airframe wiring affecting the Yaw Damper circuits was found not to have any deficiencies.

24 Tests using a 'breakout fly-lead' confirmed theoretical analysis that it was possible to maintain engagement of the Yaw Damper system after it had been switched OFF by introducing stray connections between pins within the Yaw Damper Coupler connector (D295) but only if the engage switch OFF earth was high resistance or open circuit.

25 Experimentation demonstrated that possibilities existed to
build the necessary stray connections to achieve continued
Yaw Damper engagement after it had been selected OFF.

26
The experimentation demonstrated that it was very difficult to generate robust stray connections between pins of connector D295 without causing more severe damage to the pins than had been observed on the unit involved in the incident.

27
None of the experimentally produced stray connections with appropriately damaged pins was sufficiently robust to sustain continuing Yaw Damper engagement after it had been selected OFF.

28
There was little chance of finding evidence that a source of moisture existed in the past, as the electronic units in the E&E Bay (including the Yaw Damper Coupler) were removed and the E&E Bay and structure immediately above it were cleaned.
or replaced during the P6 check.

29

Visual inspection of the structure was carried out and evidence from the technical records along with the recollections of the individuals involved indicated that the degree of corrosion found and rectified was typical of any aircraft on such a check and there were no indications of any abnormalities which may have indicated heavy fluid contamination.

30

The E&E Bay was vulnerable to fluid leaks because it housed the forward airstairs, was located immediately below the main entry vestibule and forward galley and just aft of the forward toilet.

31

Examination of the aircraft technical documents only revealed one entry relating to a fluid leak capable of affecting the E&E Bay, dated 5 March 1995, when a leak was traced to the forward toilet sink drain.
The E&E Bay Assessment Team's findings and recommendations were extensive and identified detailed improvements both to hardware and maintenance practices to maintain a desirable environment in the bay.

(b) Causal factors

The investigation identified the following causal factors:

1. Contamination of the connector on the Yaw Damper Coupler, in the E&E Bay, by an unidentified fluid had occurred at some time prior to the incident flight and compromised the function of its pin to pin insulation.

2. Sufficiently conductive contaminant paths between certain adjacent pins had affected the phase and magnitude of the signals transmitted to the Yaw Damper Actuator, thereby stimulating a forced Dutch Roll mode of the aircraft.

3
The location of the E&E Bay, beneath the cabin floor in the area of the aircraft doors, galleys and toilets made it vulnerable to fluid ingress from a variety of sources.

4 The crew actions immediately following the onset of the Dutch Roll oscillations did not result in the disengagement of the malfunctioning Yaw Damper system.

4 Safety recommendations

4.1 It is recommended that the FAA:

1) Require as soon as practical a visual inspection of all Boeing 737 aircraft Electrical and Equipment (E&E) Bays to check for fluid ingress into avionics components, their connectors and associated wiring. Such inspection should involve the minimum disturbance of equipment and connectors commensurate with a thorough examination for contamination. Where such contamination is found, the component should be removed and despatched to workshops for examination.

2) Require as soon as practical an inspection of the area in and around the E&E Bay for evidence on the structure and
fittings of recent fluid leakage such as wet corrosion, staining and crystallised deposits. Such evidence should be investigated to ensure that, where the source of the leak is not apparent or readily rectifiable, no potential exists for it to impinge upon the avionics components, their connectors or wiring.

(Recommendation 96-3)

4.2 It is recommended that the FAA and Boeing:

3) Conduct an urgent review of the measures incorporated into the Boeing 737 to prevent fluid ingress into the E&E Bay, its equipment, connectors and wiring and as necessary require modifications to ensure that the equipment, connectors and wiring are provided with protection consistent with reliable operation.

4) Conduct a review of the Aircraft Maintenance Manual to ensure that clear and specific instructions are contained therein to enable evidence of fluid ingress, even if not apparently directly impinging on electrical equipment, to be identified during routine maintenance. It should also be ascertained that any routine testing for leaks in the toilet, galley and airstairs systems should be done with the systems functioning fully throughout their normal operational cycle to ensure that any leaks which only occur during, for example, draining or replenishment cycles are detected.
(Recommendation 96-4)

It is further recommended that:

4.3 The Boeing Airplane Company promulgate the findings of the E&E Bay Assessment Team to all operators and that the recommendations be actioned through Service Bulletins to maximise the protection from fluid ingress of bay housed electronic components in current aircraft.

(Recommendation 97-60)

4.4 The CAA with the FAA review FARs and JARs with a view to requiring that the location of electronic equipment be arranged during the aircraft design so as to minimise the potential for contamination by fluid ingress, with the intention of ensuring that the equipment, connectors and wiring are provided with protection consistent with reliable operation less heavily dependant on maintenance practices.

(Recommendation 97-61)

D F King
From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: Close calls

> >>>>>>ACCESSION NUMBER : 372451
> >>>>>>DATE OF OCCURRENCE : 9706
> >>>>>>REPORTED BY : FLC; ; ; ;
> >>>>>>PERSONS FUNCTIONS : FLC,SO;
  FLC,PIC,CAPT; FLC,FO; MISC,CENR;
> >>>>>>ARTCC,RDR;
> >>>>>>FLIGHT CONDITIONS : VMC
> >>>>>>REFERENCE FACILITY ID : PHL
FACILITY STATE : PA
FACILITY TYPE : ARTCC;
FACILITY IDENTIFIER : ZDC;
AIRCRAFT TYPE : WDB;
ANOMALY DESCRIPTIONS : ACFT EQUIPMENT PROBLEM/Critical;
ANOMALY DETECTOR : COCKPIT/FLC; COCKPIT/EQUIPMENT;
ANOMALY RESOLUTION : NOT RESOLVED/UNABLE;
ANOMALY CONSEQUENCES : ACFT DAMAGED;
NARRATIVE : BEFORE A SCHEDULED PHL-SDF FLT, I COMPLETED ALL PREFLT CHKS WITH NO ABNORMALITIES, AND STARTED MY PREFLT WALKAROUND APPROX 20 MINS PRIOR TO SCHEDULED DEP TIME. AT THIS TIME, ALL CARGO DOORS HAD BEEN CLOSED. THE MAIN DECK (L SIDE OF ACFT AFT OF WING) CAN ONLY BE CLOSED BY THE FE OR A MECH. I NOTED NO ABNORMALITIES DURING THE WALKAROUND.
WE BLOCKED OUT NEAR SCHEDULED DEP TIME AND DEPARTED WITHOUT INCIDENT.
IT IS IMPORTANT TO NOTE THAT FOLLOWING THE WALKAROUND THE FE INSPECTS THE MAIN CARGO DECK JUST AFTER THE WALKAROUND (OR AFTER THE MECH HAS CLOSED THE MAIN)
CARGO DECK AS IN THIS CASE), AND CLOSES THE DOOR. THEN THE DOOR CTL PANEL
> >>>>>>IS CHKED TO VERIFY THAT ALL 4 DOOR LATCH LIGHTS ARE EXTINGUISHED, AND THAT
> >>>>>>THE LEVER LATCH, WHICH REMOVES PWR FROM THE DOOR MECHANISM AND CLOSES THE
> >>>>>>NEGATIVE PRESSURE RELIEF DOORS, IS DOWN. I CHKED THE PANEL AND LATCH, AND
> >>>>>>THEY WERE NORMAL. I THEN WENT BACK UP TO THE COCKPIT AND TOOK THE
> >>>>>>COMPLETED
> >>>>>>COPY OF THE LOAD MANIFEST (AFTER BEING SIGNED BY THE CAPT) TO A LOADER,
> >>>>>>CLOSED THE MAIN ENTRY DOOR, AND RETURNED TO THE COCKPIT. THEN I TESTED THE
> >>>>>>DOOR LIGHT PANEL VERIFYING THAT ALL DOORS WERE INDEED CLOSED AND
> >>>>>>LOCKED AND
> >>>>>>WE FINISHED THE BEFORE START CHKLIST, AND DEPARTED NORMALLY. THINGS WERE
> >>>>>>NORMAL (INCLUDING THE POOR CLB PERFORMANCE OF THE DASH 100 SERIES) UNTIL
> >>>>>>ACCELERATING TO 320 KIAS THROUGH 10000 FT, WHEN THE CAPT COMMENTED THAT
> >>>>>>OVER 2 UNITS OF R RUDDER TRIM WERE REQUIRED. I THEN VERIFIED THAT FLAPS
> >>>>>>WERE INDEED UP, AS WELL AS LEADING EDGE DEVICES (ALREADY DONE IN AFTER
> >>>>>>TKOF
> >>>>>>CHKLIST), GEAR DOORS, CARGO DOORS. I ALSO CHKED THE CTL POS INDICATOR AND
> >>>>>>EVERYTHING APPEARED NORMAL. THEN, CLBING THROUGH FL240, I NOTED THAT THE
> >>>>>>ABIN WAS CLBING THROUGH 6000 FT (WHICH WAS THE PRESELECTED CABIN ALT FOR
FL350 CRUISE). I ADVISED THE CAPT OF THE SIT AND TOLD HIM THAT I WOULD
PERFORM THE 'UNSCHEDULED CABIN ALT CHKLIST,' WHICH INVOLVES VERIFYING THAT
THERE IS SUFFICIENT DUCT PRESSURE IN THE PNEUMATIC MANIFOLD (WHICH THERE
WAS), AND THAT THE OUTFLOW VALVES AND ACFT DOORS ARE CLOSED (THEY WERE).
CLBING THROUGH FL320, THE CABIN WAS APCHING 8500 FT, AND I ADVISED THE
CAPT THAT WE WOULD EXCEED 10000 FT SHORTLY AND THAT WE MAY NEED TO DSND
IMMEDIATELY. WE GOT A CLRNC TO FL280, AND CRESTING AT FL340 THE CABIN
REACHED 9800 FT AND THEN STARTED DSNDING. WE WERE ABLE TO KEEP THE
CABIN AT 8500 FT AT FL280 AND COMPLETED THE FLT WITHOUT INCIDENT. AFTER LNDG I
 ADVISED MAINT TO MEET THE ACFT AND VISUALLY CHK ALL DOORS BEFORE LOADERS
OPENED THEM. PARKING AT THE BLOCKS A MECH ASKED US TO KEEP #4 ENG RUNNING,
AND PRESSURIZE THE CABIN TO ASSIST IN LOCATING ANY LEAKS. FROM THE GND, A
MECH IDENTED A LOT OF NOISE COMING FROM THE FORWARD SEAM OF THE MAIN CARGO
DOOR. THEN WHEN USING A VERT LIFT, DISCOVERED AN APPROX 12 INCH AREA WHERE
THE DOOR SKIN HAD BOWED OUTWARD AWAY FROM THE FUSELAGE ALMOST 1/2 INCH. WE
THEN DEPRESSURIZED THE AIRPLANE AND
COMPLETED ALL CHKLISTS AND LOGBOOK
> >>>>>>ENTRIES. SOME QUESTIONS THAT COME TO MIND ARE: 1) HOW DID THIS
> >>>>>>FAILURE/DAMAGE OCCUR? 2) IF IT WAS CAUSED BY LOADERS OR MECHS, WOULD OR
> >>>>>>COULD THEY HAVE AVOIDED OR NOTICED IT HAPPENING? 3) SHOULD I (OR COULD I)
> >>>>>>HAVE NOTICED THIS DAMAGE PRIOR TO FLT, OR DID IT OCCUR DURING FLT? 4) WHAT
> >>>>>>IS THE STRUCTURAL INTEGRITY OF THESE OVER 25 YR OLD ACFT? AS WE INSPECTED
> >>>>>>>THE DAMAGE, A MECH STATED THAT HE WAS SHOCKED THAT THE DOOR DID NOT GIVE
> >>>>>>>WAY INFLT, THIS DID EXPLAIN THE R RUDDER TRIM REQUIREMENT. AS FAR AS CRM
> >>>>>>>ISSUES ARE CONCERNED, I FEEL WE HANDLED THE ISSUE WELL. 2 THINGS COULD
> >>>>>>>HAVE
> >>>>>>>BEEN DONE BETTER: 1) WE WERE GETTING A LINE CHK FROM A COMPANY CHK AIRMAN
> >>>>>>>WHO, IN CRUISE VOLUNTEERED TO GO BELOW (WITH A PORTABLE OXYGEN BOTTLE) TO
> >>>>>>>CHK FOR AIR LEAKS. I STRONGLY DISCOURAGED HIM, BUT THE CAPT SHOULD HAVE
> >>>>>>>PROHIBITED IT (AND I SHOULD HAVE VOICED MORE OPPOSITION). 2) DURING AN
> >>>>>>>EFFORT TO MEET AN ATC XING RESTR DURING DSCNT, THE CAPT REACHED SPDs
> >>>>>>>APCHING BARBER POLE (VNE). I ADVISED AGAINST IT IN VAIN, AND SHOULD HAVE
> >>>>>>>BEEN STRONGER TO THE CAPT. I BELIEVE THAT WE WILL SEE MORE AND MORE
> >>>>>>>INCIDENTS INVOLVING STRUCTURAL
FAILURES AS OPERATORS RETAIN OLDER ACFT TO
> >>>>>>CUT COSTS. I ONLY HOPE THAT THERE IS NO
LOSS OF LIFE WHEN IT SURELY
> >>>>>>HAPPENS
> >>>>>>NEXT TIME. CALLBACK CONVERSATION WITH
RPTR REVEALED THE FOLLOWING INFO:
> >>>>>>EVIDENTLY THE RPTR COMPLETED ALL PREFLT
CHKS AS HE SHOULD HAVE. ALL DOOR
> >>>>>>INDICATIONS WERE SHOWING ALL DOORS
WERE PROPERLY CLOSED. FIRST INDICATION
> >>>>>>OF A PRESSURE LEAK WAS PASSING THROUGH
FL240. WHEN CABIN ALT STARTED TO
> >>>>>>SHOW ABNORMALLY HIGH AT FL320, THE CAPT
STARTED A DSCNT. PROCs WERE
> >>>>>>RUN FOR
> >>>>>>THIS ABNORMALITY. A CHK AIRMAN ON
BOARD WAS GOING TO INSPECT THE MAIN
> >>>>>>CARGO
> >>>>>>DOOR WHICH THE SO TRIED TO VOICE HIS
DISAGREEMENT OVER, BUT HE STATED HE
> >>>>>>WASN'T VOCAL ENOUGH. WITH THE LOSS OF
CABIN PRESSURE ALONG WITH A RUDDER
> >>>>>>TRIM DISCREPANCY, THE SO NOW HAD SOME
BETTER INDICATION OF WHAT MIGHT BE
> >>>>>>WRONG. HE COULD NEVER KNOW FOR
CERTAIN UNTIL THE ACFT WAS PARKED AT THE
> >>>>>>>GATE. AT THAT TIME HE SAW A DOOR THAT
HAD THE DOOR SKIN PEELED BACK ENOUGH
> >>>>>>>SO THAT THE RIVETS IN THE DOOR WERE
PULLED OUT AND LOOSE. THE LEADING EDGE
> >>>>>>>OF THE DOOR WAS DISTORTED BY BEING
LIFTED UP ALONG THE LEADING EDGE OF THE
> >>>>>>>DOOR FOR A DISTANCE OF 1 INCH FROM FRONT
TO BACK. DURING DSCNT THE CAPT

> >>>>>>HAPPELED TO FLY AT MAX INDICATED AIRSPD, WHICH THE RPTR FEELS WAS NOT THE
> >>>>>>BEST THING TO DO. THE RPTR AND CAPT REVIEWED THIS PROC AFTER THE FLT AND
> >>>>>>THE CAPT AGREED HE SHOULD HAVE USED A SLOW DSCNT. THE CHK PLT NEVER SAID
> >>>>>>ANYTHING ABOUT HIS HIGH SPD DSCNT.

> >>>>>>SYNOPSIS : A B747-100F HAS A MAIN CARGO DOOR
> >>>>>>DISTORT IN
> >>>>>>SHAPE DURING FLT RESULTING IN A PRESSURE LEAK. THE ACFT DSNDS TO REGAIN
> >>>>>>CABIN PRESSURE. UPON LNDG, THE DOOR IS CHKED AND THE LEADING EDGE OF THE
> >>>>>>DOOR IS PEELED BACK BY THE AIRFLOW OVER THE DOOR. RPTR IS CONCERNED ABOUT
> >>>>>>AGING OF ACFT AND THEIR LONGEVITY AND RELIABILITY.

> >>>>>>REFERENCE FACILITY ID : PHL
> >>>>>>FACILITY STATE : PA
> >>>>>>MSL ALTITUDE : 24000, 32000

> >>>>>>

T96-01-51 BOEING

TRANSMITTED AS FOLLOWS IS TELEGRAPHIC AIRWORTHINESS DIRECTIVE T96-01-51 FOR IMMEDIATE TRANSMITTAL
TO ALL OWNERS
AND OPERATORS OF BOEING MODEL 747-100 SERIES
AIRPLANES
MODIFIED IN ACCORDANCE WITH SUPPLEMENTAL
TYPE CERTIFICATES
(STC) SA2322SO AND A MODEL 747-200 SERIES
AIRPLANE MODIFIED
IN ACCORDANCE WITH STC SA4227NM-D.

THE FAA HAS RECENTLY RECEIVED A REPORT
THAT THE
FLIGHTCREW ON A BOEING MODEL 747-100 SERIES
AIRPLANE NOTED
AN ABNORMAL CABIN ALTITUDE RATE OF CLimb.
ALTHOUGH THE
PRESSURIZATION VENT DOOR LIGHT WAS NOT
ILLUMINATED (WHICH
INDICATED TO THE FLIGHTCREW THAT THE DOOR
WAS CLOSED AND
LOCKED), THE FLIGHTCREW WAS UNABLE TO
PRESSURIZE THE
AIRPLANE. THE FLIGHTCREW ALSO NOTED THAT
THE MAIN DECK SIDE
CARGO "DOOR UNLOCKED" LIGHT ILLUMINATED
SHORTLY AFTER
TAKEOFF. INVESTIGATION REVEALED THAT 11 OF
THE 12 LATCHES
ON THE MAIN DECK SIDE CARGO DOOR WERE
UNLATCHED AND
UNLOCKED. HOWEVER, THE PRESSURIZATION
VENT DOOR WAS CLOSED
AND LOCKED, WHICH WOULD INDICATE A MALFUNCTION OF THE SAFETY INTERLOCK SYSTEM.

A PROPERLY FUNCTIONING SAFETY INTERLOCK SYSTEM ELECTRO-MECHANICALLY PREVENTS THE PRESSURIZATION VENT DOOR FROM CLOSING UNTIL ALL OF THE LATCHES ARE IN THE FULLY LATCHED AND LOCKED POSITION. IF THE PRESSURIZATION VENT DOOR IS NOT CLOSED THE AIRPLANE CANNOT BE PRESSURIZED.

AIRPLANE.

THE AIRPLANE IN THE REPORTED INCIDENT WAS MODIFIED IN ACCORDANCE WITH SUPPLEMENTAL TYPE CERTIFICATE (STC) SA2322SO. THE MODIFICATION ENTAILED INSTALLATION OF A MAIN DECK SIDE CARGO DOOR AS PART OF A CONVERSION THAT RECONFIGURED THE AIRPLANE FROM A PASSENGER CONFIGURATION TO A SPECIAL FREIGHTER CONFIGURATION.

SINCE STC SA2322SO FOR MODEL 747-100 SERIES AIRPLANES IS SIMILAR IN DESIGN TO STC SA4227NM-D FOR A MODEL 747-200 SERIES AIRPLANE, THE FAA HAS DETERMINED THAT THE UNSAFE CONDITION MAY ALSO EXIST ON A MODEL 747-200 SERIES AIRPLANE THAT HAS BEEN MODIFIED IN ACCORDANCE WITH STC SA4227NM-D. THIS STC CONVERTED A MODEL 747-200 SERIES AIRPLANE FROM A PASSENGER CONFIGURATION TO A SPECIAL FREIGHTER CONFIGURATION.

SINCE AN UNSAFE CONDITION HAS BEEN IDENTIFIED THAT IS LIKELY TO EXIST OR DEVELOP ON OTHER
AIRPLANES OF THIS SAME
TYPE DESIGN, THIS TELEGRAPHIC AIRWORTHINESS
DIRECTIVE IS
ISSUED TO REQUIRE REPETITIVE INSPECTIONS OF
THE LATCH SAFETY
PINS OF THE MAIN DECK SIDE CARGO DOOR.

THIS TELEGRAPHIC AD ALSO REQUIRES
DEACTIVATION OF THE
"LATCHES UNLOCKED" LIGHT AT THE DOOR
OPERATING PANEL AND THE
"DOOR UNLOCKED" LIGHT AT THE FLIGHT
ENGINEER PANEL, AND
FABRICATION AND INSTALLATION OF A PLACARD
TO INDICATE THAT
THE "DOOR UNLOCK" LIGHT AT THE FLIGHT
ENGINEER (F/E) PANEL
HAS BEEN DEACTIVATED, IN ACCORDANCE WITH A
METHOD APPROVED
BY THE FAA.

THIS TELEGRAPHIC AD PROVIDES FOR
TERMINATION OF THE
REQUIREMENT TO REPETITIVELY INSPECT THE PINS
AND REMOVAL OF
THE PLACARD FOLLOWING ACCOMPLISHMENT OF
A MODIFICATION THAT
POSITIVELY ADDRESSES THE UNSAFE CONDITION
AND THAT HAS BEEN
APPROVED BY THE FAA.

THIS IS CONSIDERED TO BE INTERIM ACTION
UNTIL FINAL
ACTION IS IDENTIFIED, AT WHICH TIME THE FAA MAY CONSIDER FURTHER RULEMAKING.

THIS RULE IS ISSUED UNDER 49 U.S.C. SECTION 44701 (FORMERLY SECTION 601 OF THE FEDERAL AVIATION ACT OF 1958) PURSUANT TO THE AUTHORITY DELEGATED TO ME BY THE ADMINISTRATOR, AND IS EFFECTIVE IMMEDIATELY UPON RECEIPT OF THIS TELEGRAM.

T96-01-51 BOEING: TELEGRAPHIC AD ISSUED ON JANUARY 3, 1996. DOCKET NO. 96-NM-01-AD.

APPLICABILITY: MODEL 747-100 SERIES AIRPLANES HAVING SERIAL NUMBERS 19637, 19638, 19642, 19647, 19648, 19657, 19725, 20320, AND 20347, THAT HAVE BEEN MODIFIED IN ACCORDANCE WITH SUPPLEMENTAL TYPE CERTIFICATE (STC) SA2322SO, AND MODEL 747-200 SERIES AIRPLANE HAVING SERIAL NUMBER 20010 THAT HAS BEEN MODIFIED IN ACCORDANCE WITH STC SA4227NM-D, CERTIFICATED IN ANY CATEGORY.

NOTE 1: THIS AD APPLIES TO EACH AIRPLANE
IDENTIFIED IN THE PRECEDING APPLICABILITY PROVISION, REGARDLESS OF WHETHER IT HAS BEEN MODIFIED, ALTERED, OR REPAIRED IN THE AREA SUBJECT TO THE REQUIREMENTS OF THIS AD. FOR AIRPLANES THAT HAVE BEEN MODIFIED, ALTERED, OR REPAIRED SO THAT THE PERFORMANCE OF THE REQUIREMENTS OF THIS AD IS AFFECTED, THE OWNER/OPERATOR MUST USE THE AUTHORITY PROVIDED IN PARAGRAPH (D) OF THIS AD TO REQUEST APPROVAL FROM THE FAA. THIS APPROVAL MAY ADDRESS EITHER NO ACTION, IF THE CURRENT CONFIGURATION ELIMINATES THE UNSAFE CONDITION; OR DIFFERENT ACTIONS NECESSARY TO ADDRESS THE UNSAFE CONDITION DESCRIBED IN THIS AD. SUCH A REQUEST SHOULD INCLUDE AN ASSESSMENT OF THE EFFECT OF THE CHANGED CONFIGURATION ON THE UNSAFE CONDITION ADDRESSED BY THIS AD. IN NO CASE DOES THE PRESENCE OF ANY MODIFICATION, ALTERATION, OR REPAIR REMOVE ANY AIRPLANE FROM THE APPLICABILITY OF THIS
AD.

COMPLIANCE: REQUIRED AS INDICATED, UNLESS ACCOMPLISHED PREVIOUSLY.

TO PREVENT MALFUNCTION OF THE SAFETY INTERLOCK SYSTEM OF THE MAIN DECK CARGO DOOR AND SUBSEQUENT RAPID DECOMPRESSION OF THE AIRPLANE DUE TO IN-FLIGHT OPENING OF THE MAIN DECK SIDE CARGO DOOR, ACCOMPLISH THE FOLLOWING:

(A) NOTWITHSTANDING THE REQUIREMENTS OF PARAGRAPH E. OF AD 90-09-06, AMENDMENT 39-6581, WITHIN 3 DAYS AFTER RECEIPT OF THIS TELEGRAPHIC AD, DEACTIVATE THE "LATCHES UNLOCKED" LIGHT AT THE DOOR OPERATING PANEL AND THE "DOOR UNLOCKED" LIGHT AT THE F/E PANEL, AND FABRICATE AND INSTALL PLACARDS; IN ACCORDANCE WITH A METHOD APPROVED BY THE MANAGER, ATLANTA AIRCRAFT CERTIFICATION OFFICE (ACO), FAA, SMALL AIRPLANE DIRECTORATE.

(B) WITHIN 3 DAYS AFTER RECEIPT OF THIS TELEGRAPHIC AD, ACCOMPLISH THE REQUIREMENTS OF PARAGRAPHS (A)(1), (A)(2),
(A)(3), (A)(4), (A)(5), AND (A)(6) OF THIS AD. REPEAT THESE PROCEDURES THEREAFTER PRIOR TO EACH FLIGHT. THESE PROCEDURES MUST BE PERFORMED BY PROPERLY TRAINED AND QUALIFIED MAINTENANCE PERSONNEL.

(1) CLOSE THE MAIN DECK SIDE CARGO DOOR IN ACCORDANCE WITH NORMAL OPERATIONS PROCEDURES.

(2) UNSCREW, LIFT, AND SECURE THE DOOR LOWER ACCESS PANELS IN THE "UP" POSITION.

(3) PERFORM A VISUAL INSPECTION OF ALL 12 LATCH AND LOCK ARMS TO ENSURE THAT THEY ARE OVERCENTER IN THE "LOCKED" POSITION AND THAT ALL ALIGNMENT MARKS LINE-UP CORRECTLY.

(4) PERFORM A DETAILED VISUAL INSPECTION TO ENSURE THAT THE TEN PHOTO SCANNER ALIGNMENT HOLES IN LATCHES 2 THROUGH 11 HAVE NO OBSTRUCTIONS.

(I) COUNTING FORWARD TO AFT, INSTALL PINS IN PHOTO SCANNER ALIGNMENT HOLES IN LATCH ASSEMBLIES 2 THROUGH 11. THE SAFETY PINS MUST ENGAGE LOCK ARM
AND LATCH ARM LEVER AND GO COMPLETELY THROUGH LATCH ASSEMBLY.

(II) ALL LATCH SAFETY PINS MUST BE FASTENED TOGETHER WITH A SAFETY CABLE, AND THE SAFETY CABLE MUST BE ATTACHED TO THE MAIN DECK DOOR SILL PROTECTOR.

(III) LOWER AND SECURE THE LOWER ACCESS PANELS IN PLACE.

(IV) OPEN CIRCUIT BREAKER HC5, LOCATED ON P-10, MAIN POWER CENTER-LEFT.

(5) TO CLOSE THE PRESSURE VENT DOOR ON THE MAIN DECK SIDE CARGO DOOR, ACCOMPLISH PARAGRAPHS (A)(5)(I), (A)(5)(II), (A)(5)(III), AND (A)(5)(IV) OF THIS AD.

(I) REMOVE PRESSURE VENT DOOR COVER,

(II) MANUALLY RETRACT THE TWO SOLENOID VALVES TO ALLOW PRESSURE VENT DOOR CLOSURE,

(III) CLOSE PRESSURE VENT DOOR, AND

(IV) REPLACE VENT DOOR COVER.

(6) ALL SAFETY PINS MUST BE REMOVED BEFORE OPENING OR OPERATING CARGO DOOR, AND
(C) ACCOMPLISHMENT OF A MODIFICATION IN ACCORDANCE WITH A METHOD APPROVED BY THE MANAGER, ATLANTA, ACO CONSTITUTES TERMINATING ACTION FOR THE REQUIREMENTS OF THIS AD.

(D) AN ALTERNATIVE METHOD OF COMPLIANCE OR ADJUSTMENT OF THE COMPLIANCE TIME THAT PROVIDES AN ACCEPTABLE LEVEL OF SAFETY MAY BE USED IF APPROVED BY THE MANAGER, ATLANTA ACO. OPERATORS SHALL SUBMIT THEIR REQUESTS THROUGH AN APPROPRIATE FAA PRINCIPAL MAINTENANCE INSPECTOR, WHO MAY ADD COMMENTS AND THEN SEND IT TO THE MANAGER, ATLANTA ACO.

NOTE 2: INFORMATION CONCERNING THE EXISTENCE OF APPROVED ALTERNATIVE METHODS OF COMPLIANCE WITH THIS AD, IF ANY, MAY BE OBTAINED FROM THE ATLANTA ACO.

REQUIREMENTS OF THIS AD CAN
BE ACCOMPLISHED.

(F) INFORMATION PERTINENT TO THIS
RULEMAKING ACTION MAY
BE EXAMINED AT THE FAA, TRANSPORT AIRPLANE
DIRECTORATE, 1601
LIND AVENUE, SW., RENTON, WASHINGTON; OR AT
THE FAA, SMALL
AIRPLANE DIRECTORATE, ATLANTA AIRCRAFT
CERTIFICATION OFFICE,
CAMPUS BUILDING, 1701 COLUMBIA AVENUE, SUITE 2-160, COLLEGE
PARK, GEORGIA 30337-2748.

(G) TELEGRAPHIC AD T96-01-51, ISSUED ON
JANUARY 3, 1996,
BECOMES EFFECTIVE UPON RECEIPT.

FOR FURTHER INFORMATION CONTACT: RANDY
AVERA, AEROSPACE
ENGINEER, SYSTEMS AND EQUIPMENT BRANCH,
ACE-130A, FAA, SMALL
AIRPLANE DIRECTORATE, ATLANTA AIRCRAFT
CERTIFICATION OFFICE,
CAMPUS BUILDING, 1701 COLUMBIA AVENUE, SUITE 2-160, COLLEGE
PARK, GEORGIA 30337-2748; TELEPHONE (404) 305-7381; FAX
(404) 305-7348.
DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [61 FR 1703 NO. 15 01/23/96]

[Docket No. 96-NM-01-AD; Amendment 39-9492; AD 96-01-51]

Airworthiness Directives; Boeing Model 747-100 and -200 Series Airplanes Modified in Accordance with Supplemental Type Certificate (STC) SA2322SO or SA4227NM-D.

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This document publishes in the Federal Register an amendment adopting Airworthiness Directive (AD) T96-01-51 that was sent previously to all known U.S. owners and operators of certain Boeing Model 747-100 and -200 airplanes by individual telegrams. This AD requires repetitive inspections of the latch safety pins of the main deck side cargo door to ensure that the door is securely latched and locked; it also requires deactivation of certain panel
lights and installation of a placard to indicate such deactivation. This amendment is prompted by a report of a malfunction of the safety interlock system of the main deck side cargo door on one airplane. The actions specified by this AD are intended to prevent such malfunctions, which could result in the opening of the main deck side cargo door while the airplane is in flight, and subsequent rapid decompression of the airplane.

DATES: Effective January 29, 1996, to all persons except those persons to whom it was made immediately effective by telegraphic AD T96-01-51, issued January 3, 1996, which contained the requirements of this amendment.

Comments for inclusion in the Rules Docket must be received on or before March 25, 1996.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 96-NM-01-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Information pertinent to this rulemaking action may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Small Airplane Directorate, Atlanta Aircraft Certification Office, Campus Building, 1701 Columbia Avenue, Suite 2-160,
FOR FURTHER INFORMATION CONTACT: Randy Avera, Aerospace Engineer, Systems and Equipment Branch, ACE-130A, FAA, Small Airplane Directorate, Atlanta Aircraft Certification Office, Campus Building, 1701 Columbia Avenue, Suite 2-160, College Park, Georgia 30337-2748; telephone (404) 305-7381; fax (404) 305-7348.

SUPPLEMENTARY INFORMATION:

The FAA has recently received a report that the flightcrew on a Boeing Model 747-100 series airplane noted an abnormal cabin altitude rate of climb. Although the pressurization vent door light was not illuminated (which signified to the flightcrew that the door was closed and locked), the flightcrew was unable to pressurize the airplane. The flightcrew also noted that the main deck side cargo door "DOOR UNLOCKED" light illuminated shortly after takeoff. Investigation revealed that 11 of the 12 latches on the main deck side cargo door were unlatched and unlocked. However, the pressurization vent door was closed and locked; this would signify that a malfunction of the safety interlock system had occurred.

A properly functioning safety interlock system electromechanically prevents the pressurization vent door from closing until all of the latches are in the fully latched
and locked position. If the pressurization vent door is not closed, the airplane cannot be pressurized.

Although the original cause of the failure to properly latch the door may be attributable to human error, the purpose of the interlock system is to ensure that such errors are detected so that the airplane cannot be pressurized unless the main deck side cargo door is properly latched and locked. Malfuction of the safety interlock system of the main deck side cargo door, if not corrected, could result in an in-flight opening of the main deck side cargo door, and subsequent rapid decompression of the airplane.

The airplane in the reported incident was a Model 747-100 series airplane that had been modified in accordance with Supplemental Type Certificate (STC) SA2322SO. The modification entailed the installation of a main deck side cargo door as part of a conversion of the airplane from a passenger configuration to a special freighter configuration.

Since STC SA2322SO for Model 747-100 series airplanes is similar in design to STC SA4227NM-D for Model 747-200 series airplanes, the FAA has determined that the unsafe condition may also exist on a MODEL 747-200 series airplane that has been modified in accordance with STC SA4227NM-D. (Likewise,
that STC entails the conversion of a Model 747-200 series airplane from a passenger configuration to a special freighter configuration.

Since the unsafe condition described is likely to exist or develop on other airplanes of the same type design, the FAA issued Telegraphic AD T96-01-51 to prevent malfunction of the safety interlock system of the main deck cargo door, which could result in the opening of the main deck side cargo door during flight, and subsequent rapid decompression of the airplane. The AD requires repetitive inspections of the latch safety pins of the main deck side cargo door to ensure that the door is securely latched and locked. The AD also requires deactivation of the "LATCHES UNLOCKED" light at the door operating panel, and the "DOOR UNLOCKED" light at the flight engineer (F/E) panel; as well as the fabrication and installation of a placard to indicate that the "DOOR UNLOCK" light at the F/E panel has been deactivated. These actions are required to be accomplished in accordance with a method approved by the FAA.

The AD also provides for the termination of these requirements following accomplishment of a modification that positively addresses the identified unsafe condition and that has been approved by the FAA.

Since it was found that immediate corrective action
was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual telegrams issued on January 3, 1996, to all known U.S. owners and operators of the affected Boeing Model 747-100 and -200 series airplanes. These conditions still exist, and the AD is hereby published in the Federal Register as an amendment to section 39.13 of the Federal Aviation Regulations (14 CFR 39.13) to make it effective to all persons.

This is considered to be interim action until final action is identified, at which time the FAA may consider further rulemaking.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and
this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 96-NM-01-AD." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between
the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:
PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:
   Authority: 49 USC 106(g), 40113, 44701.
   \* 39.13 - [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

96-01-51 BOEING: Amendment 39-9492. Docket 96-NM-01-AD.

   APPLICABILITY: Model 747-100 series airplanes having
   serial numbers 19637, 19638, 19642, 19647, 19648, 19657, 19725, 20320, and 20347, that have been modified in accordance with Supplemental Type Certificate (STC) SA2322SO; and Model 747-200 series airplane having serial number 20010 that has been modified in accordance with STC SA4227NM-D; certificated in any category.

   NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must use the authority provided in paragraph
(d) of this AD to request approval from the FAA. This approval may address either no action, if the current configuration eliminates the unsafe condition; or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any airplane from the applicability of this AD.

COMPLIANCE: Required as indicated, unless accomplished previously.

To prevent malfunction of the safety interlock system of the main deck cargo door and subsequent rapid decompression of the airplane due to in-flight opening of the main deck side cargo door, accomplish the following:

(a) Notwithstanding the requirements of paragraph E. of AD 90-09-06, amendment 39-6581, within 3 days after the effective date of this AD, deactivate the "LATCHES UNLOCKED" light at the door operating panel and the "DOOR UNLOCKED" light at the flight engineer (F/E) panel; and fabricate and install placards; in accordance with a method approved by the Manager, Atlanta Aircraft Certification Office (ACO), FAA, Small Airplane Directorate.
(b) Within 3 days after the effective date of this AD, accomplish the requirements of paragraphs (b)(1), (b)(2), (b)(3), (b)(4), (b)(5), AND (b)(6) of this AD. Repeat these procedures thereafter prior to each flight. These procedures must be performed by properly trained and qualified maintenance personnel.

(1) Close the main deck side cargo door in accordance with normal operations procedures.

(2) Unscrew, lift, and secure the door lower access panels in the "UP" position.

(3) Perform a visual inspection of all 12 latch and lock arms to ensure that they are overcenter in the "LOCKED" position and that all alignment marks line-up correctly.

(4) Perform a detailed visual inspection to ensure that the ten photo scanner alignment holes in latches 2 through 11 have no obstructions.

   (i) Counting forward to aft, install pins in photo scanner alignment holes in latch assemblies 2 through 11. The safety pins must engage the lock arm and latch arm lever, and go completely through the latch assembly.

   (ii) All latch safety pins must be fastened together with a safety cable, and the safety cable must be attached to the main deck door sill protector.

   (iii) Lower and secure the lower access
panels
in place.

(iv) Open circuit breaker HC5, located on P-10, main power center-left.

(5) To close the pressure vent door on the main deck side cargo door, accomplish paragraphs (b)(5)(i), (b)(5)(ii), (b)(5)(iii), AND (b)(5)(iv) of this AD:

(i) Remove pressure vent door cover;
(ii) Manually retract the two solenoid valves to allow pressure vent door closure;
(iii) Close pressure vent door; and
(iv) Replace vent door cover.

(6) All safety pins must be removed before opening or operating cargo door.

(c) Accomplishment of a modification in accordance with a method approved by the Manager, Atlanta ACO, FAA, Small Airplane Directorate, constitutes terminating action for the requirements of this AD.

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta ACO, FAA, Small Airplane Directorate. Operators shall submit their requests through an appropriate FAA Principal
Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta ACO.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Atlanta ACO.

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(f) This amendment becomes effective on January 29, 1996, to all persons except those persons to whom it was made immediately effective by telegraphic AD T96-01-51, issued on January 3, 1996, which contained the requirements of this amendment.

FOR FURTHER INFORMATION CONTACT:
Randy Avera, Aerospace Engineer, Systems and Equipment Branch, ACE-130A, FAA, Small Airplane Directorate, Atlanta Aircraft Certification Office, Campus Building, 1701 Columbia Avenue, Suite 2-160, College Park, Georgia 30337-2748; telephone (404) 305-7381; fax (404) 305-7348.
FAA orders inspection of door wiring on MD-11s

December 9, 1998
Web posted at: 6:23 PM EST (2323 GMT)

WASHINGTON (AP) -- Doors on MD-11 aircraft may open in a way that frays electrical wires, the Federal Aviation Administration said Wednesday in ordering inspections and any necessary repairs. The agency said it had no evidence that the wires in question were related to the September 2 crash of Swissair Flight 111, a McDonnell Douglas MD-11, but it said signs of wear were detected during recent heavy maintenance performed on another MD-11. The airworthiness directive requires a one-time inspection within 10 days to detect problems such as nicks, fraying or chafing above the left and right front passenger doors. Any
problems must be repaired before further flight, and all inspection results must be reported to the FAA within 10 days of the examination. Investigators found that when the doors are raised to the open position, sliding panels above them move inward. That can chafe the electrical wiring in those areas. The condition, if not fixed, could lead to an electrical fire in the passenger cabin.

The Swissair plane plunged into the ocean off Nova Scotia 16 minutes after the pilots reported smoke in the cockpit. All 229 aboard were killed. Investigators still have not determined the cause of the crash, but they are focusing on signs of heat and fire damage in the cockpit. Aviation Week & Space Technology reported this week that small pieces of wreckage from the area in front of and behind the cockpit-cabin bulkhead show signs of fire damage, perhaps indicating a fire in the roof.

Today’s order applies to 65 U.S.-registered MD-11s. Worldwide, there are 174 such aircraft. The cost of the repairs is estimated at $120 per airplane. Swissair has already agreed to discontinue use of an advanced in-flight entertainment system on its MD-11s and some Boeing 747s as a safeguard against electrical problems. The FAA also recently ordered airlines to inspect lighting dimmer switches in the MD-11 cockpit.

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From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: Chapters 4, 5, 6, no pictures

Your message was not delivered to:
/c=US/admd=ATTmail/prmd=gov+dot/o=faa/s=Wojnar/
g=Ronald/
for the following reason: Conversion not performed

Your message was not delivered to:
/c=US/admd=ATTmail/prmd=gov+dot/o=faa/s=Dimtroff/
g=John/
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Your message was not delivered to:
/c=US/admd=ATTmail/prmd=gov+dot/o=faa/s=Schalekamp/
g=Neil/
for the following reason: Conversion not performed

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/c=US/admd=ATTmail/prmd=gov+dot/o=faa/s=Breneman/
g=Bob/
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/c=US/admd=ATTmail/prmd=gov+dot/o=faa/s=Mcsweeny/
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g=Lyle/
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Pictures and line graphic will be stripped out and sent as below.

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Dear elected and appointed officials, manufacturer spokesman, editor, reporters, attorney, and readers from the general public,
19 Nov 98

The immediate world intrudes. This chapter was to be my credential for credibility regarding wiring/cargo door explanation because sooner or later everyone asks me who I am, as if that makes a difference. The messenger is always examined to determine the truth of his message although he is an independent variable. Chapter Four was to give credence to this discoverer/messenger based on my personal accomplishments/education/experience in the past. The highest personal credential for a person to give a valued opinion about a sudden, fiery, night, fatal, mechanical, jet airplane crash is for that person to have been in a sudden, fiery, night, fatal, mechanical, jet airplane crash. It focuses the mind on the event; past, present and future.

I received in the post this afternoon a foreign envelope with the
Dear Mr. Smith,
The Parliamentary Inquiry Commission did receive your letter in good condition. The Commission thanks you very much for your shown interest. As far as your remarks are relevant, the Commission will involve them in the investigation.

Yours Sincerely,
Th.A.M. Meijer
Chairman

Well, well, well. I was not going to mention El Al 1862 until much later but here it is. It's a digression. El Al 1862 is possibly related to the wiring/cargo door explanation. El Al Flight 1862 was an early model Boeing 747 that took off and soon thereafter had a fiery engine number three which detached early and took engine number four with it. TWA 800, AI 182, PA 103 were also early Boeing 747s that had early detached engine number three which had suffered foreign object damage inflight at event time leading to fires. Details are at URL http://www.corazon.com/ELALChina747.html and http://www.corazon.com/NetherlandsSBELAL.html

Above is Boeing 747-400 El Al showing proximity of open cargo door to engine number three.

Background: '4 October 1992; El Al 747-258F 4X-AXG
The aircraft crashed in a suburb after take-off from Schiphol Airport, Amsterdam, the Netherlands killing all four crew and 47 people on the ground. Two engines fell off during climb-out, causing a stall.'
It turns out the cargo may have carried ingredients to make nerve gas. The Dutch have recently opened a Parliamentary Inquiry into how hazardous cargo is passing through their airports and specifically on El Al 1862.

"JERUSALEM (Reuters) 3 Oct 98 - Israel's El Al airline confirmed Thursday that a Tel Aviv-bound cargo plane which crashed into an Amsterdam apartment block in 1992 carried a chemical that experts say is a key component of nerve gas."

I had offered information about the wiring/cargo door explanation to the Commission and now the Chairman has just thanked me for my interest. What he means is the Commission is only looking into the hazardous cargo process and not why the plane crashed. It may be a polite brushoff; the key is the 'thanks for the interest,' a cliche.

But, the Dutch letter must be replied to, and now, because I could be wrong about the brushoff. Maybe the Chairman is asking me why my evidence is relevant. I shall tell him.

"Th.A.M. Meijer
Chairman
Parlementaire Enquetecommissie Vliegramp Bijlmermeer

Referentie: ECB 98046
UW referentie: Your letter 11 Nov 98

Datum: 17 November 1998
Betref: El AL Flight 1862

Dear Chairman Meijer, 17 November 1998
Thank you very much for your personal reply to my 13-10-98 letter to the Commission regarding El Al Flight 1862. I believe the Enquetecommissie will look at the big picture taking advantage of the benefit of hindsight. The big picture must include the cause of the crash of the Boeing 747 El Al Flight 1862 which carried the suspect hazardous cargo especially now that sabotage may be involved. Israel and nerve gas and an airplane crash linked together are certainly suspicious.

Hindsight has revealed several more similar Boeing 747 accidents that match other fiery engine number three accidents. The official explanation for El Al 1862 of corroded fuse pin failing and engine number three falling off was not conclusive because the guilty fuse pin was never recovered. An alternate explanation has appeared. UAL 811, PA 103, TWA 800 were also early model Boeing 747s that suffered fiery engine number three during the takeoff to cruise flight mode. There is much evidence in the NASB aircraft accident report, 92-11, of fire in engine number three of the crash you are investigating, sir; it's a significant match.

The better explanation for El Al 1862 is slightly open cargo door which allowed foreign objects to be sucked into engine number three causing fire, failure and detachment of engine which hit number four and caused that to fall off too. The cause of the forward cargo door opening in flight was probably faulty wiring based on UAL 811 NTSB AAR 92/02 results.

But sir, please cast a wide net in your investigation; PA 103 trial is due to be in the Netherlands soon also. It turns out that PA 103 is similar to El Al 1862 in many ways, specifically an early model 747 that suffered a fiery engine number three at event time.
I'm here, Chairman Meijer; if you possibly ask one of your crackerjack investigators to contact me, I'll be glad to discuss the wiring/cargo door explanation for El Al 1862. It is presented at length at website <http://www.corazon.com/crashcontentspagelinks.html>

Cheers,
Barry Smith

John Barry Smith
(831) 659-3552 phone
551 Country Club Drive,
Carmel Valley, CA 93924"

That letter has been printed out and sent by snail mail because no email address was given for the Enquetecommissie.

El Al 1862 is to digress from the probable and confirmed wiring/cargo door accidents of AI 182, PA 103, UAL 811, and TWA 800 to the possible. But the letter from the Dutch Commission means now is the time to discuss it.

The cause of the crash of El Al 1862 may very well be different than the official Dutch version of a corroded fuse pin failing causing number three pylon and engine to fall off taking engine number four with it leading to uncontrollable flight. A better explanation is an inadvertently slightly opened forward cargo door allowed foreign objects in the cargo bay to be sucked into engine number three causing vibration and fire which caused the fuse pin to fail as designed allowing the engine to fall taking number four engine with it.
The key factor is fire in engine number three. The wiring/cargo door explanation includes fire in number three while the official fuse pin explanation rules out fire in number three. In the past when engine number three ingests foreign objects from the cargo bay there is fire such as UAL 811. In the past when a fuse pin fails and the engine falls off there is no fire such as JAL 46E.

Was there a fire in engine number three of El Al 1862? Well, the pilot said so, the eyewitnesses said so, and the fire warning light said so. The cargo door explanation believes the pilot, the eyewitnesses and the instruments.

The official fuse pin explanation stated no fire in engine number three for El AL 182.

Executive Summary from NTSB/AAR 93/06, JAL Flight 46E, Boeing 747-121, N47EV, Anchorage, Alaska, 31 March 1993:

For the official fuse pin explanation for El Al 1862 to be correct, the pilot must have been wrong, the eyewitnesses must be wrong, and the instruments must be wrong when they indicated a fire in engine number three. It is more likely the pilot was right, the eyewitnesses were right, and the instruments were right to indicate a fire in engine number three. The reasoning is that of the two official 'fuse pin' crashes, El Al 1862 and China Airlines, the actual destruction sequence is closer to the confirmed events of UAL 811 wiring/cargo door event, than to the confirmed events of JAL 46E, yet the official probable cause of EL AL and China Airlines Flight CI358 is that of fuse pin failure.

The main thing that puts El Al and China Wanli Flight CI358 accidents into the possible wiring/cargo door category is engine
number three was initially involved and there is a strong indication of fire in engine number three at event time. If not engine number three nor indications of fire in it, then wiring/cargo door explanation would not be considered.

For El Al 1862 and China Airlines Flight CI358, the number three engine of the two Boeing 747s came off in flight and took number four engine with it as it fell away. Both aircraft subsequently crashed killing all aboard. The official cause was a fuse pin in pylon number 3 had failed. The fuse pins hold the pylon which holds the engine to the wing. The actual fuse pins were never recovered.

The various permutations that two airplanes with four engines could have with each having an initial engine falling off is sixteen, 1 and 1, 1 and 2, 1 and 3, 1 and 4, 2 and 1, 2 and 2, 2 and 3, 2 and 4, 3 and 1, 3 and 2, 3 and 3, 3 and 4, 4 and 1, 4 and 2, 4 and 3, and 4 and 4. For fifteen of the above permutations a cargo door opening would not be considered because the engines are too far away from the cargo door. Only engine number three is close enough. In only one of the combinations could the open cargo door be considered as the underlying cause, that is engine number 3 on one plane and engine number 3 on the other. And it was both engines number 3 that failed first, defying the random chances of corroded fuse pins failing. In addition, the flight mode of climbing is when most cargo door openings occur.

If a forward cargo door opened in flight but did not come off but allowed some baggage to be sucked into the number three engine the engine would vibrate and catch fire. The fuse pins would do as designed and fail, allowing the dangerous engine and pylon to fall free. Unfortunately, the destructing engine number three would eject metal into adjacent number four or spin away and
strike it causing that engine to fail and fall off also.

On the other three complete probable wiring/cargo door caused crashes of Boeing 747s, AI 182, PA 103, and TWA 800, the number three engine was fodded and detached from the wing early in the destruction sequence. On the fourth cargo door caused accident, UAL 811, engines number three and four were fodded so badly they vibrated, caught fire, and were about to fail when they were shut down by the flight crew and remained attached to the pylon and wing. UAL 811 followed the same sequence of AI 182, PA 103, and TWA 800 except the nose stayed on, probably because the explosive decompression shatter zone was smaller. The hole was much smaller for UAL 811 because the door held for 1.5 seconds before blowing totally open allowing some of the internal pressure differential to bleed off.

When a sudden unexpected mechanical event occurs, certain mechanical events follow. Certain sequences occur when a fuse pin fails as confirmed by an aircraft that returned safely, JAL 46E:

It occurred during a stress event such as severe turbulence or hard landing.
There is no fire or fire warning light and the pilot does not report a fire.
The engine detaches, goes forward, flips up and back, taking wing leading edge material with it affecting flap action but not affecting adjacent engine.
Pilot immediately reports engine lost when engine falls away.
There is no delay between report of trouble and report of engine lost.

There have been two unconfirmed but official explanations of
fuse pin failure for two Boeing 747 crashes, El Al 186 and China Airlines Wanli. The mechanical sequence which occurs after the initial sudden unexpected mechanical event does not follow the confirmed sequence of fuse pin failure, but does follow the confirmed mechanical sequence when a forward cargo door opens in flight.

The two confirmed instances where the forward cargo door failed and the aircraft is available for inspection, UAL 811 and PA 125, a certain sequence was followed:
They occurred during climb shortly after takeoff.
They did not occur during a stress event such as severe turbulence or hard landing.
There was a fire and a fire warning light on engine number 3.
There was a many second delay between fire in engine 3 and point of total engine failure.
The adjacent engine 4 is severely affected.
Flaps are affected.
Fire for engine number 3 for UAL 811 was caused by objects from forward baggage hold after cargo door opened.
Engine number 4 object damage caused by baggage objects and debris from failing engine number 3.

The two possible (not confirmed, not probable) cargo door caused crashes, El Al 1862 and China airlines Flight CI358, followed a mechanical sequence after the sudden unexpected event that more closely matches UAL 811 and PA 125 than it does JAL 46E:
They did not occur during a stress event such as severe turbulence or hard landing.
They occurred during climb shortly after takeoff.
There was a fire and a fire warning light on engine number 3.
There was a many second delay between fire in engine 3 and
point of total engine failure.
The adjacent engine 4 was severely affected up to failure.
Flaps are affected.

The crash pattern for El Al and China Wanli fits the forward cargo door opening destruction sequence closer than the confirmed fuse failing, pylon and engine falling off sequence.

El Al 1862 Air Traffic Control tape and analysis:

19:27:56 CREW: El Al 1862, Mayday, Mayday, we have an emergency.
19:28:00 ATC: El Al 1862, roger. Break, KLM 237, turn left heading 090.
19:28:06 ATC: El Al 1862, do you wish to return to Schiphol?
19:28:11 ATC: Turn right heading 260, field eh ... behind you eh ... in your - to the west eh ...
distance 18 miles.
19:28:17 CREW: Roger, we have fire on engine number number 3, we have fire on engine number 3.
19:28:35 CREW: Roger.
19:28:45 CREW: El Al 1862, lost number 3 and number 4 engine, number 3 and number 4 engine.
19:28:54 CREW: What will be the runway in use for me at Amsterdam?
19:28:57 ATC: Runway 6 in use, sir. Surface wind 040
at 21 knots, QNH 1012.
19:29:02 CREW: 1012, we request 27 for landing.
19:29:05 ATC: Roger, can you call Approach now, 121.2 for your line-up?
19:29:25 CREW: Schipol, El Al 1862, we have an emergency, eh ... we're number t- ... eh ... 3 and 4 engine inoperative [badly readable, probably: "intending" or "returning"] landing.
19:29:32 ATC: El Al 1862, roger, copied about your emergency, contact 118.4 for your line-up.
19:29:49 CREW: Schipol, El Al 1862, we have an emergency, number 3 and number 4 engine inoperative, request 27 for landing.
19:29:58 ATC: You request 27, in that case heading 360, 360 the heading, descend to 2,000 feet on 1012, mind, the wind is 050 at 22.
19:30:10 CREW: Roger, can you say again the wind please?
19:30:12 ATC: 050 at 22.
19:30:14 CREW: Roger, what heading for Runway 27?
19:30:16 ATC: Heading 360, heading 360 and [then] give you a right turn on, to cross the localizer first, and you've got only seven miles to go from present position.
19:30:25 CREW: Roger, 36 copied.
19:31:17 ATC: El Al 1862, what is the distance you need to touchdown?
19:31:27 CREW: 12 miles final we need for landing.
19:31:30 ATC: Yeah, how many miles final ... eh correction ... how many miles track miles
you need?
19:31:40 CREW: ... Flap one ... we need ... eh ... a 12 miles final for landing.
19:31:43 ATC: Okay, right right heading 100, right right heading 100.
19:31:46 CREW: Heading 100.
19:32:15 ATC: El Al 1862, just to be sure, your engines number 3 and 4 are out?
19:32:20 CREW: Number 3 and 4 are out and we have ... eh ... problems with our flaps.
19:32:25 ATC: Problem with the flaps, roger.
19:32:37 CREW: Heading 100, El Al 1862.
19:33:00 CREW: Okay, heading ... eh ... and turning, eh ... maintaining.
19:33:05 ATC: Roger, 1862, your speed is?
19:33:10 CREW: Say again?
19:33:12 ATC: Your speed?
19:33:13 CREW: Our speed is ... eh ... 260.
19:33:15 ATC: Okay, you have around 13 miles to go to touchdown, speed is all yours, you are cleared to land Runway 27.
19:33:21 CREW: Cleared to land 27.
19:33:37 ATC: El Al 1862, a right right turn heading 270 adjust on the localizer, cleared for approach.
19:33:44 CREW: Right, right 270.
19:34:18 ATC: El Al 1862, you're about to cross the localizer due to your speed, continue the right turn heading 290, heading 290, 12 track miles to go, 12 track miles to go.
19:34:28 CREW: Roger, 290.
19:34:48 ATC: El Al 1862, further right, heading 310,
heading 310.
19:34:52 CREW: 310.
19:34:58 ATC: El Al 1862, continue descent 1,500 feet, 1,500.
19:35:03 CREW: 1,500, and we have a controlling problem.
19:35:06 ATC: You have a controlling problem as well, roger.
19:35:25 CREW: Going down 1862, going down, going down, copied going down. [Background: "Raise all the flaps, all the flaps raise, lower the gear."]
19:35:47 ATC: Yes, El Al 1862, your heading.

Fire report excerpt:

19:28:11 ATC: Turn right heading 260, field eh ...behind you eh...in your - to the west eh...distance 18 miles.
19:28:17 Crew: Roger, we have fire on engine number number 3, we have fire on engine number 3.
19:28:31 ATC: (c/s) 1862, surface wind 040 at 21 knots.
19:28:45 Crew: (c/s) 1862, lost number 3 and number 4 engine, number 4 and number 4 engine.

"Witnesses heard one or more banging sounds and saw a dark plume of smoke trailing the aircraft," the Dutch report said. "Some witnesses saw objects fall. Other witnesses also saw fire on the right wing which eventually disappeared. When the aircraft turned right, two vapour trails were seen to emerge from the wingtips."
The official report, excerpt below, misstates crew indicated a loss of thrust. They did not indicate a loss of thrust, they indicated they had a fire and they indicated later they lost an engine. Indicating loss of thrust is saying engine spooling down, or EPR dropping or some such, saying you have a fire does not indicate loss of thrust. And a pilot does not need unlimited field of view to realize he has lost 50000 pounds of weight off one side of his plane, his yoke will tell him.

From Dutch AAR 92/11 report:
"At 1928:17 hours, the crew reported a fire on Nr. 3 and subsequently they indicated [a] loss of thrust on engines Nr. 3 and Nr. 4," the report said. [The report attributed the flight crew's announcement of a fire on the Nr. 3 engine to a "double fault indication of the engine-fire logic, which triggered a fire warning, and the crew's limited field of view from the cockpit to the wing area.]

Which explanation is more credible? Fuse pin failing or partially open cargo door? The experienced El Al pilot current in type who says fire twice? The corroborated eyewitnesses who make statements that make sense such as vapor trails which match fuel dumping, and a fire on right wing, not left, and goes out, not stays on until impact? Or a official report that says pilot was wrong, eyewitnesses are wrong, and never happened before double fault in fire warning light occurred?

Assume the pilot was correct and the crew reports corroborate the eyewitness reports of fire on the right wing. Can a fuse pin failing cause a fire and knock off adjacent engine? Maybe, never been done before, but possible. Fuse pin failing did not affect adjacent engine in confirmed fuse pin failures. Can a door
opening and foreign objects pushed out and foddling engine causing fire in number 3 and affecting adjacent engine?
Certainly, been done before on a confirmed accident, UAL 811 in NTSB AAR 92/02.

If fuse pins goes, the engine does not dangle there for a while. It goes immediately. If door opens and engine foddled, it catches fire and continues to hang on to wing for many seconds before coming off. Reading the CVR for El Al as a foddled number 3, the open cargo door sequence fits better with eyewitness corroboration, crew reports and a destruction sequence which does things that have happened before. For fuse pin explanation to be correct the crew has to be wrong, the corroborated eyewitnesses have to be wrong, and the destruction sequence has to do things that haven't happened before.

Note that the pilot was consistent. He said fire on three and lost three and four later on. He's not confused like the tower. Crew was precise, repeating the important stuff. Between engine fire call and engine lost call were two other precise correct responses. To conclude crew did not know what exactly was happening to their plane is not right. To assume double fault with fire warning light to fit a fuse pin explanation is too much of a stretch. To assume flight crew was correct, corroborated by eyewitnesses, and previous similar accidents are correct is more plausible.

More information is required to rule in or rule out forward cargo door opening in flight for El Al and China Flight CI358. There are mysterious airplane crashes over the years. Some strike the ground or water or other aircraft. Some disintegrate in the air when the fuselage ruptures. The cause of the rupture is always initially given as a 'bomb' because explosive decompression fuselage rupture mimics a bomb and a bomb explanation relieves
responsibility for most of the involved parties. If there is no conclusive way to disprove a 'bomb', then that is given as the probable cause. Then there are the mysterious mechanical failures such as engines falling off, rudders moving, and center fuel tank exploding.

The as yet unconfirmed cause of some of these failures may be aromatic polyimide type wiring that wears, tears, cracks, chafes, burns or shorts. When the wiring fails strange things can occur. Instruments can read incorrectly unbeknownst to the crew, fires can start in hard to find places, motors can rotate cams which unlatch doors, and devices can turn off when they should be on. Some consequences are trivial and some are catastrophic.

Faulty wiring/switch definitely has caused a forward cargo door to open in flight on a Boeing 747, UAL 811, with nine fatalities.

When the door opens in flight several consequences can occur, some trivial and some catastrophic. Here is a trivial one, if thousands of dollars of wasted fuel and consternation for the hundreds of passengers is 'trivial.' It's the sister ship to PA 103, N739PA, and happened almost two years earlier.

"FAA INCIDENT DATA SYSTEM REPORT
PRESSURIZE THE CABIN. CARGO DOOR LATCH TORQUE TUBE WORN. "

From NTSB AAR 92/02: "On March 10, 1987, a Pan American Airways B-747-122, N740PA, operating as flight 125 from London to New York, experienced an incident involving the forward cargo door. According to Pan Am and Boeing officials who investigated this incident, the flightcrew experienced pressurization problems as the airplane was climbing through about 20,000 feet. The crew began a descent and the pressurization problem ceased about 15,000 feet. The crew began to climb again, but about 20,000 feet, the cabin altitude began to rise rapidly again. The flight returned to London. When the airplane was examined on the ground, the forward cargo door was found open about 1 1/2 inches along the bottom with the latch cams unlatched and the master latch lock handle closed. The cockpit cargo door warning light was off."

When the forward cargo door opens partly in flight it is possible for foreign objects to be ingested into the adjacent engine number three. Any Boeing 747 that suffers fire or damage to engine number three in flight must be suspected of FOD until directly contradicted by the evidence. When an engine falls off from a corroded fuse pin, there is usually no fire in the engine. When an engine ingests foreign objects there is usually fire.

There are two Boeing 747 accidents that may be possibly related to wiring/cargo door: El Al 1862 and China Airlines Flight CI358 on 29 Dec 91.

"29 December 1991; China Airlines 747-2R7F B-198 Flight CI358 crashed at Wanli after take-off from Taipei, Taiwan ROC en route to Anchorage, Alaska. The aircraft lost two engines. All
five crew perished."

Both early model Boeing 747s took off and number three engine fell off taking number four with it. If it were any other engine that failed in flight other than engine number three, and if no indications of fire, wiring/cargo door explanation would not fit. But, it had to be, that pesky number three.

El Al Flight 1862 and China Airlines Flight C1358 accidents are possibly wiring/cargo door related, pending further investigation. AI 182, PA 103, and TWA 800 are probably wiring/cargo door related. UAL 811 is the confirmed wiring/cargo door cause. UAL 811 is the model that fits the others in general and specific items.

TWA 800 crash is an open investigation. AI 182 crash is an open criminal investigation with an active RCMP task force assigned to it. PA 103 crash blame is unresolved and may have an international trial in the Netherlands. UAL 811 investigation report was incorrect the first time and corrected with a new AAR. El Al 1862 investigation has been reopened.

Efforts are now being made to persuade American authority that the forward cargo door ruptured/opened in fight for TWA 800 and then to determine why it opened so it won't happen again. Other efforts are being made to reevaluate the official causes for El Al 1862, PA 103, and AI 182.

Chapter Five is my 'Credential' to do so.

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Katherine D. Roome
Dear elected and appointed officials, manufacturer spokesman, editor, reporters, attorney and readers from the general public,

Sooner or later, everyone asks who I am.

credential kri-"den-chel n : something that gives a basis for credit or confidence.
May I present my something that gives you basis for confidence that I know something about sudden, fiery, fatal, mechanical, jet airplane crashes:

"Night FCLP

I popped up my canopy by toggling the switch on the left console. The aluminum clamshell with two small side windows whooshed up and locked. The warm night air of central Florida rushed into the cockpit displacing the cool forced conditioned air on my forehead while I still breathed the cold oxygen from my mask. The dull roar of the two idling jet engines hit me through my helmet; the intakes were just two feet away on my left and right, I was in the middle. I was strapped into the back seat of an RA-5C Vigilante at 2300 hours on a concrete ramp at Sanford Naval Air Station on 14 June 1967. We were conducting Night Field Carrier Landing Practice (FCLP) on Runway 27 with five other aircraft in the pattern. Wind was calm and temperature about 85 degrees. The sky was clear with only the flashing lights of the other aircraft as they went around and around the pattern to be seen.

My regular training pilot climbed out of his front cockpit and wiggled down the ladder attached to the fuselage and the new pilot climbed up and in. The fifty thousand pound airplane with its two fifteen thousand pound thrust idling engines sat in its chocks and vibrated as it was being refueled by a yellow truck off to the side. Flashing lights were everywhere but it was all orderly and the pilot switch and hot refueling was going off without a hitch. I took off my mask and instantly the smell of exhausted jet fuel came into the cockpit. I relaxed and enjoyed it. It was all very exciting.
The new pilot came up on hot mike and said, "OK, Smitty, how do you read?" He knew that his regularly assigned Reconnaissance Attack Navigator (RAN) had been replaced by me for this evening FCLP only.

"Loud and clear, sir," I replied, putting my mask back on and talking into the microphone embedded in it. I toggled down my canopy and it closed with a reassuring thump and clunked locked. The air cooled down and the noise eased for a bit. My regular pilot walked away without a look back. He had just practiced twelve landings and would do so again tomorrow night. He was an unmarried thirty eight year old Navy Commander who had been flying single seat jet reconnaissance fighters (F-8) off carriers for years and had had one combat tour in the new war in Vietnam. He was now preparing to carrier qualify in this type aircraft before he went back to war in Vietnam. It was his first time flying in a two seat carrier jet.

I was a single, twenty three year old Ensign navigator who had had little jet experience, little navigator experience and had never been in combat or even on a carrier. I was in awe of him. We had been assigned as a crew and we flew all our missions together. We were due to qualify in the RA-5C in one month on the USS Ranger, one of the large supercarriers of the time, and then on to combat in six months over North Vietnam flying from Yankee Station in the Gulf of Tonkin. But first we had to practice crew coordination and the techniques and procedures to land the largest and heaviest carrier aircraft on a flight deck. This was the pilot's time.

For the past several months I had been navigating low level, medium speed photo missions throughout Florida, Georgia,
Alabama, and Tennessee, learning how to take pictures of small bridges, roads, power plants, and prisons, while maneuvering up and down and all around at four hundred and eighty knots. The hardest part was not throwing up while thinking ahead of the airplane and putting in very small number new target coordinates into the computer. Now it was FCLP and all pilot technique and skill to get this airplane at a certain spot on the earth, in a certain attitude, at a certain speed, at a certain weight, and at a certain time. It had to be done right. We were doing OK.

"Any gripes?" my new pilot asked, referring to any problems the airplane might have developed during the previous two FCLP periods.

"No problems," I answered. My new pilot was a Lieutenant Commander, also thirty eight, and had had much experience in combat and RA-5C carrier flying. He was married and had five children. I addressed him as Mr. Butler. I was more respectful to him than in awe, but also felt much more friendly towards him. He had recently returned from a Western Pacific (WestPac) cruise and a harrowing combat tour. He was now undergoing refresher training before going out for another combat cruise with a different squadron than mine. I had volunteered to fly these two hops with him because I knew him to be safe and instructive.

"Call for taxi," he directed. I made all the radio calls but the incoming instructions were for the pilot who was listening and had his hands full trying to precisely place this ungainly airplane onto a spot of runway about twenty yards wide by twenty yards long. The A-5, like most supersonic aircraft, was a clumsy, underpowered buffalo when it was slow and dirty with flaps, droops, and landing gear down, but cleaned up it was a beautiful, graceful, speeding demon.
"Ground control, 201, taxi," I said into the oxygen mask as I pressed down on a button on right right footrest after first confirming I had the correct frequency set in the small window at eye level. We were flying one of twelve aircraft assigned to the only Navy tactical reconnaissance training squadron, RVAH-3. Our call sign was Commanche Trail 201 which I had shortened to 201. I would have shortened it to 01 but there was another 01 in the pattern and I did not want to be confused with him.

"201, Ground, cleared to taxi runway 27, wind calm, altimeter two niner niner two," the tower replied. "Ground," was short for "ground control" which was the title of the person in the tower who monitored aircraft movements on the ramp just prior to takeoff. The same person might be called, "Tower," after we were airborne.

The engines revved up and we started to slowly taxi toward the duty runway. We were only partially loaded with fuel because we would be landing shorty after takeoff and the landing gear would not support the weight of a fully loaded landing aircraft. The A-5 usually held thirty thousand pounds of jet fuel, about five thousand gallons, but for our touch and go's we usually took off with about seven thousand pounds of JP-4, or about a thousand gallons. That amount of fuel was sufficient for about twenty five minutes of six crash and dashes before we would stop and hot refuel again. Each pilot would then have had two exhausting periods of twelve field carrier landing practices on the night runway which had landing lights which simulated a carrier's angled flight deck. They usually emerged from the cockpit soaked in sweat.

There was a Landing Signal Officer (LSO) standing by the end of
the runway to talk to the pilots as they made their approach. The LSO, "Paddles," as he was called, was an experienced RA-5C pilot who made recommendations to the squadron commander as to whether a particular pilot was qualified to fly out to the ship for landing qualifications which would enable that pilot to go on the cruise. A thumbs down by Paddles was a serious thing for a pilot and his career.

"Take off checklist," my pilot intoned.

"Compass," I quickly promptly as I was expecting the request. I had only flown with Mr. Butler one other time, a day low-level hop through mountains in southern Tennessee. It was the only time I had ever tried the Terrain Following Radar (TFR) which allowed the plane to be guided below mountain tops by the navigator interpreting special radar signals. No one trusted the radar enough to use it for real. On that day the radar worked fine and I respected the pilot for at least showing his trust for me and the system. For that reason I had volunteered to stay and fly the extra two periods instead of getting out and leaving with my regular pilot who had completed his two periods.

"Set," the pilot answered the expected reply.

"Hook," I said.

"Up," he answered.

"IFF," I said, and then answered my own query, "set to standby." Identification, Friend or Foe (IFF) was not required since we never left the air station control area, but we always went through every checklist item anyway.
"Canopy," I said.

"Down and locked, lights out," he answered.

"Harness," I said.

"Locked," he replied.

"OK, flaps and take off power to go," I said as we neared the end of the runway." The takeoff ritual was proceeding exactly as usual. We never engaged in idle chitchat.

There was so much information coming into us from different sources that it required all our concentration to monitor and interpret it so we didn't have any time for non-life threatening conversation. We were closely watching dials telling us engine temperatures, flap position, radio frequency, fuel flow, hydraulic status lights and also listening to the tower, the LSO, and five other aircraft in the pattern. Our senses were alive with processing information, figuring out which calls were for us and which required responses. We had engine noise and radio noise also interfering with hearing clearly. Internal communication was kept to a minimum.

We waited for a minute as another aircraft came in for his approach. It was no use calling for take off yet and the common frequency was busy enough with six airplanes all communicating where they were, their intentions, their fuel states, and listening to the LSO give final landing instructions. I checked the inside of my small cockpit. My left elbow could touch the aluminum skin of the left side and my right elbow could touch the right. My arm partially bent forward could touch the front console. I had a little one foot by one foot window high up on the left and right side of
my canopy. In front of me there was a fold-down desk and a full instrument panel including radar, viewfinder, altimeters and many other electronic controls. It was cramped but comfortable once I knew where everything was. The seat was a hard beige plastic which was the bottom of the ejection seat which also went up my back and over the top of my head. The seat had to be hard to exert the correct forces without hurting the back. No cushions were allowed. I could not see nor touch my pilot in his equally small cockpit in front of me.

I figured that in an hour and a half I would be having a cold can of beer and a Florida lobster and baked potato dinner at my favorite Sanford restaurant.

I watched out my little right side window as the landing A-5 wobbled lower and lower. The A-5 came down in its flared position, wings rocking back and forth, and slammed down in front of us and then with a roar took back off again, then slowly turned right to prepare for its next touch and go. It was said that a carrier landing was nothing more than a controlled crash. One reason Air Force type aircraft were unsuitable for carrier landings is that the landing gear were never strong enough.

"OK, call for take off," my pilot said. We were on hot mike which allowed everything we said to be heard by each other. His breathing increased.

"Tower, 201 for takeoff," I quickly radioed.

"201, tower, cleared for takeoff, wind calm," the tower crisply responded. All the players were correctly anticipating each other.

"201, roger," I acknowledged.
As we quickly taxied into position at the end of the runway, I called off the last checklist item, "Flaps." A crew had once attempted to take off with flaps at zero. The plane never got airborne. It was such a small thing with such serious consequences.

"Flaps ten," he said, "OK, power coming up."

The engines now started their whining up to full roar. He released the brakes as soon as the engines were at one hundred percent and then kicked in the afterburners. We had to takeoff soon and leave room for the next A-5 now on final for landing. We started to roll.

"All temperatures normal," the pilot said as we gathered speed. Our takeoff roll was short because of our light fuel load and we were soon airborne and turning downwind to prepare to land in just a few minutes. He left the flaps at ten and the landing gear down. The afterburners were shut off and the power slightly reduced to maintain our speed of one hundred sixty knots downwind at six hundred feet. We would fly the whole six passes never getting higher than six hundred feet nor further away from the runway than a mile.

"201 abeam," I called as we passed parallel the runway. Each plane called various positions in the pattern to let everyone know where they were. The critical interval was how soon each pilot turned base which would determine how long his final approach would be. My regular pilot would often make fun of other pilots who preferred a longer approach than he did. My pilot tonight made no such derogatory statements; he just adjusted into the pattern.
"201 turning final, state 6.7," I called. We had 6700 pounds of fuel left, enough for five more passes after this one for a total of twenty five minutes of flight time.

"Landing checklist, flaps," I said to the pilot.

"Flaps full down," he replied in between heavy grunts. As usual it sounded as if the pilot was wrestling with a low, slow, clumsy, and very dangerous monster. The vibration increased at the airflow responded to the added drag of the huge flaps hanging full down into the airstream.

"Gear," I prompted.

"Three down and locked," he answered and then added, "I've got the ball, 6.0."

"Checklist complete," I said to the pilot and then stepped on my mike button and said, "201 ball, state 6.0," I let the LSO know we had the meatball in sight which was a reflected image in a mirror which let the pilot know his angle of approach toward the simulated end of the carrier. The mirror system and the lighting pattern were identical to that of the ship giving the pilots accurate simulation of a carrier night landing. Fuel state was critical information around the ship because most of the jets were always within minutes of flaming out if they did not land successfully. At a certain point the aircraft was diverted to a land runway if it was felt the plane could not make it aboard.

"Roger ball," the LSO acknowledged that we were on final, had the field and ball in sight and we had six thousand pounds of fuel left.
Our RA-5C wiggled its wings and the engines surged up and down as we got closer and closer to the cement runway.

"Little power," the LSO advised. No reply was expected. The whine grew louder as the pilot added a little power.

"Going high," the LSO's reassuring calm voice told us. I felt the power ease up.

My radar altimeter and pressure altimeter wound down lower and lower. Then came the expected thump of the landing as we hit approximately where we wanted to on the runway. During the FCLP debriefing the LSO would describe each pass to the pilot and give criticism. The LSO had the authority to wave off a plane from landing and his recommendation whether to divert a plane or not carried weight.

As soon as the thump of the landing occurred the engines went to full non-afterburning power and we almost immediately were airborne again and turning downwind quickly to keep the pattern tight. I noted the time of the landing, fuel state and any comments for later debrief on my pad.

This time upwind my pilot raised the landing gear and the flaps to ten degrees. Having to lower the gear for landing made the FCLP more realistic. The first night FCLP was the hardest for each pilot and now that we had that one over, I relaxed and went into the routine. I settled into the small cockpit, checked my pad of paper clamped to the desktop with the record of landings and fuel states. I cinched up my harness, checked my clear visor down and gloves on tight. I was wearing a new silver flight suit that was undergoing testing. It had the parachute harness
integrated into the suit, unlike the regular flight suit that had the harness added on as a separate item. The plane tossed and turned; it was a little like an amusement ride at a carnival. Again downwind I called, "201 abeam."

"Landing checklist, flaps," I quickly said. We both knew what the other was about to say and also knew the expected response.

"Flaps full," he replied.

"Gear," I prompted.

"Three down and locked, state 5.0," he answered just after the small thumps of the landing gear locking in place were felt.

"Checklist complete," I said to the pilot, and to the LSO I said, "201, on final, state 5.0."

The plane began its usual last minute maneuverings. This particular plane, Bureau Number 149314, was on its second full day of flight operations after having been returned from a Progressive Aircraft Rework (PAR) program which updated all the systems and repainted the aircraft inside and out. It gave the feeling of flying in a brand new airplane. We also carried a million dollar camera in the reconnaissance pod. Normally the camera would not be used on the rough FCLP but this plane was up, flyable, and needed. The Navy policy of aircraft usage was when a plane was ready to fly, a crew was found to fly it. The constant pounding of the landings was hard going on camera mounts and internal parts.

"I've got the ball, 4.8" my pilot said calmly.
"201, ball 4.8," I reported to the LSO.

"Roger ball," the LSO answered.

We staggered along as usual and made a nice pass with no comments from the LSO. The plane thumped its usual thump and accelerated as the pilot applied full takeoff power. We started to climb. I started to write down the landing and the fuel state on my pad in the well-lit small cockpit when I heard a sudden soft rushing sound off to my right.

Just then my pilot said, in a slightly exasperated voice, "Oh, shit, starboard engine."

I immediately asked, as I started to put my pencil into its holder still listening to the whooshing on my right, "What's the matter?"

My pilot quickly answered me. "Standby, eject," he said in a terse, level tone of voice.

I immediately reached up with both hands and pulled the face curtain all the way down over my face and upper body.

Nothing happened.

The rushing sound continued as I looked down to see what was wrong and started to think that we were low and wouldn't have much time to do any of the manual procedures such as blowing off my canopy, unhooking myself from the seat, and jumping out. As it turned out, the delay was caused by the normal functioning of the seat firing sequence which allowed three quarters of a second for the seat to be set in the full down position. Since I was tall, I always had it in the full down
position. I was still looking down when the rocket ejection seat fired. The cockpit was immediately filled with bright flame and I was ejected upwards. The original ejection seats were fired with explosive charges, but too many pilots suffered back injuries so the seat was improved by having this seat propelled by a small rocket charge that reduced the initial shock on the back. The ride up was smooth.

After the bright flash of the rocket firing I had just enough time to think that I hoped everything worked normally. I knew the complicated sequence that had to be followed precisely for me to live through this.

Just then I felt a great tug and felt warm black sky all around so the knee restraints had retracted normally, the seat had bottomed out, my canopy had blown off, the seat had fired, the knee restraints had been popped off, the bladder behind me had inflated separating me from the six hundred pound ejection seat, my drogue parachute had deployed immediately since we were below twelve thousand feet, my main parachute had opened, my face curtain was gone with the seat and I was coming down to earth under a parachute while breathing oxygen from my ten minute bailout bottle. My new silver flight suit had held and was comfortable. I did not know what had happened to my pilot. His ejection sequence is delayed one and three quarter seconds to permit my ejection sequence to complete itself before his sequence commences. Without the delay there would be a chance of his canopy blowing away into me as I was ejected upward.

As soon as I had realized that the chute had opened I saw a brilliant yellow flash down and to my left as my airplane hit the ground. I thought, "Just like in the movies." It hit and smeared a yellow flash in the night.
After a maximum of three seconds in the calm air after the chute opened I abruptly hit the ground in a standing position and crumpled down into a heap. During training I was taught to roll upon landing using the fleshy parts of my body to cushion the landing. They never mentioned what to do on a pitch dark night when the ground was invisible. As soon as I hit, I felt a sharp pain in my back but quickly got up and looked around. The burning plane was about forty yards away, upside down, and making explosive noises. I was on a hard, flat, grassy field. I kept the oxygen mask on because the gas was cool and I knew it was clean. I put my blinking flashlight on my harness, as instructed in my training classes, and started to walk away to look for my pilot. I then took off the oxygen mask and breathed in the warm Florida night air. I laughed and thought, "I did it and this is really something to talk about, I can't wait to tell the guys." I shouted, "Mr. Butler, Mr. Butler." There was no answer, just the crackling of the burning airplane.

I walked around a bit, still exhilarated but very aware of my situation. It had only been a minute since the sudden rushing noise, but it had seemed like a lifetime. A Navy fire truck drove up with some fireman hanging onto the sides. It stopped and the fireman asked me if I was all right and I said sure, why not, and laughed. They didn't laugh. The plane had crashed just next to the runway. I climbed into a yellow Navy pickup truck that soon came up and we drove to a central grouping spot. I asked about my pilot but got no answer. I got out and walked over to a circle of men standing around a parachute I knew wasn't mine. I walked over to my pilot's parachute and it looked to me as if the flight suit attached to it had just been thrown into a heap on the grassy ground. I guessed he had unzipped his flight suit and had squirmed out of the suit, leaving it attached to the parachute
which was laying all strewn out. I again asked where my pilot was, but there was no answer, only silence, as everyone just stood around and looked. There was no activity other than silent standing around. The plane was going to burn itself out and there was no searching going on.

I realized then that my pilot was still inside his flight suit and he was dead. I wasn't happy anymore and didn't look forward to telling the guys all about it anymore either. I sighed and went back to the truck and asked to be taken back to the tower. My back was starting to hurt whenever I bent over. I rode back silently to the tower where my regular pilot and our squadron commander were already waiting. I told them we lost the starboard engine and we ejected. I told them my pilot was dead but they didn't seem to want to believe it. They said I was in shock and to relax. The safety officer was there and suggested I tell everything I knew into a tape recorder for the accident investigation. I agreed and sat down with him and told the whole story as close as I could remember it. I then went back to the locker room, changed my clothes and went home to bed.

The next day I woke up and my back was really hurting from a compression fracture of thoracic vertebrate six from the abrupt parachute landing. I went to work, was sent to the Dispensary where I was given some muscle relaxants for my back, and took two days off. I resumed flying and completed my training. The accident report revealed that a loose clamp, probably undone or not correctly tightened during the Progressive Rework, had become loose and was ingested into the starboard engine causing Foreign Object Damage (FOD) and a fire.

The pilot's ejection sequence was normal but he was too low or the angle was not vertical enough for the parachute to inflate
after it was pulled from the ejection seat by the drogue. It was guessed that he was too low because the aircraft had rolled slightly to the right while waiting for my ejection sequence to complete and thus changed the trajectory of the seat from the vertical to the horizontal. He died of massive internal injuries. It was reported that he should have used the alternate ejection handles on each armrest instead of the face curtain because that way he could have maintained the aircraft in level flight instead of taking his hands off the control stick to reach up and pull the face curtain. Up until that crash it was believed that the Vigilante could maintain altitude and even climb if an engine out situation developed when low, slow, and dirty. NATOPS was changed to have the A-5 reach five hundred feet before turning downwind. I believe that my pilot did everything right from quickly identifying the source of the noise, to deciding the airplane was not airworthy, informing his crew with instructions, and following the correct ejection sequence. And he still died and I lived. The End"

"Transplant"

"At 0600, 9 July, 1969, the two RA-5C Vigilantes and a lone A-3 Skywarrior taxied into position and held for a section takeoff. Planning was complete, the planes were ready, the crews were ready, and the mission was finally about to begin.

The two RA-5C Vigilantes and the lone A-3 Skywarrior taxied back to the ramp and shut down. Weather in the Azores had prevented a Marine Corps KC-130 Hercules tanker from taking off. Weather was forecast to be clear the next day. If the flight did not go as scheduled the next day, the mission would be cancelled entirely because all the tankers had commitments elsewhere.
The mission was to cross the Atlantic non-stop for the first time in an RA-5C aircraft, the most complex and expensive carrier based aircraft the Navy operated.

The RA-5C Vigilante was a tandem, two crew, supersonic, carrier based, twin jet, mainly used for reconnaissance. It was possible to drop four nuclear bombs from external racks and it was also possible to tank other aircraft from buddy fuel tanks with drogues. The primary mission was photo reconnaissance from a camera pod under the fuselage. The pod usually held a forward oblique twelve inch focal inch camera, two side obliques, and an "azvert," an azimuth vertical camera. In addition, the pod usually held passive electronic countermeasures equipment or side looking radar. It was the first operational plane to have fly by wire flight controls. It had variable ramps to control inlet air flow. It had inertial nav system. It had a lot of titanium in the engine bays. It had folding wings, oxygen masks, ejection seats, afterburners, a tailhook, and it went faster than a speeding bullet.

The RA-5C had never crossed the Atlantic nonstop before.

Usually the planes are hoisted aboard dockside or retrieved aboard the carrier a hundred or so miles off the coast and then transported to the Mediterranean for operations. In addition, the Vigilante rarely went on a flight of two hours or so without something fairly serious going wrong with it.

The deployment was a six month Mediterranean cruise aboard the USS Saratoga with RVAH-1. The squadron had six A-5s and nine flight crews of pilot and RAN (Reconnaissance Attack Navigator).
That night after the abort the flight plan was reviewed again for the hundredth time. The A-5 used a certain amount of fuel to go a certain distance. The fuel load and distance was known. Easy problem. The hard problem was that there were two types of planes with different fuel loads and burn rates. Also there were three airplanes and only two refueling drogues. Also the tanker could only fly up to 21000 feet and 270 knots which was way below and slower than cruise for the A5 and A-3. Also two of the three tankings were outside of any visual or external electronic navigation reference.

Planning had started a month before when the Commanding Officer had called me into his office, told me the mission and told me to plan it.

All the charts were laid out on the planning table on hot afternoons in Albany Georgia, our homebase. It became clear that we would need three tankings.

Another tricky part was to have enough fuel left over at the start of the tank to permit a bingo to a land field in case of refueling failure. The divert fields chosen were Cherry Point, NC on the East Coast, Bermuda, and Lajes Air Force Base, Azores. The KC-130 had to have enough fuel to get to the tanking rendezvous and then have enough left over to refuel three twin engine jets. Their takeoff timing was critical because they left before we left and they could not loiter long in the rendezvous area and still have enough fuel left over for giving away.

The three flightcrews visited Cherry Point Marine Corps Air Station to brief the tanker crews on where, when, and how to meet us over the ocean. We also practiced tanking off the coast.
The next morning after the abort we received our weather briefing and tanker status. The weather was forecast to be clear most of the way with some scattered stuff under us. The tankers took off from Cherry Point and Lajes. The other flight crews had been given copies of the flight plan. The A-5 was the lead because of the superior computer inertial navigation system. It had the ability to store five waypoints.

The A-5s and the A-3 taxied into position.

Just then my quick disconnect came disconnected. There is a hose and wires leading from the oxygen mask and helmet into the seat. One hose is oxygen and the wires are from the mike embedded in the mask and the earphones embedded in the helmet. With cords disconnected there was no oxygen or communications with the pilot or radios. It had never happened before and never happened again. The pilot could not see me in trouble in back of him. The checklists were completed and we were getting ready to taxi into position for takeoff.

I clamped all the charts down tight, I unhooked myself from the ejection seat which was still armed. I opened the canopy, I stood up and grabbed the quick disconnect and jammed it with all my might into the socket. It appeared to stick. I sat down, hooked up to the seat, closed the canopy, and checked the radios and oxygen. They all appeared normal. I found out later that that task always took two mechs to complete, one to guide the hose and wires into the very delicate slots and one man pushing with all his might. The seat had been defective; I hoped that was all that was wrong with it.

All three of us took off and joined up. We were off!
One more tanker was standing by to takeoff from Lajes for the third tanking later in the mission.

The three airplanes climbed to FL 330 at 465 KTAS and took up true heading 070. The climb took twelve minutes and used 5800 pounds of JP-4, leaving 16200 pounds in the wings, fuselage, and bomb bay tanks. The planes were clean with no external drop tanks.

Fifty-five minutes after takeoff, aided by accurate inertial navigation and Tacan fixes, the first tanking started 100 miles off the coast of South Carolina. The flight had to descend to FL 210 and slow down to 270 KTAS to tank from the turboprop KC-130. The tanker only had two drogues so one plane had to wait until one had finished and then the two had to wait for the remaining plane to tank.

Approaching the drogue, the Viggie would pitch up and down as the pilot tried to plug in and the drogue would flap around in the wash. When plugged in, refueling took about 10 minutes at a thousand pounds a minute transfer rate. The plane which waited for an empty drogue burned fuel at a higher rate because of the lower tanking altitude and was already at a minimum state.

Sometimes drogues came off, probes failed to retract, and loose hoses flooded engines. Any of those events would cause an abort of the mission to a divert field. The entire first tanking took twenty minutes and the Viggies took on 8600 pounds to top off at 22000.

The flight climbed up from 17500' MSL to FL 330; the tanker had "skied" downslope from FL 210 to keep up speed. A fully
loaded Viggie would nearly stall at the maximum speed of the tanker. Ten degrees flaps and droops were used to maintain control while tanking at the slow speed of 270 KTAS.

The hard plastic of the ejection seat was becoming uncomfortable and one A-5 had no autopilot. Other than that, there were no problems as the flight of three continued on.

The next tanking was the most critical as it was conducted the farthest from a divert field. If a tanking were unsuccessful, the plane would divert to Bermuda. The route had been bent south from the great circle course to get a fix at 200NM north of Bermuda Vortac with the tanking being conducted another 200 NM further on. The divert would take an hour and use 6000 pounds of fuel. Weather at "Bermadu" was forecast to be CAVU.

Electronic contact was made with the tanker early by the flight and all four aircraft converged on an invisible spot twenty-one thousand feet over the ocean, four hundred miles from land.

Visual contact was made and three hours into the flight the second tanking went successfully.

Climb was made to FL 350 from 17500' MSL holding 072 true heading. Cruise was set at 6000 pounds an hour with a true of 465 KTAS. Headwinds were less than predicted. Ground speed was 450 KTS.

Relieving oneself was very difficult in the small cockpit but had to be done after five hours. Each cockpit was small enough for the crewmember to touch all sides, including the front panel, with his elbows. There were three ejection handles that had to be avoided. Water was carried with a little fresh food. Search Air
Rescue planes had been notified of our trip and would assist if necessary.

The third and last tanking was to take place over the westernmost island in the Azores chain. A positive land sighting was available for reference and the divert field was only a half hour away. There was still plenty of daylight left.

Communication with the tanker was made and visual contact was attempted. Weather was clear, visibility unlimited, and the air was smooth.

The flight of three planes with its seven crew could not see the KC-130 as the four airplanes orbited the island and each other at 21000 feet. The crews were talking to one another and each agreed they were at the same altitude over the same island down below. Several orbits were made and the time was approaching when the divert would have to be made because of low fuel state.

On the last four minute, standard rate turn before divert, the A-3 pilot reported seeing a shadow pass over his cockpit. It was the KC-130. The mid-air was averted and tanking commenced six hours into the flight.

The tankers were thanked and the last long leg into NAS Rota, Spain, began. Since afterburner was not used for takeoff and the climb started up high there was quite a bit of fuel left for cruise on the final leg. Weather was forecast to be clear.

Eight hours into the flight the plane's radar picked up the coast of Portugal. A few minutes later Tacan locked on, then the coast was visually sighted. Eight hours forty minutes and 3780 NM after takeoff from the United States the flight landed in Spain,
safe and sound with fuel to spare. The next day the moon landing was made.

After climbing out of the cockpit I felt as if the proverbial ton of bricks was off my shoulders. It was the responsibility of the other planes and crews more than the relief of a successful flight.

There are three places on the Vigilante where the dual hydraulic systems meet. They are the wing folds and the tail fold. As we walked around the planes we noticed a pool of red hydraulic fluid coming out of the port wing fold cylinder of the other Vigilante. That plane could not have had more than five minutes of fluid left before dual failure and no flight controls. A certain ejection and crash.

A week later my seat was undergoing routine maintenance when the mech called me over to look at something. The left knee retract hook which pulled my legs in tight to the seat during ejection and which blows off once ejected, was safety wired to the seat. That meant the knee retract would not blow off and I would have been tied to the seat as it dangled below me. The added weight of the ejection seat would have collapsed the canopy of the chute before I could have wiggled out of the safety wired knee retract. The seat had had two almost fatal defects. What might have been, and wasn't."

RA-5C Vigilantes, Bureau Numbers 150841 and 149314 of RVAH-3. US Navy reconnaissance navigator, RA-5C 650 hours, 1967-1969. Buno 149314 was the accident aircraft. This picture taken one month before crash.

The RA-5C Vigilante was a Mach 2, two-place, twin-engine multisensor reconnaissance aircraft designed and built for the
The Vigilante is capable of all-weather long-range carrier-based or land-based multisensor reconnaissance missions involving high-altitude supersonic or very low-altitude, high-speed penetrations. The RA-5C inertial navigation system provides the precise position location information demanded by reconnaissance missions. The primary mission of the RA-5C is tactical reconnaissance. The aircraft and its systems comprise one-half of the U.S. Navy Integrated Operational Intelligence System (IOIS). The airborne system's counterpart is the ship- or ground-based Integrated Operational Intelligence Center (IOIC). This system is designed to provide tactical commanders with up-to-date intelligence information on any target area. The Vigilante is equipped with a specially configured, modularized, multisensor installation containing the latest operational sensors. Vertical and oblique serial frame and horizon-to-horizon scanning panoramic cameras, high-resolution side-looking radar, infrared, and passive electronic countermeasures (PECM) equipment provide for day-night and all-weather multisensor collection. Sensors are selected for a given mission in accordance with the type of data desired. The Vigilante's two-man crew, pilot and reconnaissance/attack navigator (RAN), is seated in tandem under individual clam shell-type canopies. The RAN controls all reconnaissance functions, although the pilot can assume control of the oblique-mounted serial frame cameras for targets of opportunity. Each crewmember has a catapult/rocket-powered ejection seat, also designed and produced at Columbus, which is capable of high-altitude, high-speed, or ground-level recoveries. The RA-5C is powered by two General Electric J79-GE-10 turbojet engines, each producing 11,870 pounds of thrust without
afterburner and 17,859 pounds of thrust with afterburner. Fuel is contained in two large bladder-type tanks in the fuselage, a saddle tank in the rear fuselage, an integral tank in each wing, two or three fuel cans in the fuselage tunnel between the engines, and provisions for four external drop tanks. The RA-5C also has the capability to deliver conventional weapons, day or night in all kinds of weather. Combined with its tactical reconnaissance capabilities, the Vigilante is one of the most versatile in the world.

DATA ON THE U.S. NAVY NORTH AMERICAN RA-5C WEAPON SYSTEM
DIMENSIONS (approximate) Span: 50 feet Length overall: 70 feet Height overall: 20 feet With provisions to fold wings, tail and nose.
SPEED Mach 2 range
POWER PLANT Two General Electric J79-8 turbojet engines, each producing 10,900 pounds thrust without afterburner, and 17,000 pounds thrust with afterburner.
BOMB DELIVERY Linear bay which runs lengthwise in fuselage. Bombload is ejected rearward.
MISSION To provide the fleet with an all-weather, carrier-based attack weapon system and tactical reconnaissance aircraft which can deliver both non-nuclear and nuclear weapons at either high or low altitudes on distant targets at speeds up to twice that of sound.
DESCRIPTION The RA-5C features a high, thin swept wing and all-movable slab-type tail surfaces with spoiler/deflectors in lieu of conventional ailerons for lateral control. The wing is equipped with flaps and droopable leading edges with boundary layer control, which, when used in conjunction with the spoiler/deflectors, improve low speed flight characteristics. The two cockpits are arranged in tandem.

LANDING GEAR Type: Tricycle, Hydraulically Retracted Tires and Wheels: (2) 36 x 11 and (1) 26 x 6.6 Brakes: Multiple disc - Hydraulic Landing Gear Shock Struts: Air - Oil JSE 113064

The below links are to pages of the US Navy Accident Report and to other pages which describe a trans Atlantic (Translant) flight made in 1969.
http://www.corazon.com/314accidentreport.html
http://www.corazon.com/314aircraftdamage.html
http://www.corazon.com/314coverlet1.html
http://www.corazon.com/314coverletter.html
http://www.corazon.com/314ejectsequence1.html
http://www.corazon.com/314ejectsequence1a.html
http://www.corazon.com/314ejectsequence2.html
http://www.corazon.com/314FOD.html
http://www.corazon.com/314randamage.html
http://www.corazon.com/314seatused.html
http://www.corazon.com/314summary.html
http://www.corazon.com/314summary2.html
http://www.corazon.com/314wreckageplot.html
http://www.corazon.com/314wreckageplotlegend.html
http://www.corazon.com/RA-5Condeckcombat.html
http://www.corazon.com/RA-5Ctranslantchart.html
http://www.corazon.com/RA-5Ctranslantlog.html
http://www.corazon.com/RA-5Ctranslantvisualplan.html
So what exactly does a credential mean?

This is what I believe: The messenger and the truth of his message are totally independent. The truth of a message is in the message, not in the messenger. The demeanor, style, and stature of the messenger are irrelevant and may even be misleading. The messenger may believe fervently in the truth of his message but his opinion carries if contradicted by evidence.

The truth of wiring/cargo door explanation for four early Boeing 747s relies on the evidence of the events and not on the interpretation of this messenger/discoverer or the rebuttal of 'experts' opinions. Likewise, the truth of spontaneous center fuel tank explosion or bombs must rely on evidence and not on the interpretations of government authority.

Facts, data, and evidence are everything; the title, degree, and experience of the interpreter are minor.

In the case of the four wiring/cargo door probable events, AI 182,
PA 103, UAL 811, and TWA 800, the message is there to be refuted or confirmed by the evidence of which there is much: Cockpit voice recorders, Flight data recorders, ATC tapes, wreckage reconstructions, photographs, previous accidents, and background reference materials. It is all there for those four events for investigators to adequately explain what happened. At this time, the official explanations for three of the events, AI 182, PA 103, and TWA 800 do not adequately explain what happened as shown by all three having active investigations continuing years after the events. The bomb explanations have flimsy evidence for bombs and the center tank explanation lacks an ignition source. Only wiring/cargo door explanation adequately fits the evidence for all the accidents.

Four sudden loud sounds on four CVRs at event time for four hull ruptures forward of the wing on the right side in flight are more significant than any credential of an 'expert' who interprets them to mean bomb on left side of forward cargo bay (AI 182 officially), bomb on right side of forward cargo bay (PA 103 officially), bomb on right side of cargo bay (UAL 811 flight crew), bomb on right side of cargo bay (TWA 800 FBI), missile on left side of cargo bay (TWA 800 FBI), or spontaneous ignition of center fuel tank (TWA 800 NTSB).

Wiring/cargo door explanation is inadvertent rupture of forward cargo door in flight leading to explosive decompression on four early 747s leaving a sudden loud sound on the CVRs.

The evidence has to support the explanation, not the credential.

The main reason why I feel that my sudden fiery fatal mechanical jet airplane crash gives me credence to talk about sudden night fiery fatal jet airplane crashes is that I've been there and I've
learned certain things. 1. It's sudden. 2. It's final. 3. There is no pride, or shame, or embarrassment when close to death. 4. My life was literally saved by human nature and science; that is, my pilot, Mr. C. T. Butler, took the critical few seconds to tell me to eject and the ejection seat and parachute system worked as advertised.

My entire motivation to pursue a discovered, but not officially confirmed, cause of jet plane crashes derives from those few seconds in my life over thirty years ago. I strive to stop that event from happening again to me or others.

I submit to no one's opinion regarding the cause of four early Boeing 747 accidents just because he/she is an official, or engineer, or reporter, or family member, or attorney. Facts, data, and evidence are everything; science is respected. I respect gravity, inertial force of decompression, kinetic force of impact, and the time arrow always moves forward.

Science says that four forward cargo doors ruptured/opened in flight on four early Boeing 747s as shown by facts, data, and the evidence. Chapter Six is the destruction sequence as best described by the wiring/cargo door explanation.

Cheers,

John Barry Smith

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US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

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Dear elected and appointed officials, manufacturer spokesman, editor, reporters, and attorney, and readers from the general public, 24 November 1998

The following is the best sequence of destruction that can be
determined with the facts available using the wiring/cargo door probable cause for the hull rupture of TWA 800 in flight:

Sequence of Destruction for TWA Flight 800

Hot humid air in the forward cargo compartment was subjected to cold conditioned air after takeoff on hot summer evening near New York on July 17, 1996. Condensation was precipitated out and formed on cold metal fuselage skin. Or water entered into the forward cargo bay from the rain shower during cargo loading. The Poly-X aromatic polyimide insulation type wire bundle in the cargo door area which held the cargo door cam latch motor became chafed by the friction of continuous vibration against a clamp, or too tight turn radius of the wire, or many door openings and closings on it. The sheath around bundle was worn through to insulation and then worn through to bare wire. Water met the bare wire and shorted against the metal fuselage charring wires and powering on door actuator motor which attempted to rotate all ten cam sectors to unlocked positions around their latching pins. The eight lower cam sectors were prevented from unlatching around pins because of the strengthened eight locking sectors. However, the two midspan latches have no locking sectors to prevent the inadvertent rotation of the midspan latching cams around the midspan latching pins. The powered on door actuator, an aging out of rig cargo door, the slack in bellcranks, torque tubes, and high time worn latch pins allowed the midspan latches only to rotate just past center permitting the 38115 pounds of internal pressure on the 99 inch by 110 inch door to rupture outward.

The nine foot by eight foot squarish door burst open at the midspan latches sending the latches, door material, and large pieces of fuselage skin spinning away in the setting sun which
reflected upon the shiny metal as it spun away erratically and appeared as a red-orange streak to ground observers. The aft door frame at aft midspan latch position bulged outward. The forward door frame at forward midspan latch was bulged outward with outward peeled skin. The fuselage skin forward of the wing was torn vertically. The forward cargo door fractured and shattered into a few large pieces and many small pieces. The bottom eight latches held tight to the bottom eight latch pins on the bottom sill while bottom external skin of door blew away. The top piece of the red topped cargo door opened outward and upward smashing into the white fuselage skin above it leaving the red paint of the door on the white paint between passenger windows above. Or the fuselage skin in the cargo door area was stretched as the explosive decompression blew out door and windows above it. When the skin stretched it peeled away the top white paint exposing red paint below. The red paint of the trim was rubbed away by contact with upper skin showing the white base coat paint underneath The top piece of the door took the hinge with it and fuselage skin as it is tore away. The now loose red painted trim pieces flew directly aft and impacted the right horizontal stabilizer leaving a red paint transfer mark on it. The hinge received overtravel impression marks on the opposite hinge when door overextended to slam on fuselage above. The top piece of the door shows inward damage when it hit fuselage above.

The explosive decompression of the thirty eight thousand pounds of internal force on the door blew out a large hole about twenty feet wide and forty feet high on the right side of the nose forward of the wing as well as in the cargo bay belly. Parts of the cargo bay structure were the first parts to leave the aircraft along with midspan latches, manual locking handle, and torque tubes. The now uncompressed air molecules rushed out of the huge hole
equalizing high pressure inside the fuselage to low pressure outside while making a very loud noise. Fuselage skin was peeled outward at various places on the right side of the nose. The sudden rushing outward air was recorded on the Cockpit Voice Recorder as a sudden loud sound. The explosive decompression of the forward cargo hold severely disrupted the nearby main equipment compartment which housed power cables and abruptly shut off power to the Flight Data Recorder.

At least nine passenger's bodies were never found, only bone fragments. The number three engine also ingested metal and other foreign objects from the baggage compartment and caused engine number three to catch fire internally and spew fire from exhaust from the inefficient burning of fuel. The number three engine with its pylon started to vibrate towards uncontainment and a stator blade from the engine was spit out and impacted directly behind it in the right horizontal stabilizer. The number three engine has internal soot from the fire, missing blades from the uncontainment, and soft body impacts from the foreign object damage.

The floor beams above the cargo hold were sucked downward, fractured and broken from the sudden decompression. The main structural members of door and frame were gone or compromised. The flight attitude of the aircraft was askew to the left from reaction of explosive decompression to the right. Air rushed into the large hole and weakened other skin and frames peeling skin further outward. The 300 knots of indicated airspeed pressed upon the weakened nose and crumpled it into the large hole to the right. The nose tore off and landed in a dense debris heap apart from the rest of the plane.

The port side forward of the wing was smooth and unshattered
while the starboard side forward of the wing was shattered, torn, and frayed at ruptured cargo door area which revealed a severely disturbed area over a twenty feet by forty foot explosive decompression zone. Outward petal shaped fuselage skin appeared at midspan latches from rupture. Midspan latches were blown away. Fuselage skin remained smooth next to blown out skin where vertical frames strengthened the skin.

The rest of the plane without the nose suddenly decelerated from 300 knots and caused whiplash injuries to passengers. Passengers inside fuselage had baro-trauma to eardrums which ruptured trying to equalize middle ear pressure. The plane maneuvered with huge gaping wound in front increasing drag. Aircraft started to descend immediately. The 300 knots of wind force caused the disintegration of the remaining fuselage and wings. Fuel poured out of ruptured tanks as wreckage fell. The broken fuselage, the ruptured wings, the fuel cloud, the center tank, and the spinning, on fire engine number three met at 7500 feet and exploded into a bright loud fireball putting singe marks on the fuselage skin while leaving the earlier departed nose singe and burn mark free. The center tank exploded as well as other nearby fuel tanks. Forward passengers were not burned because they were in the earlier separated nose. The debris fell and spread out from 7500 feet to sea level in windblown southeast direction, leaving a wide debris field. The aft cargo door pieces were found in the aft fuselage debris field.

Pieces of the nose and center tank which fell in the early debris field were unsooted. Pieces of fuselage and center tank which fell into the later debris field were sooted.

Explosive decompression at the forward cargo hold led to suspicion of a bomb in forward cargo compartment but bomb
later ruled out due to lack of corroborating evidence. Debris ejected to the right from explosive decompression led to suspicion of missile exploding on left side of nose. A streak of shiny metal object spinning away reflecting evening sun to ground observers led to suspicion of missile exhaust. Singe marks, burns, and witness marks inside center fuel tank led to suspicion of spontaneous center fuel tank explosion. There were difficulties in determining ignition source, fuel volatility, unheard fuel explosion sound on CVR, unilateral fuselage damage, singe marks, and other evidence needed to corroborate center tank explosion as initial explosion. There were difficulties determining placement of bomb, who did it, and what kind of bomb it was. There were difficulties determining who fired the missile, where it hit, and what kind it was.

Fuselage rupture at midspan latches of forward cargo door inflight was initially rejected because bottom eight latches were found latched around eight locking pins while two midspan latches were not recovered, examined, or evaluated.

Questions about center tank explosion as initial event which evidence raises.

1. Sudden loud sound on Cockpit Voice Recorder is described as start of aircraft breakup but not sound of explosion. Sound on CVR does not match other staged Boeing 747 center tank explosion. How can an explosion in the center tank be powerful enough to start the aircraft breakup and blow off nose of Boeing 747 and not be heard on CVR?

Sudden loud sound is sound of explosive decompression which gives a sudden loud sound when forward cargo door ruptures/opens in flight. The TWA 800 sudden loud sound was linked to
PA 103 sudden loud sound on CVR which was linked to AI 182 sudden loud sound on CVR which was linked to confirmed DC-10 cargo door explosive decompression on CVR. UAL 811 had a cargo door rupture/open in flight and recorded a sudden loud sound on the CVR. The sound is the sudden rushing of air molecules which were compressed now moving fast outward to equalize with the lower pressure outside air.

2. Center tank explosion would be spherical, not directed, and would either give no damage forward of the wing or about equal damage on both sides of the fuselage of TWA 800. The wreckage reconstruction shows smooth skin with little damage forward of the wing on the port/left side yet severe, shattered, torn, and frayed damage on the starboard/right side of the fuselage in the cargo door area. How can a center tank explosion cause unilateral damage only on starboard side?

Explosive decompression and rupture of forward cargo door area when aft midspan latch ruptures would give shattered, torn and frayed, damage to starboard cargo door area while leaving port/left/opposite side smooth and light damage. Cargo door rupture would give the unilateral damage on starboard side as shown by TWA 800 wreckage, not center tank explosion.

3. TWA 800 wreckage reconstruction shows outward peeled skin, outward rupture hole, and paint transfers. Water impact damage would be inward, not outward. How could water impact damage produce outward peeled skin, outward rupture hole, and paint transfers?

Explosive decompression in nose of TWA 800 would give outward peeled skin in nose, outward rupture hole, and paint transfers as internal high pressure rushes outward to equalize
with the low outside pressure. Center tank explosion would not.

Above picture show aft midspan latch rupture area, red paint markings, and shattered cargo door area.

4. TWA 800 wreckage reconstruction shows red paints smears only above the forward cargo door area and nowhere else on both side of the Boeing 747 fuselage. This indicates that the red painted door below ruptured/opened outward, slammed upward, and smashed into the white painted area above and transferred red paint from door onto white paint between windows. Or it indicates an outward stretching of the fuselage skin. How did red paint smears get where they are?

After the rupture at aft midspan latch the door fractured and upper piece of the red painted door was pushed outward, rotated on its hinge, slammed upward and smashed into the white painted fuselage skin above, transferring red paint to the white painted area between the passengers windows, as shown by the TWA 800 reconstruction. UAL 811 also had paint transfer from door to fuselage when its door opened in flight. Or the explosive decompression bulged fuselage skin outward so that white paint was removed revealing red below.

5. A center tank explosion would be far enough away from power cables to allow the Flight Data Recorder to record longer than the abrupt power cut it suffered. How can a center tank explosion which is not loud enough to be heard on the CVR and some distance away be strong enough to abruptly cease power to the FDR?

The explosive decompression in the cargo compartment would
severely disrupt the cargo hold floor and the adjacent main equipment compartment in which the FDR and power cables are located. The severe disruption would abruptly cease power to the FDR. UAL 811 also had abrupt power cut when its cargo door opened in flight. Center tank explosion would not abruptly cut power to FDR and CVR.

6. How could forward cargo door rupture/open when bottom eight latches are latched and locked in TWA reconstruction?

The forward cargo door of Boeing 747s is about nine feet by eight feet square. It has a hinge on the top and eight cam latches on the bottom. On each nine foot side is one midspan latch. The bottom eight cam latches go around eight latching pins. Over each cam latch is a locking sector. The two midspan latches have no locking sectors. The forward cargo door could rupture at the midspan latches and the hinge and bottom eight latches could still be attached to fuselage skin. The top of the door with hinge attached would tear off with the fuselage skin and spin away. The bottom eight latches could stay attached to bottom sill and continue down to the sea with the nose. The middle of the large door can still be ruptured/opened while the lower part stays attached to airframe's Doors can open/rupture with most or all latches latched. TWA 800 reconstruction shows aft midspan latches missing which implies they became unlatched. The door frame sills are smooth and not attached to door which implies door ruptured in those areas.

7. How could forward cargo door rupture cause center tank explosion?

When cargo door ruptures in flight a huge hole is created in nose which the 300 knot slipstream tears off. The falling, noseless,
structurally compromised aircraft disintegrated into debris of rupturing fuel tanks, fuselage pieces including center tank, and spinning hot on fire jet engine number 3. When falling debris reached about 7500 feet, the fodded on fire engine number three ignited the fuel cloud and center fuel tank into a fireball. Center tank fire/explosion occurred but later and lower than forward cargo door rupture initial event.

Event, consequence, significance, source for destruction sequence:

1. Hot humid air in forward cargo compartment was subjected to cold conditioned air after takeoff on hot summer evening near New York on July 17, 1996 or water from rain entered cargo bay. NTSB exhibits gave takeoff time and temperatures plus the airconditioning system in Boeing 747s. Rain shower passed over TWA 800 prior to takeoff.

2. Condensation was precipitated out and formed on cold metal fuselage skin.

Water was available to ground any bare wires to fuselage skin. Observation made of water cascading out of forward cargo hold of Boeing airliner by John Barry Smith standing in concourse at San Francisco Airport on December 6, 1997.

3. Poly-X wire bundle which held cargo door cam motor power was chafed by the friction of continuous vibration against clamp or many door openings and closings on it. Sheath around bundle was worn through to insulation and then worn through to bare wire.
Bare wires can be shorted to ground causing power to go to door motor. NTSB exhibits list two forward cargo hold charred wiring fires. NTSB hearing on aging aircraft detailed problems with Poly-X/Kapton/aromatic polyimide type wiring chafing from vibration with more severe affects in the presence of moisture. NTSB AAR 92/02 detailed problems with chafing wires causing door motor to turn on. TWA 800 had Poly-X wiring and rain on aircraft.

4. Condensed water or rain water met the bare wire and shorted against fuselage metal charring wires and powering on door motor which attempted to turn all ten cam sectors to unlocked position.

Event explains how door motor got power to turn on. NTSB exhibits list two previous cargo hold charred wire fires. NTSB AAR 92/02 lists two uncommanded cargo door opening on Boeing 747s caused by electrical problems, UAL preflight and UAL 811.

5. At 13700 feet MSL and 300 KCAS, the eight lower cam sectors were prevented from unlocking because of strengthened locking sectors. However, the two midspan latches have no locking sectors.

The eight bottom latches held tight to locking pins because of AD 88-12-04 which strengthened all the eight locking sectors. NTSB AAR 92/02 describes the AD, door, and all latches.

6. The out of rig door, slack in bellcranks, torque tubes, and high time worn cam latches allowed the midspan latches to rotate just past center allowing the 3.5 PSI internal pressure to rupture outward the forward cargo door at the midspan latches.
UAL 811 had small rupture at aft midspan latch as shown in photograph in NTSB AAR 92/02. NTSB exhibit lists 3.5 PSI pressure differential for TWA 800. TWA 800 was extremely old aircraft with over 93000 flight hours.

7. The nine foot by eight foot squarish door burst open at midspan latches sending the latches and door material spinning away in the setting sun which reflected upon the shiny metal as it spun away erratically and appeared as red-orange streak to ground observers as moving all which ways.

Press reports reveal eyewitnesses say different colored streaks going every which way from all directions. Time of 8:31 PM and angle of low sun to aircraft in east and observers to the west permitted the angles to be perfectly aligned for spinning falling shiny piece of metal to reflect as streak to observers.

8. The aft and forward door frames were clean of attachment to door and bulged outward.

Midspan latches blown away at rupture time and caused outward bulge. NTSB reconstruction photograph shows bulges and missing latches in forward cargo door.

Above pictures show aft and forward midspan latch area ruptures for TWA 800.

9. Fuselage skin was torn vertically.

Explosive decompression bursts outward but limited by stringers and bulkheads which are vertical and match the other cargo door
accident, UAL 811. NTSB photograph shows the vertical tears of TWA 800.

10. The forward cargo door fractured and shattered.

NTSB photograph shows the damage. 38115 pounds of force were suddenly released onto now weakened door and it burst apart. 99 inches times 110 inches times 3.5 PSI equals 38115 pounds of force on the ten latches and hinge.

11. The bottom eight latches held tight to the bottom eight latch pins on bottom sill while bottom external skin of door blew away.

The bottom of large door held tight while middle of door ruptured in a troublesome section of a high time Boeing 747, Section 41 and Section 42. TWA 800 had not yet had the Section 41 retrofit. NTSB exhibit states bottom eight latches latched while omitting midspan latch status.

12. The top piece of red topped cargo door opened out and up smashing into the white fuselage skin above it leaving the red paint of the door on the white paint between passenger windows above. The red paint of the trim was rubbed away showing the white paint underneath. The top piece of the door took the hinge with it and fuselage skin as it is tore away.

The loose red painted trim piece and top of door flew directly aft and impacted the right horizontal stabilizer leaving a red paint transfer mark on it.

The hinge still appears to be working normally likely having overtravel impression marks on the opposite hinge when door
overextended to slam on fuselage above.

The top piece of the door shows inward damage when it hit fuselage above.

Sequence of door opening out and up and transferring paint above is described in text and drawing in NTSB AAR 92/02. Inward movement of top of door is described in AAR 92/02. Normal working hinge attached to top of door is described in AAR 92/02. Overtravel impression damage is described in text and picture in AAR 92/02.

13. The explosive decompression of the thirty eight thousand pounds of internal force on the door blew out a large hole about twenty feet wide and forty feet high on the right side of the nose forward of the wing.

NTSB photograph shows decompression rectangle zone on right side of nose.

14. Parts of the cargo hold structure were the first parts to leave the aircraft.

The first parts of plane to depart indicate trouble started there. NTSB exhibits show first parts to leave were from cargo structure. NTSB wreckage database shows most of first objects to leave TWA 800 were from forward cargo bay.

15. The now uncompressed air molecules rushed out of the huge hole equalizing high pressure inside to low pressure outside while making a very loud noise.

NTSB AAR 92/02 states crew of UAL 811 heard a 'tremendous
explosion,' when door opened in flight.

16. Fuselage skin was peeled outward at various places on the right side of the nose.

Outward peeling indicates force from within, not without. UAL 811 had same outward peeling of fuselage skin in cargo door area.

17. The sudden rushing air was recorded on the Cockpit Voice Recorder as a sudden loud sound.

Sound matches other Boeing 747 sudden loud sound of explosive decompression and a DC-10 cargo door decompression sound according to NTSB chart number 12.

18. The explosive decompression of the forward cargo hold severely disrupted the nearby main equipment compartment which housed power cables and abruptly shut off power to the Flight Data Recorder.

Cables for power and signal run through the forward cargo hold to the adjacent MEC. The cargo floor is severely disrupted when explosive decompression occurs in cargo hold according to AAIB 2/90 report and will cut off power abruptly.

19. At least nine passenger's bodies were never found, only bone fragments.

Where did those bodies go? What happened to them to reduce them to bone fragments requiring DNA analysis to identify? At least nine bodies always disappear when explosive decompression occurs in high time Boeing 747s according to
AAIB, NTSB, TSB and Indian reports. The missing passengers may have been ingested into engine number three.

20. The number three engine also ingested metal in baggage and started on fire from inefficient burning of fuel. The number three engine with pylon started to vibrate and a stator blade from the engine was spit out and impacted directly behind it in the right horizontal stabilizer.

NTSB AAR 92/02 describes the sequence of FOD into number three and also number four and the subsequent vibration and fire.

21. The floor beams above the cargo hold were bent downward, fractured and broken from the sudden decompression. The main structural members of door and frame were gone and compromised.

AAR 92/02, AAIB 2/90, and NTSB TWA 800 exhibits describe the downward movement of the floor beams above cargo compartment.

22. The flight attitude of the aircraft was askew to the left from reaction of explosive decompression to the right. Air rushed into the hole and weakened other skin and frame peeling skin outward.

AAR 92/02 describes the actions of the aircraft after door opened in flight.

23. The 300 knots of air pressed upon the weakened nose and crumpled it into the large hole.

AAIB and TSB/Indian reports describe how nose came off after
explosion in forward cargo hold at 300 KCAS of two Boeing 747s. 300 knots of wind faster than any wind on earth.

24. The nose tore off and landed in a dense debris heap apart from the rest of the plane.

AAIB 2/90, TSB/Indian Court, and NTSB TWA 800 exhibits describe the dense nose debris field present when nose comes off in flight of three Boeing 747s.

25. The port side forward of the wing was smooth and unshattered while the starboard side forward of the wing was shattered, torn, and frayed at ruptured cargo door area and severely disturbed over twenty feet by forty foot explosive decompression zone. Outward petal shaped fuselage skin appeared at aft midspan latch from rupture. Aft midspan latch was blown away. Outward peeled skin appeared from blowout. Fuselage skin remained smooth next to blown out skin.

AAIB 2/90, Canadian TSB/Indian, and NTSB photographs describe the lesser damage port side nose compared to the more severely damaged starboard side as well as the outward peeled skin on nose of three Boeing 747s.

27. The rest of the plane without the nose suddenly decelerated from 300 knots and caused whiplash injuries to passengers. Passengers inside fuselage had baro-trauma to eardrums which ruptured trying to equalize middle ear pressure.

Passenger injuries are described in NTSB exhibits, TSB/Indian report, AAIB 2/90, and NTSB exhibits.

28. The plane maneuvered with huge gaping wound in front
increasing drag. The 300 knots of wind force disintegrated the fuselage and wings. Fuel poured out of ruptured tanks as wreckage fell. The broken fuselage, the ruptured wings, the fuel cloud, the center tank, and the spinning, on fire engine number three met at 7500 feet and exploded into a bright loud fireball putting singe marks on the fuselage skin while leaving earlier departed nose burn and singe mark free. The center tank exploded as well as other nearby fuel tanks. Forward passengers were not burned because they were in the earlier separated nose. The debris fell and spread out from 7500 feet to sea level in windblown southeast direction, leaving a wide debris field. The aft cargo door pieces were found in the aft fuselage debris field.

NTSB exhibits describe the breakup sequence and NTSB video shows fireball seconds later and thousands of feet lower than initial event. Engine number three was on fire for AAIB 2/90 and number three and four were on fire for NTSB AAR 92/02 after cargo hold ruptures.

29. Explosive decompression at the forward cargo hold led to suspicion of bomb in cargo compartment but bomb later ruled out.

Debris ejected to the right from explosive decompression led to suspicion of missile exploding on left side of nose.

Streak of shiny metal object spinning away reflecting evening sun to ground observers led to suspicion of missile exhaust but later ruled out.

Fire/explosion of center tank into fireball led to suspicion of center tank explosion as initial event.
Press reports, FBI reports, and NTSB reports describe the bomb, missile and center tank explanations.

30. There were difficulties in determining ignition source, fuel volatility, unheard fuel explosion sound on CVR, unilateral fuselage damage, singe marks, and other evidence needed to corroborate center tank explosion as initial explosion.

NTSB public hearing reveals the gaps in the center tank as initial event explanation.

31. Fuselage rupture at aft midspan latch of forward cargo door inflight is initially rejected because bottom eight latches are found latched around locking pins while two midspan latches are unexamined and status unreported.

The destruction sequence of TWA 800 as described by wiring/cargo door explanation is closer to actual events and evidence than spontaneous explosion of center fuel tank, or bomb, or or missile.

Cheers,

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Survivor of sudden night fiery fatal jet plane crash in RA-5C

From: John Barry Smith <barry@corazon.com>
Date: September 6, 2009 12:03:08 AM PDT
To: FAA
Subject: Photos of ruptures at midspan latches TWA 800

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Dear Officials,
Real NTSB evidence. The pictures above are of TWA 800 reconstruction by NTSB. They show the midspan latch areas of the forward cargo door. The outward peeled skin, red paint markings and petal shaped ruptures at both midspan latches are clearly visible.

Real NTSB explanation: 'Probable Cause
The National Transportation Safety Board determines that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door in flight and the subsequent explosive decompression. The door opening was attributed to a faulty switch or wiring in the door control system which permitted electrical actuation of the door latches toward the unlatched position after initial door closure and before takeoff.' NTSB AAR 92/02

Real NTSB missile debunking: 'NTSB investigators have suggested unofficially that the streaks the pilots saw could have been light reflections from the skin of the aircraft, tongues of flame from the airliner or the forward door of the aircraft popping open, a possibility that still intriguers investigators, the second official said.' Aviation Week and Space Technology, March 10, 1997 Issue.

Real NTSB admission of error and correcting it.: Before the recovery of the cargo door, the Safety Board believed that the door locking mechanisms had sustained damage in service prior to the accident flight to the extent that the door could have been closed and appeared to have been locked, when in fact the door was not fully latched. This belief was expressed in the report and was supported by the evidence available at the time. However,
upon examination of the door, the damage to the locking mechanism did not support this hypothesis. Rather, the evidence indicated that the latch cams had been backdriven from the closed position into a nearly open position after the door had been closed and locked. The latch cams had been driven into the lock sectors that deformed so that they failed to prevent the back-driving.

Thus, as a result of the recovery and examination of the cargo door, the Safety Board's original analysis and probable cause have been modified. This report incorporates these changes and supersedes NTSB/AAR-90/01. From NTSB/AAR-92/02.

Real NTSB Evidence Public Docket 516, Systems Exhibit 9A page 116:
"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation.

Real FAA action: Web posted at: 5:34 p.m. EDT (2134 GMT) October 1, 1998
WASHINGTON (CNN) -- Inspections of electrical and other systems of older aircraft are too general and their maintenance sometimes haphazard, according to federal officials, who announced a new safety effort Thursday targeting older aircraft.

Real Government and media Evidence: Sudden Loud Sound Each aircraft had a sudden loud sound on the cockpit voice recorder at the confirmed time of the event. The sudden loud sound matched the decompression sound of a confirmed cargo door crash. The sudden loud sound never matches a bomb sound. Explosive decompression is an aviation term used to mean a sudden and rapid loss of cabin pressurization. A loud noise is associated with this event but not necessarily an explosion. The
sudden loud sound is short only because power is cut to the cockpit voice recorder.

United Airlines Flight 811:
"The CVR revealed normal communication before the decompression. At 0209:09:2 HST, a loud bang could be heard on the CVR. The loud bang was about 1.5 seconds after a "thump" was heard on the CVR for which one of the flightcrew made a comment. The electrical power to the CVR was lost for approximately 21.4 seconds following the loud bang. The CVR returned to normal operation at 0209:29 HST, and cockpit conversation continued to be recorded in a normal manner.

NTSB Accident Report 92-02 Page 25

Air India Flight 182:
"From the CVR and DFDR, AI 182 was proceeding normally en route from Montreal to London at an altitude of 31,000 feet and an indicated airspeed of 296 knots when the cockpit area microphone detected a sudden loud sound. The sound continued for about 0.6 seconds, and then almost immediately, the line from the cockpit area microphone to the cockpit voice recorder at the rear of the pressure cabin was most probably broken. This was followed by a loss of electrical power to the recorder."

Canadian Aviation Safety Board Air India 23 June 1985, page 21

Pan Am Flight 103:
"The CVR tape was listened to for its full duration and there was no indication of anything abnormal with the aircraft, or unusual crew behaviour. The tape record ended, at 19:02:50 hrs +- second, with a sudden loud sound on the CAM channel followed almost immediately by the cessation of recording whilst the crew were copying their transatlantic clearance from Shanwick ATC."

UK AAIB Report 2/90 Page 15 "It is not clear if the sound at the end of the recording is the result of the explosion or is from the break-up of the aircraft structure. The short period between the beginning of the event and the loss of electrical power suggests
that the latter is more likely to be the case."

UK AAIB Report 2/90 Page 38

Trans World Airlines Flight 800:
"So far, investigators have been frustrated in trying to decipher the only audible evidence of the blast, a sound heard for 130 milliseconds, or just over one-tenth of a second, before the recording abruptly ended."

News Reports from Associated Press, Reuters, major newspapers, press releases from NTSB, FBI Comment: The distinct crash similarities of aircraft type, radar returns, wreckage plot, sudden short loud sound, abrupt power cut, fodedd engines, inflight damage, missing bodies, torn off noses, and start place of damage qualify three aircraft into one class from which the deduction may be made that one unifying cause had the same effects. Another accident with the same similarities except for a torn off nose and less wreckage may also be included in that class. The unifying cause for all four accidents is the inadvertent opening of the forward cargo door inflight. 27 Mar 97 www.corazon.com

Gentlemen, the match is there. Four forward cargo doors have ruptured in flight on four high time 747s and left a sudden loud sound on the CVR, an abrupt data loss to the FDR, severely damaged number 3 engine, and all causes initially thought to have been a bomb.

The implications are profound. But first, please, check the cargo door area wiring, continue checking the fuel tank wiring, and confirm TWA 800 as a ruptured cargo door event so that the cause of the door rupture may be discovered and fixed.

If not a meeting, if not a telephone call, will you engage in an email exchange with me? Is that too much to ask from citizen to
government official?

I welcome criticism, information, rebuttal, advice, and conjecture about the cause of TWA 800 and others. My evidence I offer for discussion are two photographs of the forward cargo door. There is much to be seen in the photographs. <http://www.corazon.com/Forwarddoorblowupphoto.html>

Respectfully,

John Barry Smith
831 659 3552
551 Country Club Drive,
Carmel Valley, CA 93924
barry@corazon.com
www.corazon.com

Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Owner Mooney M-20C, 1000 hours.
US Navy Air Intelligence Officer
Survivor of sudden night fiery fatal jet plane crash in RA-5C.

From: John Barry Smith <barry@johnbarrysmith.com>
Date: June 1, 2007 9:15:06 AM PDT
To: Gloria.R.LaRoche@faa.gov
Cc: moinofboeing@yahoo.com, Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov, phil.randall@faa.gov, peter.wilhelmson@faa.gov, Moin.Abulhosn@faa.gov, Ronald.Wojnar@faa.dot.gov, Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov, Lyle.Streeter@faa.dot.gov
Subject: Something fishy...2

Gloria R. LaRoche, "Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229

Dear Ms. LaRoche, Friday, June 1, 2007

John Barry Smith again, I'm still thinking about the 'complete response' (sic) letter I recently received from TAD, Renton. I'm trying to figure the bewildering rejection out.

There was no technical discussion of my overview of the dangers of non plug cargo doors in past and future airliners. I presented evidence of the vastly under appreciated hazards based on my research revealing several early model Boeing 747s had non plug cargo doors rupturing open at event time and the probable cause was not a one-off event but faulty wiring.

If not technical reasons for the rejection, what else could it be?

That leads me into an area I am but a rookie and fear to tread: Politics.

I do know there is an inherent conflict within FAA with its two goals: Promote aviation in the USA and to regulate the industry to ensure safety for the flying public.

There are two extremes, of course, with the profit motivated
businessmen going for flight hours at maximum revenue by disregarding mechanical checks, hiring poorly trained employees, paying low wages, accepting risks for untested aircraft, and on and on. The other extreme is mandating so many safety features the plane is too heavy to get off the ground or too cramped to allow any passengers.

I assume we are practical adults and would prefer a middle ground of a balance between adequate revenue to maintain the business and enough safety that passengers and crew don't die from preventable crashes.

Parachutes would save passengers in several types of accidents where the plane wallows about partially out of control for many minutes before crashing but...the cost of upkeep and reluctance of passengers to use them probably makes the order to install parachutes in all airliners impractical.

Not so with a structural weakness that is acknowledged and if fixed at the beginning in design and manufacture will stay fixed forever requiring the same or less upkeep than the technology it replaces. I refer to a safer plug type door replacing the acknowledged dangerous non plug type.

So why did TAD at Renton not open up dialogue with me or evaluate my current views about non plug door dangers in early model Boeing 747s but instead rudely wrote there was nothing new in nine years and they then cut off communication with me? And, to add insult to insult, at the same time soliciting comments from the public about a proposed rule about non plug cargo doors in Boeing 747s? It makes no sense, Ms. LaRoche.

I'm guessing here but could it be a sexist thing? Are the boys,
Ron, Neil, and Ali, throwing a tantrum, retreating to their room, and refusing to come out and talk because the girls, Gloria, Sandra, and Anne are getting involved?

Could it be a power struggle? Who is in charge? Are the Renton Rebels telling HQ in DC to go fly a kite by not complying with HQ requests?

Is it fear of demotion by employer, ostracism by manufacturer, or humiliation among colleagues by now saying something is unsafe when for years they have said it was safe?

It seems to me the FAA Transport Airplane Directorate is erring on the side of the manufacturer and biased against safety for the public. Their actions are unbalanced.

Whether or not my research upsets TAD and leads them to emotionally reject this messenger without evaluating the message, I say that technical, not emotional, consideration must be performed when the messenger has credentials and the message is supported by documentation coupled with the fatal precedent of United Airlines Flight 811.

I've learned in forty years of flying and interacting with pilots, crew, passengers, and mechanics that in safety and hazard issues, emotion is a distraction and counter productive. Denial is an error of judgment. Voices must be level and calm, facts must presented accurately and quickly, evaluations need to be weighed using as many sources as available, and mature decisions must be made as soon as possible. Whether I like the person I'm dealing with or not is irrelevant, only facts, data, and evidence are important when dealing with complex machines such as airplanes when things are going wrong.
Plug type passenger doors are right; non plug cargo doors are wrong. They are causing a several fatal and many non fatal accidents. They can be fixed. The accidents they cause can be prevented.

The plug type fix can be strong, lightweight, and not very expensive. The fix will not reduce revenue but enhance it. Passengers prefer safer aircraft. Airlines buy safer aircraft. Profit goes up when more aircraft are sold.

Fixing the agreed upon hazard of non plug cargo door in future airliners and retrofitting current aircraft will fulfill both of the FAA goals, promote aviation as an industry and protect the flying public from preventable danger.

I ask again, Ms. LaRoche, for the opportunity to interact with technical FAA personnel who are knowledgeable about why aircraft fly and why they don't so I can present my wiring/cargo door explanation for persuasion to make all doors in a pressurized hull plug type.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
http://www.montereypeninsulaairport.com
http://www.ntsb.org
From: phil.randall@faa.gov
Date: May 30, 2007 7:03:19 PM PDT
To: John Barry Smith <barry@johnbarrysmith.com>
Subject: Phil Randall/ASO/FAA is out of the office.

I will be out of the office starting Tue 05/29/2007 and will not return
until Mon 06/04/2007.

FAASTeam All - Hands Meeting in SLC

From: Bob.Breneman@faa.gov
Date: May 20, 2007 4:01:11 PM PDT
To: John Barry Smith <barry@johnbarrysmith.com>
Subject: Bob Breneman/ANM/FAA is out of the office until
May 21, 2007

I will be out of the office starting 05/17/2007 and will not return
until 05/21/2007.
I will be out of the office starting 5/17/07 and will not return until 5/21/07. Holly Thorson will be acting and can be reached at X1357.

From: phil.randall@faa.gov
Date: May 20, 2007 1:03:30 PM PDT
To: John Barry Smith <barry@johnbarrystmith.com>
Subject: Phil Randall/ASO/FAA is out of the office.

I will be out of the office starting 05/15/2007 and will not return until 05/29/2007.

FAASTeam All - Hands Meeting in SLC

From: phil.randall@faa.gov
Date: May 6, 2007 7:03:33 PM PDT
To: John Barry Smith <barry@johnbarrystmith.com>
Subject: Phil Randall/ASO/FAA is out of the office.

I will be out of the office starting 05/03/2007 and will not return
until 05/14/2007.

On Leave May 4 and in San Diego for Managers meeting the week of the 7th.

From: barry@johnbarrysth.com
Date: May 3, 2007 12:54:00 PM PDT
To: barry@johnbarrysth.com
Subject: [FWD: RE: Response to your inquiry]

-------- Original Message --------
Subject: RE: Response to your inquiry
From: barry@johnbarrysth.com
Date: Wed, May 02, 2007 11:48 am
To: Gloria.R.LaRoche@faa.gov

Dear Ms. LaRoche

Actually no, not yet, but thanks for heads up and I look forward to email from Ms. Brown.

Regards,
Barry Smith

-------- Original Message --------
Subject: Response to your inquiry
From: Gloria.R.LaRoche@faa.gov
Date: Wed, May 02, 2007 7:55 am
To: Barry@JohnBarrySmith.com

Mr. Smith,

I hope by now you've received the e-note on the group that is looking into your concerns on non-plug type cargo doors. That would be Sandra Brown, of the Transport Airplane Directorate Office (425) 227-2100.

She would be the best person to coordinate a response from their technical staff.

Sincerely,

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229

From: barry@johnbarrysmith.com
Date: May 3, 2007 12:53:53 PM PDT
To: barry@johnbarrysmith.com
Subject: [FWD: Response to your inquiry]
Mr. Smith,

I hope by now you've received the e-note on the group that is looking into your concerns on non-plug type cargo doors. That would be Sandra Brown, of the Transport Airplane Directorate Office (425) 227-2100.

She would be the best person to coordinate a response from their technical staff.

Sincerely,

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229

From: barry@johnbarrysthsmith.com
Date: May 2, 2007 11:48:34 AM PDT  
To: Gloria.R.LaRoche@faa.gov  
Subject: RE: Response to your inquiry  

Dear Ms. LaRoche  

Actually no, not yet, but thanks for heads up and I look forward to email from Ms. Brown.  

Regards,  
Barry Smith  

-------- Original Message --------  
Subject: Response to your inquiry  
From: Gloria.R.LaRoche@faa.gov  
Date: Wed, May 02, 2007 7:55 am  
To: Barry@JohnBarrySmith.com  

Mr. Smith,  

I hope by now you've received the e-note on the group that is looking into your concerns on non-plug type cargo doors. That would be Sandra Brown, of the Transport Airplane Directorate Office (425) 227-2100.  

She would be the best person to coordinaal a response from their technical staff.  

Sincerely,
From: Gloria.R.LaRoche@faa.gov
Date: May 2, 2007 7:55:18 AM PDT
To: Barry@JohnBarrySmith.com
Subject: Response to your inquiry

Mr. Smith,

I hope by now you've received the e-note on the group that is looking into your concerns on non-plug type cargo doors. That would be Sandra Brown, of the Transport Airplane Directorate Office (425) 227-2100.

She would be the best person to coordinaal a response from their technical staff.

Sincerely,

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229
From: Tim.Shaver@faa.gov
Date: April 25, 2007 5:21:46 PM PDT
To: cashj@ntsb.org
Subject: IBAC

http://www.ibac.org/Library/ElectF/saft/safety_management.htm

Timothy W. Shaver
Assistant Branch Manager
Avionics Systems Branch
FAA/AIR-130
800 Independence Ave, SW
Washington, DC 20591-0004
(202)385-4686 - Work
(202)409-0106 - Cell
(202)385-4651 - Fax
Pager: 8776994723
Text messages: 8776994723@skytel.com
tim.shaver@faa.gov

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From: Gloria.R.LaRoche@faa.gov
Date: April 20, 2007 3:58:42 AM PDT
To: John Barry Smith <barry@johnbarrysmith.com>
Subject: Re: Please follow up on my safety alert on wiring/cargo door problem on nonplug cargo doors.

Mr. Smith,

I'm checking into who at a/c cert has your letter and is working your concerns, and will let you know as soon as I do. I will be out of town most of next week but will not forget you.

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229

From: "Mike Leman" <mikeleman@charter.net>
Date: April 18, 2007 3:56:32 PM PDT
To: <smithc@ntsb.org>
Subject: PA32RT-300T accident on 9 April at Anderson/Murphy, N.C.

Dear Mr. Smith,

As per our conversation yesterday, I am herein including the relative information as to the time I spent with Mr. Damien O’Neill, the pilot of the accident aircraft.

Between the dates of March 3, 2007 and March 11, 2007, inclusive (excluding Mar. 5 and Mar. 6), I logged 27.5 hours with Mr. O’Neill in his airplane in preparation for his Private Pilot Instrument practical examination. Most of that time, perhaps 25 hours, was under simulated or actual IMC. His airplane was equipped with an MX20 multifunction display and a Garmin GX60 GPS receiver.
None of the time was logged at night. In general I found Mr. O’neill to be very competent and especially knowledgeable as to the performance characteristics of his aircraft. As I mentioned, his only unusual preference was to make his approach and landings with no flaps. He did demonstrate competency with partial and full flap approaches and landings, but normally did not use them. I found his approach technique to be normal, although he generally preferred to conduct his approach at slightly steeper than normal angles, but still well within appropriate energy management parameters.

As I mentioned, having read the preliminary report, I am puzzled as to why and how this particular approach ended so tragically.

I am sending this from a third person e-mail account, so I should inform you that, if you wish to reach me by e-mail, my address is frlcfi@cs.com. I should be back home on the 27th.

I hope this helps, even if just a bit.

Frank R. Loeffler, Jr.
2236326CFII expires 07/2007

From: Gloria.R.LaRoche@faa.gov
Date: April 16, 2007 4:23:51 AM PDT
To: Dunhams@ntsb.org
Subject: MEM sim rwy ops

Good article on MEM - looks like AOV is stepping up...
-g

Gloria R. LaRoche, Aviation Safety Inspector
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----- Forwarded by Gloria R LaRoche/AWA/FAA on 04/16/2007 07:23 AM -----
British Helos Involved In Midair Collision Over Iraq

US and British military officials in Iraq confirmed early Sunday two British transport helicopters are down north of Baghdad. Two British soliders were killed in the apparent midair collision, and at least one other was injured.

The accident occurred over a rural area southwest of Taji, near a large US air base. Initial media reports misidentified the Eurocopter AS332 Super Puma helicopters as American.

Enemy fire is not believed to be a factor.

"Initial reports indicate that the crash was an accident and was not a result of an attack by insurgents," UK Defense Secretary Les Browne said. "An investigation is under way and I will not comment further on the details of the incident at this stage."

FMI: www.mod.uk
aero-news.net
***********

Missile test forces jet to turn back

JAKARTA, Indonesia (AP) - An Indonesian jet carrying hundreds of passengers was forced to turn around over Indian airspace after a nuclear-capable ballistic missile streaked across the sky, the Foreign Ministry said Friday.
Indonesia has demanded an explanation from India, which insisted that aviation authorities were informed about Thursday's test launch well in advance.

The Garuda Indonesia Boeing 747 carrying 413 people was en route from Jakarta to Saudi Arabia when the Indian control tower told pilots the missile had been launched, said Ari Sapari, the national carrier's director.

Government officials did not say how far the plane was from the missile.

Indonesia - which is struggling to defend its transportation-safety record after a series of deadly air, train and ferry accidents - said it would summon a diplomat from India to seek clarification.

The Seattle Times

Boeing's 787 Dreamliner Surpasses 500 Customer Orders

Boeing has won the 500th customer order for the 787 Dreamliner with a follow-on order from Japan Airlines.

"Today we are celebrating some great news with one of our great customers," said Scott Carson, president and chief executive officer, Boeing Commercial Airplanes on Tuesday. "This is an unprecedented achievement for Boeing and yet another wonderful milestone for the 787 program. We are very gratified that the 787 will play a key role in the future plans of JAL and so many other industry-leading airline customers."

"The JAL order for five 787-8 airplanes, in addition to several orders from unidentified customers, brings the 787's order total to 514 airplanes from 43 customers since its launch on April 26, 2004, making it the fastest-selling commercial airplane in history. This increases JAL's total 787 order to 35 airplanes from their previous order of 30 in December 2004.

"The 787 will be a key airplane on a variety of international and domestic routes, said Kunio Shimizu, vice president of Engineering & Quality Assurance Department for the Americas, Japan Airlines International Corp. "We are expecting the benefits of the 787 to provide efficiency and flexibility in our route planning and are also looking forward to the wonderful flying experience the 787 will provide to our customers."

"Surpassing the 500 order mark this early in the program - more than a year before the first airplane is delivered - shows that Boeing made the right choice in our point-to-point business strategy, and that the 787 team made the right choices in designing the airplane," said Mike Bair, 787 vice president and general manager. "This is an enormous compliment to the people around the world who are working hard to ensure we keep the promises we've made to our customers."


Report Says FAA May Propose 2017 Deadline for VDL-2 Datalink Equipage

Flight International is reporting that the FAA plans to propose a deadline of 2017 for U.S. airlines to equip their fleets with VDL-2 (VHF digital link mode 2) avionics.
According to the magazine’s April 10-16 issue, the proposed deadline is three years ahead of the FAA’s recently announced 2020 mandate for aircraft to carry ADS-B (automatic dependent surveillance-broadcast) equipment in order to fly in certain airspace. The agency plans to issue an NPRM (notice of proposed rule making) for ADS-B by this September that would finalize the ADS-B rule by 2010.

A schedule for issuing a NPRM for a VDL-2 deadline has not been established, however, and likely will be affected by what happens in Europe. The FAA is watching how CDPLC (controller-pilot datalink communications) progresses there, as Eurocontrol’s Link 2000+ VDL-2 program is already in its early operational stages and has passed a number of milestones.

The 2017 deadline has been proposed by the FAA’s future communications architecture team at the agency’s William J Hughes Technical Center at Atlantic City. The team’s proposal would exclude aircraft without VDL-2 equipment from “high traffic” controlled airspace in the U.S. after that date.

VDL-2 advocates claim the equipment can substantially increase the capacity of present-day ACARS (aircraft communications addressing and reporting system) and take advantage of the operational benefits of CPDLC (controller-pilot datalink communications).


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Sleepy pilot refuses to fly BA flight

New Delhi, April 16: A British Airways flight that was scheduled to take off from Capital’s Indira Gandhi International Airport at 0230 hrs (IST) on Sunday was delayed by 12 hours.

The London-bound airline did not take off purportedly because the pilot hadn’t got enough sleep and expressed his inability to fly.

 Agencies reported the pilot as saying that he could not sleep as there was some disturbance in his hotel.

All the 225 passengers, who had boarded the flight, were offloaded after the midnight drama, leaving many of them fuming.

The airline could not make alternative arrangements for the passengers and the flight was eventually took off at 1520 hrs (IST) on Sunday, 12 hours behind schedule.

On Sunday, British Airways issued a statement and apologised to the passengers on board for the inconvenience caused. BA said the flight was delayed to ensure the flight and the crew followed all safety rules regarding crew rest.

“We apologise to all our customers for the delay to BA-142 Delhi-London flight. The flight was delayed in Delhi to ensure that the flight and cabin crew comply with safety regulation governing crew rest. The safety of our customers and crew is of paramount importance to British Airways and will never be compromised,” read the statement.
BA spokesperson Radhika Raichy was also quoted as saying by the agencies that the crew had a disturbed night. "The crew hadn't had enough rest. The safety regulations of British Airways doesn't allow them to operate in such conditions," she said.


FAA Questions Air Traffic Compliance At Memphis International

Memo Says MEM Not Complying With Separation Regs

It started with an internal FAA memo, that was published on a blog run by a past president of NATCA, according to The (Memphis) Daily News last week.

The April 2 memo originated from an internal investigation by the FAA's Air Traffic Safety Oversight Services. Director Anthony S. Ferrante issued the memo to Air Traffic Operation Terminal Services' Bruce Johnson. It was reprinted on "The Main Bang," a blog run by former NATCA president John Carr.

The issue at Memphis is how air traffic is controlled on three of the airport's four runways that are near each other. Runways 18L and 18C are parallel and run north-south, while Runway 27 runs east-west and is perpendicular to 18L and 18C.

According to the memo: "An Air Traffic Oversight Service investigation has determined that the Air Traffic Organization (ATO) is not in compliance with FAA Order 7110.65, Paragraph 3-10-4, at Memphis Air Traffic Control Tower (MEM). MEM was also unable to provide required documentation to demonstrate that the current practice of conducting simultaneous independent approaches to runways 18L, 18C and 27 was properly authorized."

When aircraft land on runway 18L or 18C from the north, they pass over Runway 27; if an airplane is on 27 or its taxiways, it creates a potential safety hazard.

Pete Sufka, an air traffic controller for the Memphis tower and president of the local NATCA chapter, is worried about controllers authorizing such an operation, especially when it appears to be in violation of FAA orders.

"The procedure, in itself, is safe, but we question the legality of it," he said. "I think the Oversight Service is also questioning the legality of it. I don't want the controllers set up in a position where they're doing something illegal, or if something goes wrong they're going to be disciplined. And I also don't want the pilots and passengers be put in a dangerous situation that doesn't have to be there."

Sufka added, "When they (aircraft) start this climb-up and gain speed, they're climbing up right into the aircraft that are landing on 18L or 18C. We've had this happen a number of times over the years, in the range of 'really, really ugly' to 'not too bad.' Two planes haven't come together because of this yet, but we're pushing our luck the more we use it."

Safety also comes into question during a go-around, when the plane quickly gains speed and altitude before making a circuitous pattern back into landing position.

A go-round could be tragedy waiting to happen for planes approaching Runway
Air Traffic Operation Terminal Services' Bruce Johnson was unavailable for comment, while Memphis-Shelby County Airport Authority president Larry Cox declined comment, deferring to the FAA. Memphis air traffic facility manager Bill Wurtz, who directed inquiries to the FAA's southern regional office in Atlanta.

Regional Public Affairs Manager Kathleen Bergen said the FAA acknowledges someone has raised concerns about the flyover procedure and the agency is investigating.

Bergen said the procedure of having airplanes land on the two runways occurs only in good weather, when wind conditions are favorable and only with smaller aircraft landing on Runway 27, such as "single engine, twin engine, small business jets, small regional jets," she said.

"That procedure has been in place for decades - I'm told back to the 1970s," Bergen said. "It's something that's been looked at and was revalidated as recently as 1999. Apparently, someone at the tower raised an issue with that procedure and elevated that concern, which generated a review by the FAA safety office in Washington."

Bergen said the procedure is safe and will continue whenever weather allows.

"At the same time, the FAA is going to take a closer look at the procedure," she said. "We're going to revalidate the procedure. We want to ensure we maintain the highest level of safety at Memphis while minimizing the impact to the users - the air carriers that come in as well as the private planes."

The revalidation process, she said, could take up to 60 days.


***************

SAS lambasted for late safety checks

Swedish aviation authorities on Sunday harshly criticized Scandinavian Airlines System (SAS) for not carrying out safety checks on its planes on time.

"We are critical," Gunnar Billinger, the head of the Swedish Civil Aviation Authority, told AFP, adding that SAS' late safety checks were considered "serious".

"All airlines... must carry out controls at set times," he insisted.

Five SAS planes last year and three in 2005 did not undergo the required safety inspections on time, Swedish daily Dagens Nyheter reported.

The aircraft in question were Airbus A330 and A340, which are used for longhaul flights to the United States and to Asia, according to the paper.

In one case last year, a plane flew 225 hours, the equivalent of 30 longhaul flights, without first being found airworthy, Dagens Nyheter reported.
For a plane to be considered airworthy, safety checks must be carried out at specific dates and the aircraft must be found to conform with guidelines set by the country where it was made, which in the case of the Airbus planes is France.

Aircraft that are not certified airworthy are banned from flying. Any flights they carry out are considered illegal, another aviation authority official told Dagens Nyheter.

Billinger meanwhile said SAS "remains a safe company", pointing out that the Scandinavian airline had itself notified the authorities to the safety lapses.

AFP

"Flight Safety Information" is a service of:

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Cell: 817-845-3983
Fax: 682-292-0835

From: Gloria.R.LaRoche@faa.gov
Date: April 13, 2007 12:55:07 PM PDT
To: John Barry Smith <barry@johnbarrysmith.com>
Subject: Re: Dear Safety Inspector, please inspect the below email for safety issues.

Mr. Smith,

I have forwarded your e-mail regarding your concerns about non-plug cargo doors on the A-380 & B-787 to Ann Mollica, here in HQ. Ann is Technical Special Assistant, Aircraft Certification Service. I believe she will be forwarding it to the FAA's Aircraft
Evaluation Group in Seattle, Washington for their analysis.

Thank you for your interest in aviation safety,

Gloria LaRoche

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229

From: Gloria.R.LaRoche@faa.gov
Date: April 13, 2007 11:58:05 AM PDT
To: Dunhams@ntsb.org
Subject: MEM near-miss article

Good article midway down on the MEM issue and AOV's part in it--yah AOV!
-g

Gloria R. LaRoche, Aviation Safety Inspector
FAA Flight Standards
Air Carrier Training, AFS-210
Desk (202) 493-5427
AFS-200 (202) 267-8166
Fax (202) 267-5229

----- Forwarded by Gloria R LaRoche/AWA/FAA on 04/13/2007 02:57 PM -----
Flight Safety Information (13APR07-118)

*Investigators: Garuda Accident Pilot Felt 'Compelled To Save Fuel'
*FAA split on close calls at runways
*Finnish air-traffic controllers say staff shortage affects safety
*Emirates order set to exceed 100 aircraft
*US expects aviation agreement with China by May

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Investigators: Garuda Accident Pilot Felt 'Compelled To Save Fuel'

Report Does Not Identify Cause Of Accident
Investigators state a Garuda airlines policy to preserve fuel may have compelled a pilot to attempt a landing at an excessive speed last month, contributing to the subsequent crash in Yogyakarta that killed 21 people.

The revelation has led to deep concerns over the airline's policy of paying pilots a three percent bonus for fuel conservation, The Sydney Morning Herald reports.

"This policy for fuel efficiency for individual pilots could hamper flight safety," Captain Stephanus said. "The company is making extra payments to pilots if they can conserve fuel. Maybe this is bothering the pilot."

Captain Stephanus, the head Garuda's pilots association, interviewed the pilot who crashed the plane, Captain Komar, soon after the accident last month. He blames the accident on "some human factor problem" stating that the pilot should have "gone around" rather than landing.

Stephanus said the pilot's decision to land the plane at over 255 mph was a "surprise," adding "This is too fast. How could the pilot decide like that?" he said.

As Aero-News reported, the Garuda Indonesia Boeing 737-400 slammed hard onto the runway in Yogyakarta on March 7, careening off the end of the air strip before bursting into flames, killing 21 of the 140 passengers.

"The jet was flying at about 410 kilometers (255 miles) per hour. This was not a normal speed," chief investigator Mardjono Siswo Suwarno confirmed.
after an official press conference Wednesday.

Mardjono added the safety area at the end of Yogyakarta's runway was not long enough to accommodate the speeding jet. "If the area was long enough, the Garuda jet would not have caught fire," he said.

A preliminary report released at Wednesday's press conference states the safety run-off section at the end of Yogyakarta's runway was not a length of 240 meters (787 feet) -- the minimum recommended under international aviation standards. "It's approximately 115 meters (377 feet) in length," Mardjono said.

Mardjono denied reports the accident was related to human error. He also denied reports the pilots had been arguing about the jet's speed moments before it crash-landed.

A final report from the investigation into the crash should be available within four months.

FMI: www.garuda-indonesia.com
aero-news.net
***************

FAA split on close calls at runways

By Alan Levin, USA TODAY

A controversial air traffic procedure has nearly caused midair collisions during takeoffs and landings around the nation and brought a stern warning from U.S. safety investigators, who this month ordered the practice halted at Memphis International Airport, according to federal records, controllers and pilots.

Passenger jets arriving at Memphis and several other airports routinely fly directly over the top of planes landing on another nearby runway. Earlier this year, a midair collision between a Northwest Airlines DC-9 and a commuter plane was narrowly averted in Memphis, according to a report on the incident.

The issue offers a rare glimpse into the steps aviation officials take to increase capacity at airports and the debates that arise over safety.

Dangerous configurations where planes travel on crossing runways or nearby runways with intersecting flight paths can also be found at other airports, such as Minneapolis-St. Paul, Las Vegas and Philadelphia, said Capt. Larry Newman, chairman of the Air Line Pilots Association's air traffic group.

Close calls in Memphis have prompted a pitched battle within the FAA. The agency's Air Traffic Safety Oversight Service, an independent investigative arm, demanded in an April 2 memo that Memphis managers stop the practice: "This ongoing lack of compliance with FAA regulations ... is unacceptable."

FAA spokeswoman Laura Brown would not comment on the internal dispute. She said the FAA is working to address safety concerns.

Memphis, which had near 200,000 departures carrying 5.6 million passengers in 2005, has had a series of close calls associated with landings on two nearby runways. One of the worst occurred Feb. 18 at 6:13 p.m., according to a report by Peter Nesbitt, an officer with the Memphis unit of the National
Air Traffic Controllers Association.

A Northwest Airlink Saab 340 was about to touch down when its pilots radioed the tower to say they were aborting their landing. At the same moment, a Northwest Airlines DC-9 approaching another runway was headed for the Saab.

A controller ordered the Saab's pilots, "Stay low, stay low!" said the report. The controller then told the DC-9 to climb. It flew over the commuter plane.

"Only some luck and the quick action by the controller prevented a midair collision from taking place," said the report.

Pete Sufka, who heads the controllers' union in Memphis, said controllers can't always prevent accidents in similar circumstances.

"I don't want any of my controllers getting in trouble running an operation that one part of the FAA says they shouldn't be operating," Sufka said. "All of these planes have people aboard, and we want them to come down in one piece. That is our job."

The Memphis procedure and others like it around the country allow more flights than if controllers had to keep planes farther apart. In Nesbitt's report, he said an air traffic manager insisted on using the procedure "because it helps (airlines) make money."

Nesbitt concluded, "We are placing profit over safety against the objections of many controllers who are forced to deal with this unsafe situation."

Newman said pressure to move aircraft is compromising safety. "The way we see it, there are cracks in the system," he said. "There is a tremendous push to increase capacity."


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Finnish air-traffic controllers say staff shortage affects safety

The Finnish Air Traffic Controllers' Association (SLJY) said Thursday that a staff shortage would soon imperil air traffic safety if Finavia, formerly known as the Civil Aviation Administration, did not take action quickly to rectify the situation.

"One of the most important goals of the coming period is to get the personnel resources right in all air-traffic control units in Finland," said Sami Fabritius, the chairman of the SLJY at the association's annual meeting in H...meenlinna.

Mr Fabritius added that while the situation was worrying in the entire country, the staff shortage was the most acute at Helsinki-Vantaa and Helsinki-Malmi airports.

"In no circumstances should financial considerations affect safety. Yet in many air-traffic control towers in Finland the controller is forced to work alone because of limited personnel resources. From the point of view of safety, it is unsustainable to carry on like this."
Emirates order set to exceed 100 aircraft

DUBAI — As the transatlantic battle intensifies between Boeing and Airbus SAS for the huge mid-size aircraft order from Emirates, the Dubai-based carrier said it was reassessing the fleet requirement plan that envisages "possibly more than the 100 aircraft" as was originally projected, in this category.

Speaking to Khaleej Times, Mike Simon, Senior Vice-President, Emirates Corporate Communications, said the carrier is looking at both aircraft models — Airbus’ A350 XWB and Boeing’s 787 Dreamliner — and a decision would not be taken until Emirates was satisfied with the final details of both planes.

Confirming reports that the airline’s president, Tim Clark, expressed satisfaction at the new design of the Airbus A350 XWB when he visited Toulouse recently, Simon said Emirates will have to choose between Boeing 787 Dreamliner or A350 XWB to replace its existing Airbus A330 and Boeing 777 aircraft by 2012-2013.

"Tim Clark has said the performance gap between the two models are closing and the look and feel of both models are getting very similar," Simon said.

On Wednesday, Bloomberg reported that Airbus' upcoming twin-aisle model might secure the 100-plane order valued at $24 billion from Emirates after developing a wider body and more efficient wing. "With Emirates revising its fleet requirements to more than 100 planes, the stakes would be higher for the transatlantic aircraft makers," said an airline industry analyst. According to Clark, choosing between the two planes will be difficult "because they both do brilliant jobs." The A350 is "essentially going to be a good airplane. The only problem is that it is so much behind the 787," which is to go into service next year.

Emirates is considering the Boeing 747-8 Intercontinental in addition to the A350 and 787, but will not make a decision any time soon, Clark was quoted by Bloomberg.

"We have quite a lot of information on the 787. The scale of this order is so big, we have to be absolutely sure that obviously we are doing the right thing, that we are getting the right airplanes and the right numbers," Clark said.

Boeing, which has begun major assembly of the 787, is on schedule to deliver the first one in May 2008 and is working with suppliers on how to build more to meet demand. The plane is sold out until the "back end" of 2013, programme manager Michael Bair said last month. The A350 XWB will enter service only in 2013.

Qatar Airways, which became the launch customer for Airbus' A350, is its biggest customer to date. It said on March 15 it may increase a planned order for the model by one-third to 80 planes valued at $16 billion for use on medium- and long-haul routes. Akbar Al Baker, chief executive of Qatar Airways, said he expects to sign a firm order at the Paris Air Show in June and a preliminary agreement in weeks.

Emirates is the biggest customer of Airbus' 555-seat A380 and has 45 of the
planes on order. The airline will take delivery of the first next year, 21 months late, because of manufacturing delays.

Recently, Airbus was given the go-ahead to build a wider version of the A350, called the A350 XWB after airlines rejected previous designs as too similar to its A330 model.

Boeing already has a backlog of 787 orders for more than 500 planes from 40 customers. Airbus so far has orders for about 100 of the A350s and most of those have to be confirmed because of the frequent redesigns of the plane. The 787 may help Boeing regain the lead in commercial-jet building from Airbus as soon as 2008.

The Dreamliner, which is scheduled to enter service next year, will be about 50 percent built from composite materials, which are lighter than the traditional aluminium and make the plane more fuel-efficient. Airbus's A350 XWB is now to be 50 per cent built from composite materials as well, though design delays mean it won't enter service until 2013.

Airbus said in January it expects to spend about 11.6 billion euros developing the A350 XWB, 50 per cent more than the earlier version, as the composite materials add to costs.

The only firm order for the A350 XWB from an airline customer has been an 11-plane contract from Finnair Oyj, Finland's state-controlled carrier, signed March 8. In December, U.S.-based leasing company Pegasus Aviation Finance Co. ordered two of the planes. Singapore Airlines Ltd. agreed to buy 20 A350 XWBs last June, with options to buy 20 more, though hasn't yet signed a firm order. On March 22, Airbus also won a pledge from Russia's OAO Aeroflot to buy 22 A350s worth $4.4 billion, with Airbus offering Russian industry a 5 per cent stake in building the aircraft. Aeroflot, eastern Europe's largest airline, signed a preliminary agreement March 22.

***************

US expects aviation agreement with China by May

BEIJING (AFP)

The United States expects to reach a "meaningful agreement" with China by May on the liberalisation of aviation, the US secretary of transportation said Friday.

"We want to reach meaningful agreement about having full and open liberalisation of aviation," Mary Peters told a gathering of US businesspeople in Beijing.

"That is our goal, and I do believe that we can reach a meaningful agreement by May at the next SED (Strategic Economic Dialogue)," she said.

The Strategic Economic Dialogue is a twice-annual high-level meeting. The next round of talks between US Treasury Secretary Henry Paulson and Chinese Vice Premier Wu Yi is scheduled in Washington next month.

Although an agreement of complete liberalisation of aviation is the ultimate goal, Peters said the agreement with China would probably be phased in over
a period of time.

During her first visit as Transportation Secretary to Beijing, Peters will meet with high-ranking Chinese aviation officials including Yang Yuanyuan, the minister of General Administration of Civil Aviation.

The two countries reached an aviation agreement in 2004, which covered an increase in the number of airlines serving US-China routes, an expansion of flights frequency and the establishment of cargo hubs in China by US airlines.

"There is no better time than the present to build on this foundation by opening the skies between China and the United States," Peters said.

AFP

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For additional commands, e-mail: flightsafety-help@fsinfo.org

From: rob.pappas@faa.gov
Date: April 12, 2007 11:45:14 AM PDT
To: jjennewine@utcdayton.com
Cc: daniel.catlin@ntsb.org
Subject: Fw: seal on Rosenkers Bio

Jill,
It has just come to my attention that the bio for NTSB Chairman Rosenker incorrectly has the FAA seal rather than NTSB seal. Can you please correct this.
Thanks,
http://www.agingaircraft.utcdayton.com/pages/B-1.html

should it be the NTSB seal?

Daniel

_____ From: moin abulhosn <moinofboeing@yahoo.com>  
_____ Date: April 9, 2007 7:59:25 AM PDT  
_____ To: barry@johnbarrysmith.com  
_____ Subject: Your 747 Rupture articles  

Dear John,

It seems that I stumbled into your 747 Rupture articles while I was doing a search on NTSB subjects, and you responded kindly by forwarding the articles to me and my colleagues. I am not going to formally respond to your queries without you first contacting the FAA Public Affairs office and petition within the proper channels. Also, whatever I communicate to you is not an official FAA finding and that's why I am using my personal email today.

Good day, Moin Abulhosn.
Bored stiff? Loosen up...

Download and play hundreds of games for free on Yahoo! Games.

From: Moin.Abulhosn@faa.gov  
Date: March 27, 2007 5:59:45 AM PDT  
To: barry@johnbarrysmith.com  
Cc: Steve.Ramdeen@faa.gov, Tim.Shaver@faa.gov  
Subject: Please send me the info you have on the rupture, 747-100,200 etc. report

Moin Abulhosn  
Federal Aviation Administration  
Aerospace Engineer  
Aircraft Certification Service  
Aircraft Engineering Division/Avionics Systems Branch  
AIR-130  
Phone: (202) 385 4645

From: phil.randall@faa.gov  
Date: October 25, 2006 8:46:16 AM PDT  
To: John Barry Smith <barry@johnbarrysmith.com>  
Cc: peter.wilhelmson@faa.gov  
Subject: Re: Wiring/cargo door meeting with FAA safety officials
Mr. Smith,

I apologize for the delay in replying to your emails, but my time has been very limited due to special projects that I have to complete involving implementation of the FAASTeam.

Since aircraft wiring is not one of the areas I feel secure in discussing with anyone as an expert, I discuss your emails with the appropriate people at FAA headquarters and they all feel that you need to address your concerns with Aircraft Certification. The office nearest to you is listed below. Please contact them and thank you for your concerns.
Geographic Area of Service

Los Angeles ACO

3960 Paramount Boulevard
Lakewood, CA 90712-4137

(562) 627-5200 FAX: (562) 627-5210

Arizona
California
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Phil

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John Barry Smith
<barry@johnbarrysmith.com>

To
Phil Randall/AWA/FAA@FAA, Peter
10/25/2006 10:54
Wilhelmson/AWP/FAA@FAA

AM
cc

Subject
Wiring/cargo door meeting with FAA
safety officials

Phil Randall
Pete Wilhelmson
FAA Safety Team
FAAST

Dear Mr. Randall and Mr. Wilhelmson, Wednesday, October 25, 2006

I have not heard back from you regarding the alert about Poly X
wiring in Boeing 747 cargo door circuits. Did you get my email responding to the telephone call? (enclosed)

An article in the Washington Post (enclosed) states the FAA is still concerned about older planes and loaded with wiring. My shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation shows the danger is clear, present, and much worse than realized.

The FAA is concerned that planes are getting older and are loaded with more wiring -- the source of the majority of the smoke and fires -- as aircraft offer expanded on-board high-tech equipment and in-flight entertainment systems. Last year, the agency proposed new rules to stiffen requirements on the maintenance, installation and care of wiring.

I've also included below a recent letter to Canadian officials (enclosed) regarding Air India Flight 182 that lays out the case in particular for Air India Flight 182. I was replying to responses from the office of the Prime
Minister and Minister of Transportation.

There are lots of safety issues out there for FAAST; I would say that Poly X wiring should be high up on the list since my research has shown it has killed hundreds not officially recognized.

In all my decades of flying, thousands of flight hours, and tens of incidents/emergencies, I have learned that some problems are slow in coming and some are fast. I went from flying perfectly normally to being on the ground surrounded by burning debris in literally ten seconds. I also learned that there were many apparent slow problems that became no problems when I checked them out and took corrective action or dismissed them.

Please check out my alert on wiring/cargo door problems with early model Boeing 747s by setting up a meeting with me so I can present my research in detail using charts, documents, and photographs to FAA safety personnel. Salinas, San Jose, or San Francisco are all suitable for me or you can certainly visit me in Carmel Valley.

Regards,

John Barry Smith
Fires in the air still a risk for pilots, airlines
'Smoke conditions' called a problem that flight crews can't always get to
Wednesday, October 18, 2006
BY DEL QUENTIN WILBER
WASHINGTON POST
The FAA is concerned that planes are getting older and are loaded with more wiring -- the source of the majority of the smoke and fires -- as aircraft offer expanded on-board high-tech equipment and in-flight entertainment systems. Last year, the agency proposed new rules to stiffen requirements on the maintenance, installation and care of wiring. It also has worked to reduce the amount of flammable materials on board. Still, in a two-day period late last month, authorities reported several incidents. A Delta Airlines flight was evacuated at Boston's Logan International Airport when the pilot smelled smoke after landing. Another Delta flight from Paris to Atlanta was diverted to Knoxville,
Tenn., after passengers reported smelling smoke. And a Chicago-bound American Airlines flight was diverted to a New Hampshire airport after passengers reported a burning smell.
The U.S. aviation world has experienced a particularly safe period in recent years. Only one major commercial jet crash has occurred since late 2001, when 49 people were killed in August in Kentucky after pilots tried to take off on a runway that was too short.
The good safety record is because of the elimination of the most glaring aviation risks, experts say. One of the biggest advances: an on-board computer system that warns pilots when they're approaching mountains, the ground or other terrain -- once a leading cause of aviation fatalities.
Safety consultants said the FAA and the aviation industry have made strides in reducing the risk of in-flight fires. In the 1980s, regulators pushed to ensure that aircraft had better smoke detectors and extinguishers in lavatories, and forced airlines to use less-flammable material in aircraft cabins.
Next, they turned to improving aircraft wiring and stripping out flammable insulation and other material that could burn. Airlines have
begun to concentrate on removing debris, such as lint and dirt, that builds up in hidden places and could sustain a blaze. Smoke detectors and automated fire extinguishers were installed in cargo holds. Those efforts followed the crashes in 1996 of a ValuJet plane in the Florida Everglades and of TWA 800, a Boeing 747 that exploded in mid-flight after a spark apparently set off vapors in a center fuel tank. Two years later, a Swissair jet crashed off the coast of Nova Scotia after insulation near the cockpit was ignited by short-circuited wires, investigators say. Researchers are studying ways to allow flight attendants to reach such inaccessible areas as behind aircraft walls to discharge fire extinguishers, after several incidents in which crews couldn't get to small blazes. To streamline procedures for pilots -- who are often caught off guard by smoke incidents and must react quickly -- Boeing Co. plans soon to issue new simplified fire checklists for all of its planes. Studies suggest pilots may have no more than 15 to 20 minutes to get a burning aircraft on the ground before a fire leads to catastrophe. Pilots groups have been pushing for such checklists, which are expected to begin with a warning: "A Diversion May Be Required," said
H.G. "Boomer"
Bombardi, a pilot who has worked on fire safety for the Air Line Pilots Association.

To: pm@pm.gc.ca, barney.brucker@justice.gc.ca, MINTC@tc.gc.ca, communications@tsb.gc.ca, Paulette.Delorme@tsb.gc.ca, Terry.Burtch@tsb.gc.ca, securitas@tsb.gc.ca, mtansey@majorcomm.ca
From: John Barry Smith <barry@johnbarrysmith.com>
Subject: Air India Flight 182 wiring/cargo door explanation
Cc:
Bcc:
X-Attachments:
Stephen Harper
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80 Wellington Street
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K1A 0A2
Salpie Stepanian
Assistant to the Prime Minister
pm@pm.gc.ca

Honourable
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Mr. Barney Brucker
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Commission of Inquiry into the Investigation of the Bombing of
Air India
Flight 182
Sgt. B. Blachford
Air India Task Force
5255 Heather St.
Vancouver, B. C.
V5Z 1K6

Dear Honourable Ministers, Commissioner, and Respected Staff,
Sunday, October 22, 2006

All roads lead to Barney. But first...our subject:

(Embedded image moved to file: pic00481.jpg)

Introduction:

An action transferred is an action completed and an action completed is better than no action at all, so let me thank the below staff for their referrals:
1. Salpie Stepanian, Assistant to the Prime Minister for the reply to my email to the Prime Minister; "Please be assured that your
comments have been carefully reviewed and are appreciated. I have taken the liberty of forwarding your correspondence directly to the Minister of Justice and Attorney General of Canada, the Honourable Vic Toews, within whose responsibilities this matter falls."

2. Richard Stryde, Senior Special Assistant, to Honourable Lawrence Cannon, Minister of Transport, Infrastructure and Communities for his reply to my email. "The Minister has asked me to reply on his behalf. I have noted your comments with respect to this matter. Although, as you indicate, the Attorney General of Canada is the Government of Canada's representative on the Commission of Inquiry into the investigation of the bombing of Air India Flight 182. This being the case, I have taken the liberty of forwarding a copy of your correspondence to the office of the Honourable Vic Toews, Minister of Justice and Attorney General of Canada, for consideration.

Thank you both, Ms. Stepanian and Mr. Stryde, and I appreciate the attention at highest political levels that my alert has received of the clear and present danger to the Canadian flying public by the
shorted
wiring/unlatch motor on/ruptured open forward cargo door/
explosive
decompression/inflight breakup explanation for early model
Boeing 747s, of
which Air India Flight 182 was but one. It occurred to me that
since my
wiring/cargo door explanation received the attention of such high
officials, then it must also be considered by others, such as the
AG, TSB,
and the Commission of Inquiry.

I present myself to you as someone who is not seeking
compensation, who is
not pursuing a lawsuit, who is not angry and ranting, who does
not seek a
special tax break, nor one who is pleading for mercy for a
criminal
conviction. I am someone who is trying to prevent mass deaths in
another
airplane crash similar to Air India Flight 182. I am qualified to do
so
through experience and education but not by rank or title. I have
proven my
good intentions by flying to Ottawa from California and staying
in a hotel
at my own expense and time. I consider myself one of the good
guys and
would like to think that everyone involved here is also good. We
are to
protect and serve the people, you from your official public
positions and
me from my private and unofficial one. We are on the same side.
We have the same goals although different routes. I understand your way. I'm asking that you understand my path; it's down to earth, makes sense, and is clear cut.

There was some surprise that my research and conclusions about an airplane crash were referred to the Attorney General but I still appreciate the referrals, thank you again, Ms. Stepanian and Mr. Stryde. Sooner or later the Transportation Safety Board (Air) will be the ones to evaluate the causes of an airplane crash based on the physical laws of science and not the emotional, irrational motives of human nature. The other official responses to my alert from the Minister of Justice, the Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182, the TSB (Air), and Securitas (TSB) have been...silence. The Attorney chooses to remain silent, the Spokesperson will not speak, the Inquirer will not inquire, and the security officers will not...do whatever they do. I shall hopefully assume the silences reflect deep contemplation, solemn pondering, if you will.
I must make do with what I have and what I have are two referrals from high authority to the Minister of Justice and Attorney General of Canada...which is actually his representative, Mr. Barney Brucker. My presentation must be appropriate to the audience and will therefore be made using legal terms in a courtroom model with attorney relationships. Mr. Brucker and I are most certainly good sons, wonderful husbands, terrific fathers, loyal to our friends, and competent professionals. However, in the courtroom model we shall be professional adversaries as the British system uses the plaintiff and defendant style to determine findings: I shall be polite and respectful while arguing a common goal to understand what happened and why; in this case, why Air India Flight 182 exploded in midair so many years ago. If everyone knew 'why' for sure, there would not be the many conflicting official opinions about what and where in the aircraft the explosion occurred nor the current Commission of Inquiry or an upcoming perjury trial. The issue is still contentious and will remain so until a conclusive ending is attained.

In the old days, say before June, 1985, the government was the
stolid, conservative arbiter of verdicts and justice while the wild eyed conspiracy
guys with their erratic connecting the coincidental dots into plots of mass
murder by foreign looking gents were the barely tolerated and scorned
rabble. Now the government is the conspiracy bomber terrorist believing guy
and a scientific fellow like me is on the outside, trying to reason with
the unreasonable. Please be reasonable; respond to reason not emotional
hate and a lust for revenge based on horror and grief. There are real
terrorists out there wanting to blow up airliners but they were not involved with the destruction of Air India Flight 182.

Let us assume that the Crown believes and has prosecuted several men on the
premise that two or three bombs were placed on two Boeing 747s which
departed Vancouver BC and later blew up, one on a baggage cart and one in
an aircraft, murdering many. Furthermore, those bombs were placed by
several revenge seeking turbaned terrorists who conspired with each other
over a period of months. Subsequent attempts at prosecution revealed
administrative lapses among various agencies which are alleged to have
thwarted justice. A witness lied. Victims' families remain irate.
Law enforcement is frustrated. Thus an Inquiry and further prosecution of a presumed conspirator continue.

Assume that I claim that there was no bomb on Air India Flight 182 and therefore no bombers, no conspiracy, no crime, and no criminals. The cause was the mechanical one of the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation which is amply supported by facts, data, evidence, recorders, schematics, and a matching precedent of United Airlines Flight 811.

Presentation Outline:
Introduction
Opening Statement
Presenting Case:
Part I: Witnesses
Part II: Analogy
Part III: Matchups
Part IV: Best Evidence
Part V: Human Nature Conjecture
Part VI: Photograph evidence
Part VII: Layperson Explanation
Part VIII: Template
Part IX: The Unifying Official Version
Part X: Sequence of Destruction
Part XI: Political Implications
Part XII: Standing
Summation

Permit me now to make my opening statement to Mr. Barney Brucker, (the judge, jury, and prosecutor of one), then present my case in detail, and sum up to conclusion and await the verdict from Mr. Brucker.

Opening statement:

Mr. Brucker, I am the plaintiff, I have come to you for redress of a grievance, that grief being the loss of a huge airliner and the deaths of 329 men, women, and children and flight crew. I believe the probable cause of that airplane crash to be the same probable cause of about half of all the thousands of airplane crashes, a mechanical fault with the machine. I do not believe the cause of that inflight breakup to have been caused by the rarest of causes for an explosion in a highly pressurized hull; sabotage and specifically a bomb explosion. My explanation is called the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation or wiring/cargo door for short.

That electrical cause occurred for Air India Flight 182 and for several other early model Boeing 747s, in particular United Airlines Flight 811.
That wiring problem can occur again and another 329 persons can needlessly die. The problems are mechanical and can be fixed thus preventing another inflight explosion when that cargo door ruptures outward in flight, causing an explosion which mimics a bomb explosion. The hard evidence refutes a bomb explosion because the necessary scientific evidence which would confirm a bomb explosion is missing and the scientific evidence which confirms an explosive decompression due to a ruptured open cargo door is present. A bomb explosion on Air India Flight 182 is scientifically ruled out and an open cargo door is ruled in.

The defence (government) contends it was a bomb explosion in the aft bulk cargo compartment on the left side that caused the inflight breakup of Air India Flight 182. They have offered as proof a complicated conspiracy theory involving a Mr. X, an adulterous affair, jealous lovers, misappropriated funds, shootouts, angry and revengeful savages, army assaults, religious conflicts and a potential breakaway civil war. Fine, that's all very exciting and a movie with those elements would be very entertaining, I'm sure. Air India Flight 182 was first and foremost an
airplane crash. It was not a domestic disturbance that escalated into violence or a bank robbery. An airplane has to obey immutable laws of physics to fly and the same laws to breakup in flight and crash. Humans who commit crimes react to their own internal changing moral rules and can not be predicted. Machine behaviour can be predicted. The conspiracy guys will claim that the reason there were no convictions is because one of the conspirators perjured himself during trial and if he had just told the truth, convictions would have followed.

To understand and explain why Air India Flight 182 crashed I will stick to the facts and leave the intrigue to the newspapers and TV. Please bear with me as I present charts, photographs, text, expert opinions, similar airplane accidents with similar evidence, and closely reasoned conclusions. Swiss Air Flight 111 and TWA Flight 800 have taught the Canadian, UK, and USA government investigators much about the consequences of faulty wiring in widebody airliners.

Both sides, the conspiracy and the mechanical, have a common goal with different routes to get there. We want to protect the trusting flying
public and prevent needless deaths. Here are my paths starting from the end and working backwards:
1. The known faulty and aging Poly X type wiring needs to be replaced in early model Boeing 747s.
2. The design flaw of non-plug cargo doors needs to be corrected by making the doors like the plug type passenger doors.
3. The design flaw of absent locking sectors on the two midspan latches of the two cargo doors needs to be corrected by inserting the missing locking sectors.
4. The USA Federal Aviation Administration will issue an Airworthiness Directive (AD) for emergency inspection of the cargo door wiring for chafing and charring based upon the Transportation Safety Board (TSB) updated findings.
5. The TSB (Air) will investigate and issue an updated CASB Aircraft Accident Report (AAR) for Air India Flight 182 based upon hindsight using the knowledge gained from several subsequent similar accidents, specifically United Airlines Flight 811, Swiss Air 111, and TWA Flight 800.
I will assist the TSB in their investigation. The new AAR will be based upon the suggestion of the Commissioner of the Inquiry into Air India Flight 182.
6. The Commissioner will request TSB (Air) for their official opinion as to the cause of Air India Flight 182 since the last official accident report of twenty years ago by the predecessor CASB did not conclude the cause was a bomb and evidence at that time refuted the bomb explosion explanation and suggested a explosive decompression caused by structural failure.

7. I persuade Commissioner Major that it would be prudent to order an updated AAR to fulfill his mandate of a full and thorough inquiry and to satisfy his personal goal that the inquiry was to be very broad in the evidence that it heard, in order to put to rest the various theories, rumours and neglect that have occurred since the explosion in 1985.

8. The Attorney General of Canada will suggest to the Commissioner that I be granted standing as witness since I qualify under a Term of Reference and have submitted the paperwork in a timely manner.

9. I persuade the AG representative to act on my behalf because the evidence I present today warrants the checking out of the reasonable, mechanical, alternative explanation. I persuade the AG representative to solicit Crown expert opinions about Air India Flight 182 from the quasi-judicial and technical fields of the Commission of Inquiry and the
TSB (Air) aircraft accident investigators.

Or: Mr. Brucker or Commissioner Major directly asks TSB (Air) to provide to them an opinion as to the probable cause of Air India Flight 182. TSB has never been asked and might very well welcome the chance to express their professional opinion; after all, this crash is the most famous airplane crash in Canadian history and their purpose for existence is to explain airplane crashes to the political leadership and public.

Or: Mr. Brucker suggests to TSB (Air) staff that they meet with me in Vancouver to allow me to present my wiring/cargo door explanation in person to the investigators.

The path of the Crown prosecutors and RCMP Air India Task Force appears to be to try to put several people in prison which will 'send a message' and salve some grief. The Crown has many who agree it was a bomb explosion which include the RCMP, the CSIS, the prosecutors, the accused, the defence counsels, newspapers, books, TV, radio, the manufacturer, the airline, the victim's families, justices, and the man in the street.

The start of my path is here today and I will now present my case
for the mechanical explanation, the non bomb explanation, for Air India Flight 182. The only people who agree with me of not concluding it was a bomb explosion in the aft bulk cargo compartment are those who actually know why airplanes fly and why they don't; who know why airplanes mostly land safely and why they occasionally come apart in the air; that is, professional government aircraft accident investigators from four countries, the USA, the UK, India, and Canada. It should be an interesting argument, a pleasing myth believed by millions versus unpleasant science concluded by dozens.

Presenting the wiring/cargo door case. It's detailed, it's complex, it's science, it's logical, it's factual, and it makes sense.

Part I: I call several witnesses by means of quoting their official words in documents.

Speech excerpts - Prime Minister Harper announces inquiry into Air India bombing "A full public inquiry is required. This inquiry will be launched immediately and led by an outstanding Canadian, retired Supreme Court Justice John Major. He has agreed to serve as Commissioner for
this inquiry
and I have every confidence that he will conduct a thorough and compassionate investigation into the events surrounding this tragedy. This inquiry is about analyzing the evidence that has come to light since 1985 and applying it to the world we live in today."

From transcript of 18 July 2006, Hearing on Standing, Commissioner Major:
The Commissioner: "Yes. Well, I will confirm that. The nature of this Commission was to be very broad in the evidence that it heard, in order to put to rest the various theories, rumours and neglect that have occurred since the explosion in 1985."

From transcript again: Mr. Barney Brucker:
Mr. Brucker: I just wanted to indicate to you, Commissioner, that I have provided this morning to Mrs. Cook and to Commission counsel a brief submission that we had prepared just on the general test for standing and issues that we submit you will be taking into account.

The Commissioner: You can’t do much better than get standing, though, can you?
Mr. Brucker: No, we can’t, but we are concerned about the focus of the Inquiry. When I attended here and listened to your Opening
Statement I was
struck by one comment that you made and I will paraphrase that, perhaps not
accurately, but what I took from your comments was that you intended to
conduct a thorough but efficient inquiry and that an efficient inquiry does
not mean that it has to take a great deal of time. We have, in my submission to you, a very compressed time schedule in which we have to get things done and my submissions simply highlight that in that environment, a
matter which is of interest to all Canadians, that there should be some
judicious consideration of who will get standing and who won’t or who may
be an intervenor and who won’t, and that to ensure that the process is thorough and efficient I have offered some general principles that I submit might be of assistance to you.

The Commissioner: Thank you. That’s been filed and will be looked at.

End quotes.

I can not cross examine but I can comment on those statements. The Prime
Minister desires a full, thorough, and compassionate public inquiry into
the events surrounding Air India Flight 182 by analyzing the evidence that
has come to light since 1985. The direction for the Commission is pointed by the two leading authorities, the Prime Minister and the Commissioner to be full, thorough, and broad.

Mr. Brucker recommends an efficient inquiry. Well, kangaroo courts are efficient and lynch mobs are cheap and fast. "Thorough and broad" requires time for the presentation of various theories since the explosion of 1985, one of which is the wiring/cargo door explanation. That alternative explanation should have its time in front of the Commission of Inquiry and that can be done by granting me witness or intervenor standing. It's been twenty one years since the event and several more hours of listening to a 'various theory' is certainly justified in the name of thoroughness. As far as efficiency goes, when the wiring/cargo door explanation is confirmed by Crown aircraft investigators, the Commission of Inquiry can reduce 90% of its workload since the reason for the acquittals by Justice Josephson is obvious, the accused were innocent and the prosecutors, RCMP and CSIS can be exonerated for failing to obtain convictions.

Does the wiring/cargo door explanation have validity? Is it as
wild as a mid air with a flying saucer explanation and thus not worthy of consideration? Or is the wiring/cargo door explanation down to earth and real?

Let me present expert witnesses through their quotes:

CASB Aviation Occurrence Report on Air India Flight 182, 1986: "The Canadian Aviation Safety Board respectfully submits as follows: "4.1 Cause-Related Findings
5. There is considerable circumstantial and other evidence to indicate that the initial event was an explosion occurring in the forward cargo compartment."

From Kirpal Report for Air India Flight 182, 1986: "Mr. R.A. Davis, Head, Flight Recorder Section, Accidents Investigation Branch, Farnborough, U.K. 3.4.6.16 In conclusion, Mr. Davis reported as follows: - "It is considered that from the CVR and ATC recordings supplied for analysis, there is no evidence of a high explosive device having detonated on AI 182. There is strong evidence to suggest that a sudden explosive decompression occurred but the cause has not been identified. It must be concluded that without positive evidence of an explosive device from either the wreckage or pathological examinations, some other cause has to be
established for the accident".

End quotes:

That 'other cause' was established by me in 1996 based on an event in 1989, "[...]"}
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Dear Mr. Wilhelmson, Friday, October 13, 2006

I've been going over in my head our telephone conversation and I may have answered some questions incompletely which I can now fill out:

You asked about the files I said the FAA had downloaded. I replied that I have websites, http://www.montereypeninsulaairport.com and http://ntsb.org, and the host keeps track of the computers that download files. I checked the addresses and it revealed that the FAA had downloaded files which I reported to you as well as thousands of files that the airlines, Boeing, engine makers, NTSB, and parts suppliers had come to my sites and downloaded to their computers.

I've rechecked lately and the files downloaded by the various airlines, Boeing, NTSB, and FAA are increasing. My files are all directly related to the shorted wiring/unlatch motor on/ruptured open forward cargo door/explosive decompression/inflight breakup explanation for early model Boeing 747s that suffered
explosive decompression in flight.

You also asked what I would like to see done. Well, I was flattered you would ask. Essentially, the known problem of aging Poly X wiring is worse than it appears. Besides causing fires in cargo holds and elsewhere it has caused, in my opinion, the fatal deaths of 838 persons in at least four fatal Boeing 747 crashes, most of which are still controversial.

The planes need to be grounded and the wiring replaced. If not economically feasible, then scrap them, like the military did with their Poly X F-14s.

The design flaw of non plug cargo door needs to be corrected by turning them into plug type, like the passenger doors. At least change the new models to non plug type for the Boeing 787 and the Airbus A380 which has three large non plug cargo doors.

The design flaw in Boeing 747s of the two identical cargo doors not having locking sectors for the two midspan latches per door needs to be corrected but that is only a tiny band aid on a big wound.

I welcome the interest of the The FAA Safety Team (FAASTTeam) and remain available to amplify, justify, or clarify any of my premises and conclusions that reveal that wiring is causing explosive decompressions in early model Boeing 747s. There are no conspiracies to hide anything, just well meaning people acting in their own perceived best interests, which may or may not be contrary to safety issues. My conclusions are grounded in facts, data, and evidence and rely on official accident reports from various governments. United Airlines Flight 811 is the model for the other three.
The potential of the wiring shorting on the cargo door unlatch motor again is rare but catastrophic and usually fatal. The hazard is clear, documented, and present (although rare) in the remaining 747-100s and 747-200s in the fleet.

You also used the word, 'tenacity' in referring to my efforts, thank you. It's been years and years but then sometimes, safety issues do take years and years to take effect; it's worth it.

Regards,

John Barry Smith
541 Country Club Drive
Carmel Valley, California 93924
1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrystmh.com
www.ntsb.org
http://www.montereypeninsulaairport.com
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From: John Barry Smith <barry@johnbarrystmh.com>
Date: October 13, 2006 2:19:23 PM PDT
To: peter.wilhelmson@faa.gov
Cc: phil.randall@faa.gov
Subject: contact

Dear Mr. Wilhelmson, Friday, October 13, 2006

Thank you very much for your phone call of a few minutes ago. I look forward to hearing from you again.
You asked the right questions, sir; they revealed an open mind.

One question was who in the FAA have I reported the shorted wiring/unlatch motor on/ruptured open forward cargo door/ explosive decompression/inflight breakup explanation to. Looking over my records, the below gentlemen and I had correspondence during the TWA Flight 800 event and since.

Bob.Breneman@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Lyle.Streeter@faa.dot.gov, Neil.Schalekamp@faa.dot.gov, Ronald.Wojnar@faa.dot.gov Joe.A.Nakanishi@faa.gov

They disagreed and supported the faulty wiring in the fuel tank circuit as the NTSB claims. I believe I can refine that probable cause.

I would ask that I could travel to a FAA facility nearby such as San Jose or San Francisco so that I may show my research and conclusions (with the precedent of United Airlines Flight 811) to FAA safety personnel.

Regards,

John Barry Smith
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1 831 659 3552
1 831 241 0631 Cell
barry@johnbarrysmith.com
safety@ntsb.org
http://www.montereypeninsulaairport.com
From: John Barry Smith <barry@qp6.com>
Date: July 2, 2006 9:51:39 AM PDT
To: barry@qp6.com

Brent.Phillips@faa.gov, richard.jehlen@faa.gov, emily.a.white@faa.gov, grossid@ntsb.org, lynn.a.boniface@faa.gov, Gregg.Anderson@faa.gov, Richard.Powell@faa.gov, Kevin.Browne@faa.gov, richard.jehlen@faa.gov, kathy.abbott@faa.gov, Lance.Nuckolls@faa.gov, Richard.Heuwinkel@faa.gov, paul.krois@faa.gov, jeff.williams@faa.gov, james.p.hansen@faa.gov, darcy.d.reed@faa.gov, C.Tere.Franceschi@faa.gov, Pat.Bruce@faa.gov, rolland.nelsen@faa.dot.gov,9-awa-asu-web-admin@faa.gov, Bob.Breneman@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Lyle.Streeter@faa.dot.gov, Neil.Schalekamp@faa.dot.gov, Ronald.Wojnar@faa.dot.gov, jeff.williams@faa.gov, WebmasterFAA@mail.hq.faa.gov,

From: John Barry Smith <barry@corazon.com>
Date: June 12, 2002 3:43:17 PM PDT
To: mary.ctr.chiappetta@faa.gov
Subject: Safety data analysis shows pattern in five 747 accidents

Dear, Ms. Chiappetta, 12 June 02

Brad Fuller sent me the email you sent to him regarding an accident, I was unable to help Brad a while ago but you had success.

As I read you are a safety data analyst, here is something that might intrigue you. China Airlines Flight 611 has just occurred
and I believe it to be another shorted wiring/forward cargo door rupture/explosive decompression/inflight breakup explanation accident.

My safety data research over the past 12 years has shown me that there are four other accidents with the same facts, data, and evidence and all controversial.

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http://www.corazon.com/PDF182and103SmithAAR.html%20
http://www.corazon.com/Smithtable.html%20

gives details.

I am available for follow up if you wish.

Cheers,
Barry Smith

John Barry Smith
(831) 659 3552
541 Country Club Drive,
Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com

From: mary.ctr.chiappetta@faa.gov
Sent: Wednesday, May 29, 2002 21:42
To: Brad Fuller
Subject: NASDAC Data Request
Hello Brad,

I am an analyst with the National Aviation Safety Data Analysis Center. Warren Randolph forwarded your request to me. I believe we located the report in the NTSB Database. The event involved a Raytheon 99 aircraft in 1987. The Captain was sucked out of the aircraft during cruise flight, but sustained only minor injuries. I have attached the brief report as a Word document and as an .htm file.

Please let us know if you need anything else.

Thanks,

Mary Chiappetta
202 493 4254

From: John Barry Smith <barry@corazon.com>
Date: June 9, 2002 9:09:20 AM PDT
To: Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov, Bob.Breneman@faa.dot.gov, Tom.McSweeney@faa.dot.gov, Lyle.Streeter@faa.dot.gov
Subject: China Airlines Flight 611

Dear FAA 'Safety' officials, 9 June 02
Well, it apparently happened again...China Airlines Flight 611 is another early model Boeing 747 to suffer an inflight breakup within an hour after takeoff with strange radar returns at initial event time.

It's probably another shorted wiring/forward cargo door rupture/explosive decompression/inflight breakup event as I wrote to you at length for Trans World Airlines Flight 800.

Will you do this, when retrieved, if the CVR and FDR show a sudden loud sound followed by an abrupt power cut, will you reconsider the initial event for Trans World Airlines Flight 800 to be the shorted wiring/forward cargo door rupture/explosive decompression/inflight breakup explanation?

Well, just asking. Sadly, I laughed to myself when I considered FAA officials doing anything on their own about safety without being told by FBI or NTSB first.

You see, I use the luxury of hindsight to compare to the present to predict the future. You didn't by pretending United Airlines Flight 811 never existed. I have been saying all along that known faulty wiring of Poly X would again short on that door unlatch motor causing the explosive decompression and subsequent inflight breakup.

http://www.corazon.com/crashcontentspagelinks.html
http://www.corazon.com/PDF182and103SmithAAR.html%20
http://www.corazon.com/Smithtable.html%20

gives the details and the matches to Air India Flight 182, United Airlines Flight 811, Pan Am Flight 103, Trans World Airlines Flight 800, and China Airlines Flight 611.
Mr. Schalekamp was right when he wrote below in 1998 that the door area of Trans World Airlines Flight 800 did indicate an outward explosion, (but quickly recanted that obvious truth even as shown by the wreckage reconstruction).

If only FAA safety had proceeded along that investigative line....

"While no one scenario has been categorically proven to the the cause, it is believed, based upon available data, that the center tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT. Furthermore, you mentioned that the forward cargo door was recovered a considerable distance from the rest of the structure. This could be due to its aerodynamic characteristics and prevailing winds at the time of the accident, rather than attributing this as the primary cause of the accident."

Well, let's see how the Chinese handle the inflight breakup of one of their early model Boeing 747s, maybe they will be more open minded, motivated, and objective.

I have been in a life and death situation in a sudden night fiery fatal jet airplane crash and I will tell you and all the other accident investigators in this world, there is no pride, no embarrassment, and no shame when faced with imminent death. The exact and timely truth is everything, regardless of reputation or stature. When the engine has inadvertently reduced thrust and drag stays the same, lift is reduced and the plane descends to crash. Period. Time to eject. It does not matter who is on board, good guys or bad guys, the plane descends. There is no
negotiation with the natural laws of physics. The outward opening nonplug cargo door had to rupture open when the cams turned to the unlock position with the almost 100000 pounds of internal pressure exerted on those lone midspan latches with no locking sectors.

So, I'm asking again, will you reconsider the cause of Trans World Airlines Flight 800, will you contact me for an interview for details, will you ask questions, will you answer the lingering questions about Trans World Airlines Flight 800 which is said to have had a spontaneous center fuel tank explosion but lacks the essential ingredient of an ignition source? The wiring/cargo door explanation does have that ignition source and does answer the other questions raised by the lack of victim's burns and the sooting diagrams which reveal the clean cut when the nose came off.

It's never too late for safety.

Sincerely,

John Barry Smith
(831) 659 3552
541 Country Club Drive,
Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com

From: John Barry Smith <barry@corazon.com>
Date: July 23, 2001 9:30:19 AM PDT
To: Ronald.Wojnar@faa.dot.gov, John.Dimtroff@FAA.DOT.GOV,
Dear FAA Safety Officials, 22 July 01

The below SDR reveals that the flaw of electrically opened forward cargo door still exists. This supports the shorted wiring/forward cargo door rupture/explosive decompression/inflight breakup explanation for four Boeing 747 accidents as detailed at www.corazon.com

I urge you to take action and contact me for further clarification.

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Discrepancy/Corrective Action:FWD CARGO DOOR OPENED BY ITSELF WHEN CB PUSHED IN. ON ARRIVAL, CIRCUIT BREAKERS WERE PUSHED IN, WHEN PRESSURE RELIEF DOOR HANDLE WAS OPENED THE DOOR LATCHES OPENED AND THEN THE DOOR OPENED ON ITS OWN. COULD NOT DUPLICATE PROBLEM AFTER INITIAL OPENING.

Dear FAA, this is very very scary knowing what we know about forward cargo doors opening in flight from electrical causes. If that CB had been pushed in (why was it out) during flight, that forward cargo door would have ruptured/opened with known catastrophic results. What is a 'controller' and what 'malfucntioned'? UAL, above incident airline and well familiar with UAL 811, had habit of pulling door CB out and were told to stop, order 8300.10 below. They are apparently still pulling the door CB and it may have saved their ass.

"Door opened on its own" should have sent chills down your back, it did mine.

Sincerely,

John Barry Smith
(831) 659-3552 phone
551 Country Club Drive,
Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance bombardier navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

ORDER: 8300.10

APPENDIX: 4

BULLETIN TYPE: Flight Standards Information Bulletin (FSIB)
for Airworthiness (FSAW)

BULLETIN NUMBER: FSAW 93-50

BULLETIN TITLE: Inappropriate Use of Circuit Breakers During B-747 Lower Lobe Cargo Door Operation

EFFECTIVE DATE: 06-02-94

1. SUBJECT. This FSIB informs inspectors of unsafe procedures being used by some operators to close and lock the lower lobe cargo doors of the Boeing 747 (B-747) series aircraft.

2. BACKGROUND.

A. This bulletin was developed after an inquiry by a foreign airworthiness authority into the special procedures used by a specific operator to close and lock the lower lobe cargo doors of
B-747 series aircraft. The special procedure included in the operator's maintenance manual called for manual tripping of the cargo door control circuit breakers and the section 2 ground handling bus circuit breaker in order to further remove the possibility of power being applied accidentally to the cargo door control circuitry.

B. The manual tripping of the circuit breakers in special cargo door lock procedures is unnecessary and decreases the reliability of the circuit breakers to perform their intended function. Frequent switching of the breakers could cause them to trip before the point of rated voltage or not to trip at all. Both cases could have adverse effects (such as the following) in relation to the safe operation of the cargo doors:

1. Circuit breakers that trip before the point of rated voltage would cause increased manual operation of the cargo doors.

2. Manual operation could introduce additional failure conditions, such as out-of-sequence operation and overdriving of the cargo door mechanisms.

3. Service history has shown that manual operation of the cargo doors is more prone to cause damage; for example, the failure of a breaker to trip at the point of rated voltage could lead to failed components and fire.

C. The revision to the B-747 cargo door lock sectors warning system, in airplanes compliant with Airworthiness Directive (AD) 90-09-06, provides an increased level of integrity so that manual
tripping of the circuit breakers is not necessary to prevent the possibility of an uncommanded opening of the cargo doors. Furthermore, power to the cargo door is automatically removed by the Master Latch Lock System upon first motion of the Master Latch Lock Switch away from the fully unlocked position.

3. ACTION. Principal maintenance inspectors (PMI) having certificate management responsibilities for operators of Boeing 747 series aircraft should ensure that this information is brought to the attention of their respective operators. Any operators using this procedure should be discouraged from its continued use.

4. INQUIRIES. This FSIB was developed by SEA.AEG. Any questions regarding this information should be directed to AFS-510 at (703) 661-0333, extension 5018.

5. EXPIRATION. This FSIB will expire on 05-31-95.

/s/
Edgar C. Fell

From: John Barry Smith <barry@corazon.com>
Date: January 24, 2001 12:56:32 PM PST
To: FAA
Subject: AAR 00/03/emails to Mr. Wildey

Dear FAA officials,

The below are the words from AAR 00/03 that contain the words
'forward cargo door' in the entire document. Much more investigation was spent on electromagnetic interference, an explanation that has no documented precedent nor initial consideration as to the initial event for TWA 800, as the open cargo door explanation has. The paucity of information, evaluation, and consideration of the forward cargo door of TWA 800 is astonishing considering it was near the official cause of CWT, has precedent, most of it is missing, and the photographs of it show the outward ruptures at the two midspan latches.

In addition, in reviewing my emails to Mr. James Wildey II, a metallurgist features prominently in the AAR 00/03, I am resending my emails to him to you in a series of separate emails to follow. They are as true now as they were then. I'm even sending the ones to me that he sent.

Somewhere, sometime, somehow, I trust a federal aviation public safety official will realize the common sense of my safety warning about wiring in cargo door areas of 747s and do their duty and inquire of me for more details via email or a meeting to allow me to present my twelve years of research which support the wiring/cargo door explanation for four Boeing 747 accidents. Hope springs eternal.

Cheers,
Barry

John Barry Smith
(831) 659-3552 phone
551 Country Club Drive,
Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

Items below contain the words, Ôforward cargo doorÕ in AAR 00/03:

For further comparisons, the Safety Board plotted the CVR recordings from other known in-flight explosions/breakups (such as Pan Am flight 103, a 747-100 airplane that crashed at Lockerbie, Scotland, after a bomb on board exploded; 117 an Air India 747-100 that crashed in the Atlantic Ocean southwest of Ireland after a bomb on board exploded; 118 and United flight 811, a 747-100 that lost its forward cargo door in flight. 119

1.16.4.4 Metallurgical Examination of the Forward Cargo Door
The Safety Board also considered the possibility that the forward cargo door (the forward edge of which is located several feet aft of STA 520 on the lower right side of the fuselage) separated from the accident airplane in flight and that this separation initiated the breakup sequence. The Board examined the pieces of the
forward cargo door, which were recovered from the yellow zone. All eight of the latching cams at the bottom of the door were recovered attached to pieces of the lower end of the door and were in the latched position. Additionally, the latching cams and pieces of the cargo door remained attached to the pins along the lower door sill. The hinge at the top of the door was broken into several pieces, but the hinge pin still held the various pieces of the hinge together.

There was no evidence to suggest that this hinge separated. The forward cargo door exhibited severe crushing deformation and fragmentation, very similar to damage observed on the adjacent fuselage structure.

As a result of damage from the explosive charge testing (which had taken place previously), the test airplane exhibited significant damage to the aft fuselage beginning with the STA 1480 bulkhead; missing sidewall panels, ceilings (including overhead bins), windows, and doors (including the cockpit door and several main cabin doors); and damage to many other doors (including the forward cargo door) that precluded closing or latching those doors.

It was also suggested that the breakup could have been initiated by the in-flight separation of the forward cargo door.

From: John Barry Smith <barry@corazon.com>
Date: September 27, 2000 12:16:33 PM PDT  
To: FAA  
Subject: And you know it

Dear Public Aviation Safety Officials, (Key word Safety)

27 Sep 00

You are about to approve a probable cause for TWA 800 as spontaneous center tank explosion. You admit the essential ignition source is unknown. You can not explain the 'streak' and dismiss it.

So, you have a probable cause that two important ingredients actually refute, missing ignition source and perceived streak.

There exists a probable cause that fully includes those two essential ingredients: Wiring/Cargo door rupture leading to explosive decompression; an explanation supported by photographs of ruptures at midspan latches of forward cargo door.

And you know it.

Wiring/cargo door includes the streak as evening setting orange sun reflecting off pieces of forward fuselage on the right side to surprised observers on the ground and perceived as a 'streak'.

Wiring/cargo door includes the fiery engine number three igniting the disintegrating center tank as the wreckage falls after the nose comes off.

And you know it.
The orange sun does reflect off of decelerating shiny metal and can be perceived as a streak.

The engine number three was on fire as proven by Powerplant Report in the Public Docket which shows soot and missing blades.

And you know it.

Wiring/cargo door explanation has not been given the consideration it deserves, and one sentence in the Public Docket discussing only eight of the ten latches and nothing about the other 80% of the door is cursory and certainly not thorough.

And you know it.

Wiring/Cargo door is not an idea under a hidden stone; it is out in plain view shouting to be evaluated, and it has been shouting for four years; yet, you refuse to evaluate it thoroughly; you refuse to interview me to allow me to present my twelve years of analysis, facts, data, and evidence for a mechanical explanation that has happened before to a high time Boeing 747.

And you know it.

As long as the Public Docket exists on CDROM, TWA 800 can be wiring/cargo door caused.

As long as the sun shines, TWA 800 can be wiring/cargo door caused.

And you know it.
As public safety officials you are betraying the public trust by refusing to examine all reasonable probable causes for TWA 800. Wiring/cargo door explanation is not conspiracy nonsense, it includes the streak and ignition source, it has happened before, and it is very very reasonable.

And you know it.

Wiring/cargo door explanation is not going to go away with the release of the incomplete TWA 800 AAR. Wiring/cargo door will be evaluated sooner or later by appointees of the current administration or the next one.

As long as the sun shines, wiring/cargo door is a viable and reasonable explanation for TWA 800.

And you know it.

Cheers

John Barry Smith
(831) 659-3552 phone
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Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
Retired US Army Major MSC
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C

From: John Barry Smith <barry@corazon.com>
Date: November 18, 1999 7:33:48 AM PST
To: FAA:Ronald.Wojnar@faa.dot.gov,
John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov,
Bob.Breneman@faa.dot.gov, Tom.McSweeny@faa.dot.gov,
Lyle.Streeter@faa.dot.gov;
Subject: http://www.corazon.com/EgyptAir990767.html

http://www.corazon.com/EgyptAir990767.html

From: John Barry Smith <barry@corazon.com>
Date: November 17, 1999 7:24:44 AM PST
To: FAA:Ronald.Wojnar@faa.dot.gov,
John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov,
Bob.Breneman@faa.dot.gov, Tom.McSweeny@faa.dot.gov,
Lyle.Streeter@faa.dot.gov;
Subject: Uncommanded inputs to elevators, ailerons, and autopilot for 767

Dear FAA, 17 Nov 99

The 767 has a history of uncommanded inputs to elevators, to ailerons, and disconnects to autopilot.

Please examine the hypothesis of uncommanded autopilot disconnect and uncommanded down single elevator for the EgyptAir 990 accident.

Cheers,

John Barry Smith
NTSB Identification: CHI93IA152 For details, refer to NTSB microfiche number 52842A
Scheduled 14 CFR 129 operation of AIR CANADA
Incident occurred APR-10-93 at KANSAS CITY, MO
Aircraft: BOEING 767-233, registration: CGAUP
Injuries: 101 Uninjured.
THE FLIGHT CREW NOTED A LOSS OF AILERON CONTROL (FELT FROZEN), WHILE CRUISING AT FL 370. THEY WERE ABLE TO MAKE HEADING CHANGES BY USING THE RUDDER & ELECTED TO DIVERT TO KANSAS CITY (MCI). THE AIRPLANE HAD BEEN EXPOSED TO RAIN & STANDING WATER BEFORE THE FLIGHT. THE CREW FELT THE LOSS OF AILERON CONTROL MAY HAVE BEEN DUE TO FROZEN WATER IN THE CONTROL SYSTEM. DURING DESCENT TO MCI, ABOVE FREEZING AIR TEMPERATURES WERE ENCOUNTERED, & CONTROL OF THE AILERONS GRADUALLY RETURNED UNTIL FULL CONTROL WAS REGAINED. AN UNEVENTFUL LANDING WAS MADE AT MCI. INVESTIGATION REVEALED WORN AILERON CONTROL BEARINGS IN THE LATERAL CONTROL ACTUATOR SYSTEM. THE WORN BEARINGS WERE TESTED BY SOAKING IN WATER & FREEZING. WATER PENETRATED A BEARING HOUSING & FROZE INSIDE THE BEARING RACE, DISABLING THE BEARING. SUBSEQUENT DISASSEMBLY OF THE BEARING
DISCLOSED CORRODED & WORN BALL BEARINGS. BOEING SERVICE LETTER (767-S-27-094) & SERVICE BULLETIN 767-27-0128 WERE ISSUED TO ADDRESS INSPECTION/REPLACEMENT CRITERIA OF THE BEARINGS.

Probable Cause
A FROZEN AILERON CONTROL BEARING AFTER IT HAD BECOME WORN, CORRODED AND EXPOSED TO WATER, AND THE MANUFACTURER'S INADEQUATE MAINTENANCE/INSPECTION REQUIREMENT OF THE BEARING(S).

FAA INCIDENT DATA SYSTEM REPORT

[Return to Search Screen]

General Information

Data Source: FAA INCIDENT DATA SYSTEM
Report Number: 940102004189C
Local Date: 01/02/1994
Local Time: 15:13
City: NEWARK
State: NJ
Airport Name: NEWARK INTL
Airport Id: EWR
Event Type: INCIDENT - AIR CARRIER
Mid Air Collision: NOT A MIDAIR
Aircraft Information

Aircraft Damage: NONE
Phase of Flight: FCD/PREC LDG FROM CRUISE
Aircraft Make/Model: BOEING B-767-222
Airframe Hours: 41003
Operator Code: UALA
Operator: UNITED AIR LINES INC - UALA
Owner Name: UNITED AIR LINES INC

Narrative

HIGH CONTROL WHEEL FORCES EXPERIENCED INFLIGHT. DIVERTED TO NEWARK. FLIGHT CONTROL AND MANAGEMENT COMPUTERS REMOVED

Detail

Primary Flight Type: SCHEDULED AIR CARRIER
Secondary Flight Type: PASSENGERS AND CARGO
Type of Operation: AIR CARRIER/COMMERCIAL
Registration Number: 602UA
Total Aboard: 146
Fatalities: 0
Injuries: 0
Landing Gear: RETRACT TRICYCLE
Aircraft Weight Class: OVER 12500 LBS
Engine Make:
Engine Model:
Engine Group:
Number of Engines: 2
Engine Type:

Environmental/Operations Information

Primary Flight Conditions: UNKNOWN
Secondary Flight Conditions: WEATHER NOT A FACTOR
Wind Direction (deg):
Wind Speed (mph):
Visibility (mi):
Visibility Restrictions:
Light Condition: DAY
Flight Plan Filed: INSTRUMENT FLIGHT RULES
Approach Type: INSTRUMENT LANDING SYSTEM- FRONT COURSE

Pilot-in-Command

Pilot Certificates: AIRLINE TRANSPORT
Pilot Rating: AIRPLANE SINGLE, MULTI-ENGINE LAND
Pilot Qualification: QUALIFIED

Flight Time (Hours)

Total Hours: 14150
Total in Make/Model: 148
Total Last 90 Days: 148
Total Last 90 Days Make/Model: 148

FAA INCIDENT DATA SYSTEM REPORT

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Aircraft Information

| Aircraft Damage: | MINOR |
| Phase of Flight: | CLIMB TO CRUISE |
| Aircraft Make/Model: | BOEING B-767-332 |
| Airframe Hours: | 5975 |
| Operator Code: | DALA |
| Operator: | DELTA AIR LINES INC - DALA |
| Owner Name: | DELTA AIR LINES |
| INC |
Lost right engine generator and uncommanded right roll. Returned. Aileron cable severed. Chaffed thru gen wire."

**Narrative**

**Detail**

- **Primary Flight Type:** SCHEDULED AIR CARRIER
- **Secondary Flight Type:** PASSENGERS
- **Type of Operation:** AIR CARRIER/COMMERCIAL
- **Registration Number:** 185DN
- **Total Aboard:** 224
- **Fatalities:** 0
- **Injuries:** 0

- **Landing Gear:** RETRACT TRICYCLE
- **Aircraft Weight Class:** OVER 12500 LBS
- **Engine Make:** PWA
- **Engine Model:** PW4060
- **Engine Group:** 4060
- **Number of Engines:** 2
- **Engine Type:** TURBOFAN/TURBOJET BYPASS

**Environmental/Operations Information**

- **Primary Flight Conditions:** VISUAL FLIGHT RULES
- **Secondary Flight Conditions:** WEATHER NOT A FACTOR
- **Wind Direction (deg):** 33
- **Wind Speed (mph):** 18
Visibility (mi): 10
Visibility Restrictions: DAY
Light Condition: DAY
Flight Plan Filed: INSTRUMENT FLIGHT RULES
Approach Type: QUALIFIED

Pilot-in-Command

Pilot Certificates: AIRLINE TRANSPORT
Pilot Rating: AIRPLANE MULTI-ENGINE LAND
Pilot Qualification: QUALIFIED

Flight Time (Hours)

Total Hours: 15000
Total in Make/Model: 858
Total Last 90 Days: 203
Total Last 90 Days Make/Model: 203

NTSB Identification: NYC96IA116. The docket is stored in the (offline) NTSB Imaging System.
Scheduled 14 CFR 129 operation of MARTINAIR HOLLAND N.V. (D.B.A. MARTINAIR)
Incident occurred MAY-28-96 at BOSTON, MA
Aircraft: Boeing 767-31AER, registration: PHMCH
Injuries: 202 Uninjured.
The Boeing 767-300ER had multiple electronic (elec) anomalies, en route, including illuminated warning lights, erroneous display indications, uncommanded autopilot disconnects, & failure of flight (flt) instruments. Flt diverted, & landing (Indg) was made with zero flaps & slats extended, thrust reversers inop, ground (gnd) spoilers inop & partial anti-skid. During Indg roll, 4 main
tires failed; & 4 tires deflated due to heat/fuse plugs; small main Indg gear fire erupted, but was extinguished. Flt crew were unaware that thrust reversers & gnd spoilers were inop. They noted ANTI-SKID advisory, but with the workload of responding to the multiple electrical and system failures, did not respond to it. Investigation (inv) revealed systems on several elec buses failed or became intermittently inop, but other systems on same buses remained operative. Detailed gnd & flt tests were made, but anomalies could not be duplicated. Inv revealed negative cable for main battery was not positively secured due to stripped jam nut, & main battery shunt was not built up IAW Boeing specs. Boeing indicated loose battery shunt could cause interruption to gnd. Similar events were reported with 2 other acft of same operator, but query of Boeing data base did not find similar events. Boeing 767-300ER of another operator, same configuration, did not have similar events.

Probable Cause
Numerous electrical anomalies as a result of a loose main battery shunt connection and undetermined electrical system causes.

NYC96IA116

HISTORY OF FLIGHT
On May 28, 1996, at 1421 eastern daylight time, a Boeing 767-31AER, with Dutch registry PH-MCH, and operated by Martinair Holland as flight 631, received minor damage during an unscheduled landing at Logan Airport, Boston, Massachusetts. There were no injuries to the 3 pilots, 8 flight attendants, or 191 passengers, and visual meteorological conditions prevailed. The flight had departed Schiphol Airport, Amsterdam, The Netherlands, at 0649, destined for Orlando, Florida (MCO), and was operated on an instrument flight rules (IFR) flight plan under 14 CFR 129.
The flight was initiated with three pilots; a captain, a relief captain (F/O 1), and a first officer (F/O 2).
Prior to departure, the flight crew noted anomalies with the airplane clocks. Once corrected, they proceeded with the flight. En route, the airplane experienced numerous electrical anomalies where various warning lights would illuminate, and then extinguish. These occurrences were also accompanied by uncommanded auto-pilot disconnects, changes in airplane zero fuel weight, as displayed on the control display unit (CDU) of the flight management system (FMS), and the blanking of transponder codes.

The flight crew, in radio contact with their dispatch center, discussed the situation and agreed that they could continue with the flight. The Boeing Aircraft Company through the Martinair dispatch center supplied technical assistance. A check of the passenger cabin revealed that numerous personal electronic devices (PEDs) were in use. They were requested to be turned off. At one time while over the North Atlantic, there was a period of time when no anomalies occurred. Nearing the North American continent, and with additional anomalies occurring, the flight crew initially planned to divert to Newark, New Jersey. As the electrical anomalies continued, additional systems were affected, and a decision was made to divert to Boston, Massachusetts. Following the decision to divert, there were failures of the co-pilots electronic attitude director indictors (EADI), and electronic horizontal situation indicators (EHSI). Navigation was lost to the captain's EHSI.

During the initial descent into Boston, the aircraft was flown manually due to autothrottle disengagement and multiple A/P disengagements.

When the airplane was configured with flaps 1 (slat extension, no trailing edge flaps), the two needles on a cockpit gauge which represented the respective wing slat positions disagreed. The flight crew checked the runway required for landing with zero flaps, and the runway available at Boston. With sufficient runway
available, the captain in concert with the other crew member decided to make no more configuration changes, resulting in a leading edge slat only approach speed of 162 kts. Flap problems had been expected by the crew based on the previous events. The slats were visually inspected to be extended. In the cabin the seatbelts signs switched on and off uncommanded. During the last portion of flight, the Engine Indicating and Crew Alerting System (EICAS) was filled with caution and advisory messages which were read by F/O 2 from the observers seat on request of the captain. Although no identification could be received from the Instrument Landing System (ILS), the indication on the left Attitude Director Indicator (ADI) and on the standby ADI seemed valid. On final approach to Boston, numerous warning lights illuminated, extinguished, and other warning lights illuminated. After touch down reverse thrust and autospeedbrakes were not available. Manual braking was anticipated since the autobrake selector did not latch. Braking was done manually by the captain while the wing spoilers were extended by the F/O 1. Just after touch-down the captain initially used full manual braking. The cabin crew's observations were as if they were riding on gravel (pebbles), and the cockpit crew suspected tire failures just after turning off the runway. The last high speed turn off to the left was taken to vacate runway 4R, on which the airplane was brought to a stop. The pilots reported to feel no effect from the manually selected ground spoilers. In the meantime all main landing gear tires were blown or deflated and the airplane was brought to a stop without fully vacating the runway. A small wheel brake fire developed after landing and was immediately extinguished by the airport fire fighting personnel. Approximately 25 minutes after landing, the passengers disembarked using mobile stairs. The incident terminated during the hours of daylight at 42
degrees, 21 minutes North latitude and 71 degrees, 00 minutes West longitude.

PERSONNEL INFORMATION
The flight was conducted using an augmented flight crew, which consisted of two captain rated pilots, and a first officer. All personnel held the appropriate pilot and medical certificates as issued by the government of The Netherlands. Following is a summary of crew flight experience:

Captain
The captain had a total time of 6,600 hours, with 3,738 hours in the Boeing 767, including 607 hours as pilot-in-command in the Boeing 767. He had flown 199 hours in the preceding 90 days, including 188 hours in the Boeing 767.

Relief Captain (F/O 1)
The relief captain had a total time of 4,000 hours, with 1,590 hours in the Boeing 767. He had flown 195 hours in the preceding 90 days, including 190 hours in the Boeing 767.

First Officer (F/O 2)
The first officer had a total time of 5,180 hours, with 388 hours in the Boeing 767. He had flown 150 hours in the preceding 90 days, all in the Boeing 767.

AIRCRAFT INFORMATION
The airplane was a Boeing 767-31AER. The airplane was delivered new to Martinair in February 1990, in Martinair's specified configuration. The Boeing production line number was 194. It was maintained utilizing a maintenance program furnished by Boeing, and approved by the Directorate of Civil Aviation, The Netherlands. The last inspection was conducted on May 21, 1996, and the airplane had operated 98 hours since the inspection. The total time for the airframe at the time of landing at Boston was 30,802 hours.

AERODROME INFORMATION
The landing was accomplished on runway 4R which was 10,005
feet long, 150 feet wide, and had a grooved asphalt surface. The airplane turned off the runway at taxiway ROMEO, with about 1,800 feet of runway remaining.

**FLIGHT RECORDERS**

After the airplane stopped, the cockpit voice recorder operated for over 30 minutes. The cockpit voice recorder was not retained. The digital flight data recorder (DFDR) was retained and forwarded to the NTSB Laboratory in Washington DC, for readout.

According to the Flight Data Recorder (FDR) Specialist's report:

"1. The...[incident] flight, as transcribed was approximately 7:21:19 in duration from liftoff until touchdown. The transition of the...[air/ground] discrete parameter from 'Ground' to 'Air', occurred at 1050:10 Coordinated Universal Time (UTC), or 3:53:42 Elapsed Time, and the aircraft touchdown, as indicated by a spike in vertical acceleration data, occurred at 11:25:45 Elapsed Time., The UTC time of touchdown could not be determined, as the final loss of UTC data occurred at approximately 1813:32 UTC or 11:18:25 Elapsed Time (about 7 minutes prior to touchdown)...

"3. The first loss of the airplane's Coordinated Universal Time (UTC) occurred at approximately 1110:13 UTC, or 4:13:35 Elapsed Time. UTC time was lost at least ten separate times during the flight..."

"4. The first change of the Master Warning discrete from 'No Warning' to 'Warning' occurred at about 6:06:00 Elapsed Time, while the aircraft was at an altitude of about 33,000 feet and a latitude/longitude position of about 50.52 degrees North and 22.50 degrees West. Repeated changed in the Master Warning discrete were noted between 7:40:00 and 9:20:00 Elapsed time."

"5. At about 10:45:00 Elapsed time, FDR heading data was lost for the remainder of the incident flight. FDR pitch information were also lost for most of the remainder of the flight."

"6. At about 11:17:30 Elapsed Time, several parameters were lost
to the FDR until after the incident flight landing. The following parameters were noted to be lost:
Roll Attitude
Pitch Attitude
UTC Hours
UTC Minutes
UTC Seconds
Inertial Vertical Speed
Speedbrake Handle Position"
"7. Also at about 11:17:30 Elapsed Time, the...[air/ground] discrete changed stated from 'Air' to 'Ground', and the Air Driven Pump discrete changed stated from 'Off' to 'On', and the HF/L/R Keying discrete changed state from 'Not Keyed' to 'Keyed'. These discretes remained recorded in these states until after aircraft touchdown. Several additional discretes changed state at about 11:17:30 Elapsed Time, and subsequently changed state after touchdown and during the landing roll-out...."
The Addendum to the Flight Data Recorder Factual Report stated:
"...The anti-skid fault discrete changed from the 'No Fault' to 'Fault' state at about 1101:00 Elapsed Time. The parameter data remained then the 'Fault' state until after airplane touchdown and rollout, when the recorded data returned to the 'No Fault' state...."
"According to the airplane manufacturer, if the 28V reference voltage is removed from the FDR during normal flight recording operation, subsequent readout of the FDR will result in...The Air/ Ground discrete will always indicate 'Ground'...."
TESTS AND RESEARCH
The airplane was examined at Boston, from May 29, through June 2, 1996. The four inboard tires had deflated due to melted fuse plugs, and the four outboard tires were deflated due to the casings being worn through. A detailed examination of the airplane was conducted in an attempt to induce the failures that
were reported by the flight crew. The testing included the electrical system, shock testing, and engine runs both in the air and ground mode. The testing was unable to duplicate the failures reported by the flight crew. The investigation revealed that the negative cable for the main battery was not positively secured to the main battery shunt as a result of stripped threads found in the jam nut area on the stud. Additionally, the main battery shunt was not built up in accordance with Boeing specifications. An examination of other Boeing 767s in the Martinair fleet, and on the production line at Boeing revealed similar buildup problems with the battery shunt. Boeing personnel commented that a loose battery shunt may cause interruptions to the ground on the main battery bus of the airplane. While the airplane was in Boston, several of the static wicks were found to have higher resistance than specified. On June 3, 1996, the airplane was ferried to the Boeing plant at Everett, Washington, for additional testing. The flight was conducted on a special flight permit issued by the Federal Aviation Administration (FAA). At Everett, the airplane was subjected to testing equal to or greater than new airplane delivery standards. The wiring system was examined in detail for any anomaly that could have contributed to the problem. An electro magnetic interference (EMI) test was conducted throughout the cockpit and cabin with negative results. Additionally, several components were identified as possible contributors to the event and were removed for separate testing. None of the testing was able to duplicate the events reported by the flight crew. Further testing of the static wicks at Everett found that the airplane could still dissipate static charges within design specification. On June 10th, the airplane was given a flight test. The test flight
profile included new airplane delivery standards, and additional testing to determine the source of events on May 28, 1996. The test flight was completed without incident. Following the test flight, as the airplane was prepared for departure to The Netherlands, the right engine integrated drive generator (IDG) failed to come on line. The flight was dispatched with the inoperative IDG, per the airplane minimum equipment list (MEL). The IDG was changed after the airplane arrived in Amsterdam. The IDG was forwarded to Sunstrand for further examination. According to their report:

"...The gold plating on the IDG connector 'A' pins was lower than the engineering print requirements. Evidence of corrosion on the base material of these pins was observed. This conditions could result in an intermittent signal condition from the IDG input speed sensor which could lead to tripping of the IDG from the AC bus."

ADDITIONAL DATA/INFORMATION
Landing Information Available to Flight Crew
The Martinair quick reference handbook (QRH) contained data for landing with engine inoperative, single and dual hydraulic failures, anti-skid inoperative, wheel brakes inoperative, speed brakes inoperative, and leading edge and trailing edge slat and flap configuration variations. Examination of the QRH revealed the basic computed landing distance would be increased by using the following multiplication factors for inoperative components: Speed Brakes - Auto Inoperative 1.43; No Flap, No Slat Landing 1.45; Anti-Skid Inoperative 2.14. The addition factor for landing with Thrust Reversers Inoperative - Good Braking Action was 30 meters (98.43 feet). During interviews the flight crew acknowledged that they were aware of the ANTI SKID advisory message on the EICAS, but
due to high cockpit work load, they did not compute their landing distance with the anti-skid inoperative.

Failure of Spoilers to Auto Deploy, and Thrust Reversers to Be Operative

The flight crew reported that upon touchdown, the spoilers did not automatically deploy, and the thrust reversers were inoperative.

The investigation revealed one common system for the spoilers to automatically deploy, and the thrust reversers to be operative, both air/ground systems must be in the ground mode.

According to Boeing, in the flight mode, there are 5 spoilers per wing, with a maximum extension angle of 45 degrees. In the ground mode, there are 6 spoilers per wing, with a maximum extension angle of 60 degrees.

Once deployed manually in the air mode, a transition to the ground mode would automatically increase the maximum spoiler angle, and number of spoilers deployed.

In the air mode, the thrust reversers were inoperative.

According to Boeing, the engines were at flight idle at touchdown, and changed to ground idle about 7 seconds after touchdown.

Use of thrust reversers, ground spoilers, and the shift from flight idle to ground idle all required the ground mode signal.

According to the flight data recorder, the ground mode signal was recorded as being in the ground mode prior to touchdown, and remained in the ground mode throughout the landing roll.

The investigation was unable to determine if the ground mode signal was received by the engines, ground spoilers, and thrust reverser systems after touchdown.

National Solar Observatory

A check with the National Solar Observatory on Kitt Peak, Arizona found no bursts of solar radiation to explain the events of May 28, 1996.
Boeing Report
Boeing submitted an event summary based upon the detail summary received from Martinair. The summary of the Boeing report stated:
"Most of the reported events from the flight which diverted to Boston on May 28th, 1996, can be attributed to degraded power on the hot battery bus, left dc and right dc buses. Extensive testing and analysis has been unable to explain the degraded dc bus power as was seen on the Martinair airplane. The existing design will allow for single bus losses with no loss of primary systems and multiple bus loss will still allow safe operation...."
Additionally, the investigative team noted that while particular items on a bus had failed, the whole bus never failed, and other items on the same bus remained powered. The investigation was unable to explain the selectivity of inoperative components on a bus.
Related Events
The investigation disclosed that similar events had occurred with two other airplanes in the Martinair 767 fleet. The affected airplanes were PH-MCG, line number 279, delivered new to Martinair on September, 1989, and PH-MCL, line number 415, delivered new to Martinair on February, 1992. According to data received from Boeing, events with elements of a similar nature occurred on the following dates in the aircraft listed, with the May 28, 1996, events in PH-MCH being the most extensive.
February 16, 1996
PH-MCG
March 24, 1996
PH-MCH
May 13, 1996
PH-MCL
May 14, 1996
A check of modifications completed, engineering changes, and Boeing Service Bulletins and Service Letters was conducted. The only commonality between the three airplanes was a modification to the forward flight attendant jump seat in compliance with a Boeing service bulletin. Examination of the airplane, which included the electrical wiring behind the modification, failed to find anything that would have contributed to the events reported by the flight crew.

At the request of the Safety Board, Boeing conducted a search for similar events within the Boeing 757/767 fleet. The search found nothing similar, other than those events which were observed with PH-MCG and PH-MCL.

Boeing also reported that a 767-300 was delivered to another customer in the Martinair configuration. A check with that customer found no history of events similar to the May 28, 1996 event.

As part of an agreement to return the airplane to line service, a portable airborne digital data system (PADDS) unit was installed in the airplane to monitor the electrical system. No findings have been generated which would explain the events of May 28, 1996.

Summary of Events That Occurred

Following is a summary of the events as reported by the flight crew that occurred during the flight.

- During preflight inspection both the captains and first officer clocks had reset to 00:00.
- L IRS DC FAIL, C IRS DC FAIL, & R IRS DC FAIL lights illuminated and then extinguished - occurred multiple times.
- APU FUEL VALVE light illuminated
and extinguished. - Clocks again display 00:00 several times, EICAS message FLAP/SLAT ELEC appears. - The ZFW changes to the maximum ZFW 130.8 t (288,000 lbs.), the original ZFW was entered again. - The VHF ARINC Communications Addressing and Reporting System (ACARS) system produced and printed the same message six times on the on-board printer, although the airplane was out of range. - When transmitting on the high frequency radio (HF), the EICAS advisory messages FUEL SPAR VAL, R FUEL SPAR VAL, L IRS DC FAIL, C IRS DC FAIL, R IRS DC FAIL and APU FUEL VAL appeared. The same happened during movement of the electrically powered RH pilot's seat using electrical adjustment control. - HF control during ocean crossing was difficult, for a long time period only Gander, New Foundland, could be contacted. In general when EICAS messages appeared, the related system lights illuminated as well. - The autopilot (A/P) had problems tracking Lateral Navigation (LNAV). The A/P caused the aircraft to start slipping (LH aileron, 8 degree bank, control wheel LH wing down) to track LNAV; the aircraft was trimmed to wings level (with autopilot on, using the rudder trim); later, side slipping to the right occurred, again the aircraft was trimmed. - Electrical current was felt by touching the captain's utility light, while static was experienced from the F/O's electronics flight instruments (EFI) switch. - The auto throttles A/T disconnected once and were reengaged. - In cruise flight many occurrences happened with different aircraft systems. The occurrences seemed to be related with crew actions. An example was the C-A/P disconnected after pushing the ELEC/HYD switch on the maintenance panel ON in order to observe the main battery voltage (28V at that time). - During this time, the A/Ps (C, L and R) disconnected about 50 to 70 times. The frequent A/P disconnects were conformed by the number 2 cabin attendant in the rear cabin who clearly noticed aircraft lateral motion during...
each A/P disconnect. After each A/P disconnect another A/P was engaged. - The ZFW indication changed to 142.4 t (in excess of the maximum ZFW), the actual ZFW was entered again. - Several times the EICAS messages L IRS DC FAIL, C IRS DC FAIL, R IRS DC FAIL, L FUEL SPAR VAL, R FUEL SPAR VAL and APU FUEL VAL appeared and disappeared. - The A/P caused the aircraft to bank 8 degrees R and L to maintain track (LNAV). After 2 minutes L/R banking, with a maximum track error of 0.1 NM L and R from track, the autoflight mode HDG SEL was selected on chief pilot's request, being a mode without FMS input. The wind was 330 degrees/variable between 20-29 kts, no DME updates were received. - The ACARS DATA/VOICE transfer switch switched from data to voice and back, every now and then. The related ACARS messages were printed at the Martinair Operations Control Center (OCC). - The selected transponder setting 2430 from Gander changed to 0000 several times (not confirmed by ATC) and was reselected. - The DC voltage on the standby/battery bus (DC-V STBY/BAT) on the EICAS ELEC page dropped to 2 V. The DC current (DC-A) showed 0 and the ECIAS messages APU FUEL VAL, L FUEL SPAR VAL, R FUEL SPAR VAL, L IRS DC FAIL, R IRS DC FAIL, CARGO BTL 1 and CARGO BLT 2 appeared while the A/P again disconnected. - The flap/slats indicator moved to a position halfway between 0 and 1 causing the red overspeed band on the speed-tape to come down and no overspeed warning occurred. the EICAS showed the caution message LE SLAT DISAGREE. Shortly thereafter the flaps/slats indicators returned to 0, the red band moved back to normal and the EICAS message disappeared. - The EICAS caution message "R IRS ON DC" appeared (Right Inertial Reference System on DC power). Only 2 minutes later the EICAS caution message R IRS FAULT appeared (Right Inertial Reference System fault). The IRS INSTRUMENT SOURCE switch was selected to ALTN, each
FMC was connected now to its selected IRS only, IRS position averaging was not available. - In the cabin, all emergency lights started to illuminate and remained on. - While the captain was still in contact with Martinair on the left HF radio, this radio failed. New York aeronautical radio inc. (ARINC) was contacted on the C VHF radio to continue the phone-patch with Martinair. Control of the aircraft was transferred to the captain due to an electronic flight information system (EFIS) failure on the F/O's side. The captain completed the VHF contact with Martinair on the C VHF radio while flying the aircraft manually. Shortly thereafter the navigation data was lost on the captain's HSI. Due to the rapidly deteriorating technical status of the aircraft a PAN call was given to ATC by the PNF. - In order to maintain attitude information, the left IRS was selected to ATT. One crew member reported that this action was accomplished after having observed the EICAS caution messages C IRS ON DC followed by C IRS FAULT and L IRS ON DC followed by L IRS FAULT, indicating a failure of the center and left IRSs. - The aircraft was flown manually on radar vectors, using the standby magnetic compass for headings due to the navigation equipment failure, with no IRS/NAV function, no FMCs, no VORs, no RDMI/VOR and compass functions and no EHSIs were available. Due to the failed FMCs no amber band was available on the speed tape. Around this time one of the right fuel pumps indicated a low output pressure. - Although the right wing fuel tank contained about 1000 kg (2200 lbs) more fuel than the left tank, the aircraft had to be flown with right control wheel inputs to keep the wings level. The crew reported to have no aileron trim available at this stage. ATC was frequently informed about the technical status of the aircraft and a 20 NM line-up was requested while descending to 4000 ft. - During flap extension the flap indicator disagree (one needle between 0 and 1, one needle on 1). The EICAS caution message LE SLAT DISAGREE appeared. - There are
two light bulbs in each landing gear indicator. After the landing gear was extended, only one bulb illuminated in each landing gear indicator.

Additional Persons
Additional Persons not listed on page 5 of Factual Report
John DeLisi
NTSB Aviation Engineering - Systems
Tom Jacky
NTSB Vehicle Performance - Flight Data Recorder
Tamis Kwikkers
Directorate General of Civil Aviation - The Netherlands
Arthur Ricca
FAA - Airworthiness - Boston, MA
The airplane was released to Martinair on June 12, 1996.

FAA INCIDENT DATA SYSTEM REPORT

General Information

Data Source: FAA INCIDENT DATA SYSTEM
Report Number: 930410011849C
Local Date: 04/10/1993
Local Time: 12:15
City: KANSAS CITY
State: MO
Airport Name: KANSAS CITY INTL

Airport Id: MCI
Event Type: INCIDENT - AIR CARRIER
Mid Air Collision: NOT A MIDAIR
Aircraft Information

Aircraft Damage: NONE
Phase of Flight: FCD/PREC LDG FROM CRUISE
Aircraft Make/Model: BOEING B-767-200
Airframe Hours: 0
Operator Code: ARNF
Operator: AIR CANADA
Owner Name: AIR CANADA

Narrative

LOST AILERON CONTROL IN FLIGHT. DIVERTED TO KANSAS CITY. LANDED SAFELY. TWAA MAINTENANCE LUBED CENTERING MECHANISM.

Detail

Primary Flight Type: SCHEDULED AIR CARRIER
Secondary Flight Type: PASSENGERS AND CARGO
Type of Operation: FOREIGN AIR CARRIER
Registration Number: CGAUP
Total Aboard: 99
Fatalities: 0
Injuries: 0

Landing Gear: RETRACT TRICYCLE
Aircraft Weight Class: OVER 12500 LBS
Engine Make:
Engine Model:
Engine Group:
Number of Engines: 2
Engine Type:

Environmental/Operations Information

Primary Flight Conditions: UNKNOWN
Secondary Flight Conditions: WEATHER NOT A FACTOR
Wind Direction (deg):
Wind Speed (mph):
Visibility (mi):
Visibility Restrictions:
Light Condition: DAY
Flight Plan Filed: INSTRUMENT FLIGHT RULES
Approach Type:

Pilot-in-Command

Pilot Certificates: AIRLINE TRANSPORT
Pilot Rating:
Pilot Qualification: UNKNOWN, FOREIGN PILOT

Flight Time (Hours)

Total Hours: 0
Total in Make/Model: 0
Total Last 90 Days: 0
Total Last 90 Days Make/Model: 0

AAIB Bulletin No: 8/98 Ref: EW/C96/8/5 Category: 1.1 INCIDENT
Aircraft Type and Registration: Boeing 747-236B, G-BDXH
No & Type of Engines: 4 Rolls Royce RB211-524D4 turbofan engines
Year of Manufacture: 1979
Date & Time (UTC): 9 August 1996
Location: London Airport - Gatwick
Type of Flight: Scheduled Passenger
Persons on Board: Crew - N/K - Passengers - N/K
Injuries: Crew - Nil - Passengers - Nil
Nature of Damage: Lower rudder hydraulic actuator body
fractured, control linkage broken
Commander's Licence: Airline Transport Pilot's Licence
Commander's Age: N/A
Commander's Flying Experience: N/A
Information Source: AAIB Field Investigation

Whilst the aircraft was being taxied out to the runway for take
off, the crew carried out the pre-flight checks for full-and-free
movement of the controls. During their rudder movement check,
the lower section of the rudder jammed at a deflection of 14¡ to
the right and, shortly afterwards, a loss of No 2 hydraulic system
fluid contents was observed. The aircraft was returned to the
terminal gate where initial inspection revealed damage to the
lower rudder Power Control Unit (PCU) and its input linkage.
The aircraft was taken out of service.
The PCU was removed and inspection showed that the casing
had cracked circumferentially, near to the ram end, and the crack
had extended in an axial direction to the free edge of the casing.
This had permitted the externally threaded locking ring, and the
power cylinder end seal block which it secured, to move
outwards along the ram towards the eye end. As found, the ram
was retracted as far as it was possible with the displaced locking
ring and end seal block. The end of the input feedback lever,
which attached to the power ram eye end fitting, had broken
open. The PCU had been fitted to this aircraft at manufacture and
had accumulated approximately 70,500 hours and 12,000 flights. Metallurgical examination revealed that high cycle fatigue had originated in the runout radius of the cylinder thread undercut (see Figures 2a & b) and propagated to a critical length over 3,000 cycles, with evidence of four overload events having occurred within the propagation period. There were no deficiencies in the material specification and no defects were found in the casing which would have contributed to the initiation of the failure. The damage to the end of the input feedback lever had been caused by the actuator ram end retracting into the displaced locking ring and end block. The loss of the hydraulic system fluid was also a result of the displacement of the seal block.

There had been two previously recorded cracks in this area of this type of PCU and a fourth occurred shortly after this event. The first event, in 1976, involved an aircraft which had flown 22,000 hours/6,200 flight cycles, the second in 1992 on an aircraft which had flown 60,000 hours/15,000 cycles and the most recent in an aircraft which had flown 30,000 cycles, mainly in shorthaul operations.

The first of the cylinder casing thread failures occurred on an upper rudder PCU, during a take off; the aircraft suffered the loss of one hydraulic system and the upper rudder jammed at full right deflection. That failure had resulted from fatigue cracking originating in the root of the innermost thread in the casing, which was found to have very sharp radius corners. As a result of this failure, the manufacturer introduced an inspection of the threads at overhaul. In addition, a controlled root radius on the thread was incorporated into subsequent manufacture, as a product improvement. Later, an increase of the radius in the thread undercut was also introduced as a further product improvement. The need to ensure that the locking ring was properly tightened was also emphasised.
The second and fourth failures of this area of the PCU casing both initiated in the thread undercut zone and were similar to the failure on 'XH', but without any overload events. The original design of the PCU was for an aircraft life of 60,000 flight hours/18,000 flight cycles. Endurance testing with an accepted load spectrum was successfully performed on a single PCU and accepted for Type Certification. The overall design philosophy of the rudder system to meet the requirements of FAR/JAR 25.671 resulted in the rudder being made up of two, independently actuated, control surfaces either of which could malfunction within the limits of its actuator's power and authority, in any phase of flight, without loss of adequate rudder control. The design of the PCU incorporated a 'snubbing' action over the last 12% of its stroke (see Figure 2b) which worked by restricting the hydraulic fluid return flow. The purpose of this was to reduce the actuator ram speed as it approached the end of its stroke; the pressure developed in the snubbed volume was greater, the higher the ram speed as the piston entered the snubbing zone. It was considered most likely that the cyclic loads responsible for initiating the fatigue cracking in the thread root and undercut zones had been generated by high snubbing pressures. It was recognised that the situation in which high ram speeds were most likely to be achieved near the limit of travel was during the pre-take-off rudder control check when, in the absence of flight loads, there was no appreciable damping of rudder movement. As a result of the first failure in 1976, the manufacturer had issued an Operations Manual Bulletin and a revision to the Maintenance Manual, both to the effect that all rudder flight controls checks should be performed slowly and smoothly (not less than 8 seconds for a full cycle) to avoid generating high snubbing loads. Examination of the Flight Recorder data from 'XH' showed that there had been two full travel checks of the
rudder during taxy, the first of which was performed in 3.5 seconds and the second in 7.5 seconds. Whilst these last applications of rudder had induced the final failure of the PCU, the crack had then existed for some 3,000 cycles. As a result of this failure on 'XH', the operator instigated a special check of high cycle PCUs; no defects were revealed by these checks. The operator also issued a notice to flight crews, later incorporated into the Flying Manual, reminding crews of the requirement to perform the rudder travel check slowly and smoothly. A programme to monitor rudder application rates at high angles of travel was also introduced and the results of this showed that about 70% of such events occurred during the pre-flight control checks.

From: John Barry Smith <barry@corazon.com>
Date: September 15, 1999 5:48:21 PM PDT
To: FAA:Ronald.Wojnar@faa.dot.gov,
    John.Dimtroff@FAA.DOT.GOV, Neil.Schalekamp@faa.dot.gov,
    Bob.Breneman@faa.dot.gov, Tom.McSweeney@faa.dot.gov,
    Lyle.Streeter@faa.dot.gov;
Subject: It's bare wire and water. Bad combo

Dear FAA, from NTSB below today:

Focus of TWA 800 crash on wiring - NTSB

WASHINGTON, Sept 14 (Reuters) - National Transportation Safety Board (NTSB) investigators are focusing on possible sparking from aging wires as the cause of the 1996 TWA Flight 800 crash off Long Island that killed all 230 people on board.

James Hall, chairman of the NTSB, told NBC's Today Show that
testing of wiring bundles in 25 different planes has focused U.S. aviation officials' attention on Boeing (NYSE:<http://finance.yahoo.com/q?s=ba&amp;d=t>BA - <http://biz.yahoo.com/n/b/ba.html>news) 747's electrical system as a possible cause of the accident.

``We are now looking very closely at possible electrical discharges that may have come off of some of that wiring that could have caused the accident itself,'" Hall said.

NTSB investigators have long suspected that fumes in the plane's center fuel tank were ignited by some sort of electrical fault.

Hall was speaking from Calverton, Long Island, where the reconstructed wreckage of TWA 800 was being moved to a smaller hangar Tuesday.

On Monday, USA Today reported that the private laboratory hired by the NTSB to test Poly-X wiring -- the same type used in the destroyed TWA 747 aircraft -- found that it sparked more than expected when bundles of it were wet-tested.

Wet-testing simulates what might happen when cracked insulation on electrical wires is exposed to salt water or waste water from an airplane's galley or restrooms.

For his part, NTSB chairman Hall refused to confirm those results during his NBC News interview, deferring any comment until the safety board's final report is released.

That report is expected early next year
Dear FAA, from me almost two years ago to James Wildey of NTSB after observing TWA 800 public hearings in Baltimore.

To: Wildey  
From: John Barry Smith <barry@corazon.com>  
Subject: New sequence  
Cc:  
Bcc:  
X-Attachments:

Dear Mr. Wildey, 7 Jan 97

New sequence, all happened before and all documented and now I put it together. Informally but factual.

Suggested new sequence for initial event.

Cold air from air conditioning pack flows into hot humid air of summer New York in forward cargo hold on old airplane that has not had Section 41 retrofit. Water condenses and runs down metal cargo door to pool near chafed wire. Wire is poly x which has chafed through sheath, through insulation, to bare wire from the long term vibration of flight of old airplane. The wire bundle is near clamp which does the wear. The wire bundle houses the EPR info and cargo door motor power and un latch signal. The water shorts door motor to 'on' to ground and turns door motor on for just a few seconds. Latches try to unlatch. Bottom eight sectors stop the cams from unlatching because of AD 88 12 04. But the midspan latches have no locking sectors so try to unlatch. The torque tubes are stopped by the locking sectors from complete turning but turn enough through wear and tear of old plane to partial unlatch at aft midspan latch. Aft latch ruptures. Door opens. Big hole appears from explosive decompression.
300 knots tears nose off. Nose falls apart, rest of plane falls and disintegrates and fuel vapor and center tank explodes into fireball seconds later and thousands of feet lower when on fire engine number three or four ignites it.

The final answers as to why door opened were made clear in NTSB exhibits which show chafed wires and two fires in forward cargo hold in the past few years. Also the panel on aging aircraft which showed 800 had poly x wiring and no Section 41 retrofit.

I saw the water cascade out of cargo hold. And potable water tanks are in there too and the tops explode on those once in a while too, puncturing the floor above.

800 103 and 811 all had about 16000 cyles while flight times were different. 16000 cycles is the danger, not 20000.

So, Mr. Wildey, what to do?

You said a new sequence was possible based on new evidence or new interpretation. Here they are. Documentation upon request.

EPR problems were reported on all four planes; that's were I got the wire bundle with EPR. The chafing wires were shorting and giving a problem in the cockpit about EPR.

Wiring takes the hit as well as design of outward opening.

Wiring failed because of chafing from vibration, so blame it on vibration. Nose comes off because of 300 knots so blame it on speed.

In a sense 800 crashed because it was flying which has vibration
and speed. They killed themselves. Sort of like skiing into tree, not the tree's fault.

Time for action, Mr. Wildey. Got to give right answer and it's not center tank as initial event. And it's not missile.

It's bare wire and water. Bad combo.
Regards,

Barry Smith

Today: Dear FAA, will you please reconsider the probable cause for TWA 800 as wiring/cargo door explanation instead of wiring/center tank explanation?

Cheers,
John Barry Smith
(831) 659-3552 phone
551 Country Club Drive,
Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com
Yes, the MD 11 had damaged wiring in the cargo door area. AD issued for inspection.

Yes, TWA 800 had damaged wiring in the cargo door area.

Yes, UAL 811 had damaged wiring in the cargo door area.

Yes, they all had the same type of polyimide wiring.

Yes, MD 11s are checked for further bad wiring in the cargo door area.

No, Boeing 747s are not being checked for further bad wiring in the cargo door area.

Gentlemen, it would be prudent to check the cargo door area wiring in all Boeing 747s to be consistent.

Documentation to support statements above are below:

Cheers,

John Barry Smith
(831) 659-3552 phone
551 Country Club Drive,
Carmel Valley, CA 93924
www.corazon.com
barry@corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US  Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Air Intelligence Officer, US Navy
FAA orders MD-11 inspections

SEATTLE (CP) - The world's top aviation regulator has ordered emergency inspections of MD-11 jets like the one that crashed off Peggy's Cove after damaged wiring and charred insulation was found aboard a World Airways plane.

The U.S. Federal Aviation Administration ordered operators of 45 U.S.-registered jets to check for installation of a wire harness support bracket and clamp in a cargo compartment aboard the tri-engined jets. "A missing bracket and clamp could cause a wire bundle to contact the insulation blanket and rub against the fuselage frame, producing a possible fire source," said a statement released yesterday by the regulator.

"This emergency airworthiness directive does not appear to be related to the Swissair accident. However, it is prompted by information from the agency's continuous post-accident review of the &hellip; MD-11 fleet."

Chafing and wear of wire leading to electrical arcing, or lightning-like jumps from wire to wire, is believed to have been a factor in September's crash of Swissair Flight 111. All 229 aboard the flight died.
TWA 800:

Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:
-Abrasion of the insulation in bundles installed in high vibration areas.
(This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)
-Random flaking of the topcoat.
-Insulation radial cracks in tight bend radii.
Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor."

The Systems Exhibit 9A continues on same page 47, "Evidence of arcing or short circuiting was found in the fuselage of N93119, (TWA 800) in addition to what was found in the wiring from the raceway below the left cabin floor and near the forward wing spar.

The Systems Exhibit 9A continues, page 116:
"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."
(Please note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811. Water has been seen pouring out of a forward cargo bay of a Boeing airliner. Water and leaking electricity make a powerful conductor. Both are known to exist in Boeing airliners.)

1. Exhibit 9C, Attachments to the Systems Group Factual Report page 44 45 46:
   A. 1996, burning smell in forward cargo compartment, found damaged wiring shorted to ground, charring found.

NTSB AAR 92/02:

Boeing also informed the Safety Board that, in May of 1991, a B-747 operated by Quantas was found to have chafing of the wires in the wire bundle to the aft cargo door. This airplane also had a flexible conduit protecting the wires, and the chafing was located approximately at the standoff pin on the bracket at the upper arm of the forward lift actuator.

The National Transportation Safety Board determines that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door in flight and the subsequent explosive decompression. The door opening was attributed to a
faulty switch or wiring in the door control system which permitted electrical actuation of the door latches toward the unlatched position after initial door closure and before takeoff.

From: John Barry Smith <barry@corazon.com>
Date: January 11, 1999 8:08:12 AM PST
To: FAA
Subject: Another close call

Miami Air 727 makes a safe landing in Phoenix after cargo door opens...

From: John Barry Smith <barry@corazon.com>
Date: January 6, 1999 4:33:55 PM PST
To: FAA
Subject: Well done

WASHINGTON (AP) - Two years after the ValuJet and TWA 800 crashes raised questions about safety, U.S. airlines closed out 1998 with a little noticed milestone: None of their 615 million passengers died in an accident. It appears to be the first year since the dawn of commercial aviation for such an achievement. There have been at least two other years when no one died in the crash of a U.S. jetliner, most recently 1993. But since the NTSB began compiling statistics in 1967, such zeros have always been offset by deaths in smaller, generally propeller-driven commuter airplanes. In 1998, no passenger died in an accident involving any type of U.S. commercial
airplane
anywhere in the world.

From: John Barry Smith <barry@corazon.com>
Date: September 30, 1998 10:09:07 AM PDT
To: FAA
Subject: Bare polyimide wiring found in TWA 800 cargo area

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John McCain III
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Dear Officials, 28 Sep 98

"McSweeny Named To FAA Office-Thomas E. McSweeny, the director of FAA's Aircraft Certification Service, was named by FAA Administrator Jane Garvey to succeed Guy Gardner as associate administrator for regulation and certification."

Congratulations, Mr. McSweeny. Can you turn your attention to aircraft wiring? Big picture:
Bad polyimide style wiring causes bad problems.

Polyimide type wiring causes fires in cargo bays. Shown by NTSB exhibits for Boeing 747 cargo bay fires. Valujet has much evidence that polyimide type fire occurred in cargo bay.

Polyimide type wiring causes yaw damper to move erratically. Shown by AAIB report of Boeing 737 calling Mayday for seven minutes as fluid in connector with polyimide wiring caused rudder to flap back and forth, very similar to the two unexplained 737 crashes still under investigation.

Polyimide type wiring causes cargo doors to open inadvertently. Shown by NTSB AAR 92/02 in which the electrical system composed of polyimide type wiring caused the fatal accident when cargo door opened in flight.

Polyimide type wiring suspected of causing cockpit fires. Shown by TSB reports electrical problems for Swissair Flight 111.

I again request a meeting with NTSB and FAA safety officials to present my research for discussion.

Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:
-Abrasion of the insulation in bundles installed in high vibration areas.
(This problem was corrected by Boeing Service Bulletin No.
-Random flaking of the topcoat.
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The Systems Exhibit 9A continues, page 116: "Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

(Please note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811. Water has been seen pouring out of a forward cargo bay of a Boeing airliner. Water and leaking electricity make a powerful conductor. Both are known to exist in Boeing airliners.)

Respectfully,
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Commercial pilot, instrument rated, former FAA Part 135
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US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Owner Mooney M-20C, 1000 hours.
US Navy Air Intelligence Officer
Survivor of sudden night fiery fatal jet plane crash in RA-5C.

From: John Barry Smith <barry@corazon.com>
Date: September 22, 1998 11:01:56 AM PDT
To: FAA
Subject: Wiring/PA 103/Libya

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Dear Officials,

23 Sep 98

According to AAIB 2/90, Pan Am 103, the plastic fragment which is supposed to be the cassette recorder into which a plastic explosive was placed turns out to have been discovered on the outside of the baggage container, not the inside.

A piece of real evidence for a bombing for PA 103 is a fingernail sized fragment of plastic. It now turns out that that fragment was located in a place that rules out it being part of a circuit board that is part of a cassette which is part of a bomb placed by terrorists in the baggage container of the forward cargo bay. The fragment is likely not related to any bomb because the fragment was found on the outside of the container, not the inside.

The proof is in the evidence. Figure F-5 of AAIB 02/92 shows the 'bombed' baggage container AVE 4041 PA having a rectangular plate affixed in the upper left quadrant with the letter 'c' inside it. The text explanation which corresponds to 'c' reads, "Container manufacturer's data plate containing burnt piece of material which itself contained a fragment of circuit board."

The text on page F-2 states, "While this work was in progress a buckled section of skin from container 4041 was found by an AAIB Inspector to contain, trapped within its folds, an item which was subsequently identified by forensic scientists at the Royal Armaments Research and Development Establishment (RARDE) as belonging to a specific type of radio-cassette player and that this had been fitted with an improvised explosive
device."

Figure F-13 also shows this container manufacturer's data plate as a rectangle in the same location as Figure F-5 with the location of the IED pinpointed on the inside of the container ten inches above the floor.

Figure F-2 shows a photograph of a normal container with the manufacturer's name plate clearly visible on the outside of the container in the upper left quadrant.

There is much other evidence to rule out a bomb based on the evidence of the baggage container. The actual damage shows a directed, mild, sooty blast of twenty five inches long through clothes, suitcase, and metal baggage container to fuselage skin at which point the directed energy blasted a small hole twenty inches by twenty inches. A plastic high explosive would not leave soot in the initial pressure wave, would be spherical, and would certainly directly make a hole larger than twenty inches by twenty inches in the fuselage skin.

To put it another way, a high explosive device would have left no soot in initial pressure wave, be spherical, and do massive damage to anything with a few feet. That evidence is not there for high explosive device.

The evidence of the reconstructed baggage container of PA 103 clearly shows it was a much smaller device that caused the sooting and small hole in the skin than a high explosive plastic bomb placed twenty five inches away.

What could it be then, it not a bomb? Well, it could have been a rather large shotgun or a boat flare gun, both items if fired
inadvertently would fit the evidence of mild, directed, sooty blast of twenty five inches.

The only piece of hard evidence to support bomb explanation for PA 103 is a fragment of plastic which was found in a position that makes it very unlikely that it was part of bomb or other device that ignited in the forward cargo hold of PA 103 at the initial event time.

The corroborating evidence of the rest of the pieces of the baggage container confirm the small size of the charge, the sooty low explosive nature, and the short directed blast that makes it gun type damage and not bomb type damage.

There is much other corroborative evidence that explains that PA 103 was probably an explosive decompression event forward of the wing as a result of a hull rupture in the forward cargo door area.

Regarding Pan Am 103 and the 'bombers':
Accused are innocent until proven guilty.
Goal is to save American passenger's lives by preventing another PA 103 type accident.
Justice for the not guilty means cleared of unjust accusation.
Justice for the guilty means replacing old wiring and securing cargo doors.
I've been trying US authorities for years to give serious consideration to wiring/cargo door explanation for PA 103 and others but have been rejected.

I am now attempting to contact Libyan officials regarding the wiring/cargo door explanation for Pan Am 103 because it was not a bomb. Nobody put a bomb on board. Their guys did not do
it because nobody did it. Justice is justice. I will defend Sikh terrorists from the accusation of bombing Air India 182 and I will defend the United States Navy of the accusation of accidentally shooting down TWA 800 and covering it up. There is no conspiracy, coverup or plot to destroy Boeing 747s by placing bombs in the forward cargo hold.

This is life and death. Wiring is causing cargo doors to open in flight on high time Boeing 747s including PA 103.

Please forward this email to appropriate State Department officials. I consider this email notification to the US Government of my intent to contact Libyan authorities regarding a plane crash and its cause. I encourage State Department officials to contact me at their earliest convenience.

I again request a meeting with US aviation officials or US law enforcement officials to present my research for discussion regarding the wiring/cargo door explanation for PA 103, AI 182, UAL 811, and TWA 800.

News Report: "...the Federal Aviation Administration is preparing to order the inspection and replacement of wiring that could cause fires in aging airplanes."

Wiring has caused fires in Boeing 747 cargo holds before:

"A. 1996, burning smell in forward cargo compartment, found damaged wiring shorted to ground, charring found.
B. Oct 12, 1996, Wire bundle arcing and resultant fire at aft bulkhead of forward lower lobe cargo hold on 747-200 freighter. Page 45, 747-200 reported on October 12, 1996: Wire bundle arcing and resultant fire at aft bulkhead of forward lower lobe
cargo hold on a 747-200 freighter. This occurred with the airplane on the ground, during post C-check functional test. Note: Portions of the damaged wire bundles were forwarded to Boeing for evaluation in determining the cause of the damage. The results of the analysis indicated the primary conductor(s) sustained mechanical or thermal damage prior to the application of electrical power.


Bare wires were found in TWA 800 cargo door area:
"The Systems Exhibit 9A continues, page 116:
"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found.""

PolyX/Kapton/polyimide insulation have caused problems before in Navy aircraft.
"Page 57, Letter from Commander Naval Air Systems Command to National Electrical Manufacturers Association, 1 Oct 82, "As you know, the problems with poly-x wire are well known to headquarters and its use had been curtailed.""

Bare wires in the cargo door area and the electrical system have caused fatalities in a Boeing 747 before, UAL 811 described in AAR 92/02:
"Plug P3 and Plug P4 at a distance between three to four inches from plug pin tips. The P4 damage location may correspond to wire bundle clamp positions. These areas are where the chafed bare wires shorted on the door latch actuator motor to the unlatch
position."

NTSB recognizes the danger of bad polyimide wiring in Boeing 747 cargo bays and recommended inspections before:

"Data_Source: U.S. NTSB Safety Recommendations
Rprt_Nbr: A-91-83
Last Updated: 03-13-95

[O] On June 13, 1991, United Airlines (UAL) maintenance personnel were unable to electrically open the aft cargo door on a Boeing 747-222B, N152UA, at John F. Kennedy Airport (JFK), Jamaica, New York. The airplane was one of two used exclusively on nonstop flights between Narita, Japan, and JFK. This particular airplane had accumulated 19,053 hours and 1,547 cycles at the time of the occurrence.

Recommendations:
A-91-83. Issue an Airworthiness Directive applicable to all Boeing 747 airplanes with a flexible conduit protecting the wiring bundle between the fuselage and aft cargo door to require an expedited inspection of:
(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);
(2) the conduit support bracket and attached standoff pin on the upper arm of the forward lift actuator mechanism;
(3) the flexible conduit for the presence of cracking in the convoluted innercore."

The precedents are clear, dear Government Officials, bad polyimide wiring causes problems, TWA 800 had polyimide wiring; bad polyimide wiring in electrical system in cargo door area causes fatalities, TWA 800 had bad polyimide wiring in cargo door area; NTSB recommends checking wiring in cargo
door area of Boeing 747s, and FAA is preparing to order the inspection and replacement of wiring that could cause fires in aging airplanes.

The conclusion is clear: wiring/cargo door explanation for TWA 800 and other high time Boeing 747 that suffer hull rupture forward of the wing in flight needs to be seriously considered. I repeat: I again request a meeting with US aviation officials or US law enforcement officials to present my research for discussion regarding the wiring/cargo door explanation for PA 103, AI 182, UAL 811, and TWA 800.

Respectfully,

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US Navy patrol crewman, P2V-5FS 2000 hours.
Owner Mooney M-20C, 1000 hours.
US Navy Air Intelligence Officer
Survivor of sudden night fiery fatal jet plane crash in RA-5C.

Checking up on Kapton
Airplane wiring is a source of suspicion
BY MARGARET LOFTUS
As investigators of the recent Swissair 111 crash focus on
evidence of an electrical fire, the Federal Aviation Administration is preparing to order the inspection and replacement of wiring that could cause fires in aging airplanes. While the inspections will focus on the older planes, many aviation safety experts say the FAA's plan won't alleviate their concerns over wiring used in newer planes flying today. The wiring is insulated with Kapton, a polymer that scientists have found is prone to rare but catastrophic "arc tracking." When the wire is subjected to chafing, vibration, and moisture, the insulator may crack, allowing the current to jump to other wires in the bundle, which become fuel for a fire. The Navy and Air Force no longer use Kapton as a primary wire insulator. The FAA refused comment on Kapton, but it has said in the past that arc tracking has not been a problem on commercial aircraft. In the early 1990s, Boeing and McDonnell-Douglas (now merged) phased out Kapton in favor of new Teflon-coated Kapton. A Boeing spokeswoman says: "We've never found anything that indicates a problem with the wiring." Wiring is made to last the anticipated life of a plane. But about 2,500 commercial planes in the United States are flying beyond their original design life. "Wiring is becoming the new villain of air safety," says David Evans, editor of Air Safety Week, "and it has been brought to light by a relatively young aircraft."

Canadian and Indian report on Air India Flight 182 reports: "The examination of the floating and the other wreckage shows that the right hand wing leading edge, the No. 3 engine fan cowl, right hand inboard mid flap leading edge and the leading edge of the right hand stabilizer were damaged in flight. This damage could have occurred only if objects had been ejected from the front portion of the aircraft when it was still in the air. The cargo door of the front cargo compartment was also found ruptured
from above. This also indicates that the explosion perhaps occurred in the forward cargo compartment causing the objects to come out and thereby damaging the components on the right hand side."

From: John Barry Smith <barry@corazon.com>
Date: September 14, 1998 12:13:33 PM PDT
To: FAA
Subject: Swissair 111/TWA 800/ UAL 811 connected by wiring

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Dear Officials, 14 Sep 98

I quote,

"WASHINGTON (AP) -- The government is preparing to increase inspections of airliner wiring -- suspect in the crash of
Swissair Flight 111 -- as part of an effort to tighten supervision of older aircraft.

And, "An electrical fault remains the prime suspect in the 1996 crash of a TWA plane soon after leaving New York on its way to Paris. Fuel and air fumes in the Boeing 747 center fuel tank exploded killing all 230 passengers and crew.

Earlier this year a large portion of the Boeing 737 fleet was grounded by the FAA for immediate inspection of wires travelling through the wing tanks to fuel pumps.

Garvey said she would announce in the next few weeks a joint initiative with the airline industry to address electrical problems. "It will be a multi-pronged approach including more research but we will also have some more immediate steps," she said before testifying to a Senate panel on Year 2000 computer problems.

Dear officials, will someone in authority please note that NTSB discovered bad wiring in TWA 800 cargo door area, a Poly X polyimide wired plane?

"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

NTSB also discovered Poly X wiring in UAL 811. UAL 811 was an electrical caused fatal Boeing 747 accident. TWA 800 and Swissair 111 are suspected electrical caused fatal accidents.
Will somebody in authority acknowledge UAL 811 existed and killed nine people and is the only confirmed and documented electrically caused fatal accident in a polyimide wired airliner? The cargo door gets blamed but it did what it was told, unlatch. The PolyX polyimide wiring is the culprit.

Everybody looked bad with UAL 811, Boeing for design, United for record keeping, FAA for delay, and then NTSB for getting the initial probable cause incomplete requiring AAR 90/01 to be superseded with AAR 92/02.

Everybody looked good by acknowledging the problems and attempting to fix them.

Although UAL 811 was horrible, it must be revisited.

To investigate cargo door area wiring in all early PolyX wired Boeing 747s based upon Swissair 111, UAL 965, UAL 811, and TWA 800 is prudent, in accordance with senior officials' suggestions, and fits the facts.

When the wring review is conducted by FAA, sooner or later UAL 811 will come up because it is a confirmed PolyX/polyimide switch/wiring caused fatal accident in a commercial wide body. Then the matches of UAL 811 to TWA 800 will become apparent. Then the PolyX bare wires in the cargo door area of TWA 800 will be recognized for the significant discovery they are. Then the wiring/cargo door explanation for TWA 800 will receive the thorough investigation it deserves.

At least, that's the logic.

UAL 811 is the key to many mystery crashes. It's on website of
I know all the answers but nobody asks me the questions.

(Passengers on Swissair probably took video of events inside cabin of Swissair 111 before it went in. That very valuable evidence is in the water and can be retrieved and analyzed.)

The Bournemouth Boeing 737 with rudder problems was caused by fluid in a yaw damper electrical connection. There have been other fatal rudder related Boeing 737 problems.

The Valujet 592 MD80 was a fire in the cargo bay. There have been other cargo bay fires caused by electrical problems.

UAL 811 was an electrical caused hull rupture forward of the wing on a Boeing 747. There have been three other Boeing 747s with hull ruptures forward of the wing, all four leaving a sudden loud sound on the CVR and abrupt data loss to the recorders, including TWA 800.

Discerning a pattern is the first sign of intelligence. I have discerned a pattern of hull ruptures forward of the wing in high time Boeing 747s that leave many significant similarities which indicate the forward cargo door ruptured in flight. That's one pattern; hull ruptures and forward cargo door.

Another pattern is mysterious accidents in many airliners that can be explained as electrical problems supported by confirmed previous electrical causes giving similar evidence.

FAA is about to conduct a thorough review of electrical problems in airliners. Please consider a known fatal electrical caused
accident in depth, UAL 811. Please match UAL 811 to TWA 800 as hull ruptures forward of the wing in flight. Please investigate TWA 800 as an electrical caused hull rupture. Please contact me for further clarification.

I again request a meeting with FAA or NTSB officials to present my evidence for discussion regarding electrical problems, past, present, and future, in Boeing 747s that suffer hull ruptures in flight forward of the wing.

Citizens can contribute to aviation safety. First, they must be heard, then considered, then questioned.

I await your call.

Respectfully,

John Barry Smith
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www.corazon.com
Commercial pilot, instrument rated, former FAA Part 135 certificate holder.
US Navy reconnaissance navigator, RA-5C 650 hours.
US Navy patrol crewman, P2V-5FS 2000 hours.
Owner Mooney M-20C, 1000 hours.
US Navy Air Intelligence Officer
Survivor of sudden night fiery fatal jet plane crash in RA-5C.

Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems
A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:
- Abrasion of the insulation in bundles installed in high vibration areas.
  (This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)
- Random flaking of the topcoat.
- Insulation radial cracks in tight bend radii.

Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor.

The Systems Exhibit 9A continues on same page 47, "Evidence of arcing or short circuiting was found in the fuselage of N93119, (TWA 800) in addition to what was found in the wiring from the raceway below the left cabin floor and near the forward wing spar.

The Systems Exhibit 9A continues, page 116: "Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

Please note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within
that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811.

UAL 811 matches TWA 800 aged high flight time poly x wired early model Boeing 747 and shortly after takeoff experienced hull rupture forward of the wing sudden sound on CVR loud sound on the CVR short duration sound on the CVR abrupt data loss to FDR foreign object damage to starboard engines #3 fire in number three engine more severe inflight damage on starboard side, at least nine never recovered bodies, torn off skin in forward cargo door area on starboard side, post side smooth forward of the wing, rupture at forward cargo door at aft midspan latch, outward peeled skin on upper forward fuselage, downward bent floor beams in cargo door area, bare wire found in cargo door area. vertical fuselage tear lines forward of the wing parts initially shed from just forward of the wing. first pieces of structure to leave aircraft in flight from forward cargo bay. forward cargo door frayed hoop stress found in cargo door area door skin shattered outward. inadvertent opening of forward cargo door in flight considered
initially thought to be a bomb
but later ruled out.

From: John Barry Smith <barry@corazon.com>
Date: September 3, 1998 10:38:57 AM PDT
To: FAA
Subject: Swissair 111, Comair, TWA 800

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Ron Wojnar,  
Manager  
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Transport Airplane Directorate  
1601 Lind Ave. S.W.  
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Dear Officials, 3 Sep 98

Below are recent quotes from senior NTSB officials about the icing Comair crash and how they relate to TWA 800:

"Any time we see an accident like this repeating itself, on information we should have already learned, it's an indictment of the whole system," said James Hall, chairman of the safety board.

That's so true. Hull ruptures forward of the wing on the right side are accidents repeating themselves, four times to be exact, AI 182, PA 103, UAL 811, and TWA 800. One of them was caused by chafed bare wire shorting on door unlatch motor, UAL 811. Information NTSB learned about TWA 800 shows bare wire in
same cargo door area below:

The Systems Exhibit 9A continues, page 116:  
"Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

To not evaluate that information that NTSB has already learned is an indictment of the whole system.

"I have correspondence from the FAA that this is just one engineer's opinion," said an exasperated Bernard Loeb, NTSB director of aviation safety.

"One engineer's opinion..." Well, here is one FAA engineer's opinion, "While no scenario has been categorically proven to be the cause, it is believed, based upon available data, that the center wing tank (CWT) explosion preceded any separation of the forward cargo door. The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT." 30 Jan 1998 letter from Neil Schalekamp, FAA engineer, to JBS:

To not evaluate that information from one FAA engineer is an indictment of the whole system.

Electrical problems causing fires and shorts exist in cargo holds of wide body airliners according to FAA and NTSB. It's happened before. To not evaluate that information that NTSB has already learned and apply it to TWA 800 is an indictment of the
whole system.

If the Swissair 111 crash, a wide body airliner, turns out to be electrical problems in the cargo hold area, then the TWA 800 crash explanation as electrical problems in the cargo hold should be reinvestigated. To not do so would be an indictment of the whole system.

I again request a meeting with US government officials to present my evidence for discussion concerning bare wiring in the forward cargo hold of TWA 800, a problem repeating itself as learned by NTSB.

Respectfully,

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US Navy patrol crewman, P2V-5FS 2000 hours.
Owner Mooney M-20C, 1000 hours.
US Navy Air Intelligence Officer
Survivor of sudden night fiery fatal jet plane crash in RA-5C.

From: John Barry Smith <barry@corazon.com>
Date: August 28, 1998 2:18:49 PM PDT
To: FAA
Subject: Pan Am 103 matches TWA 800

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Dear Officials, 28 August 1998

Dr. Loeb of NTSB has recently commented on the importance of matching similar number of incidents in a recent story about the Comair icing crash:
"Perhaps most damning of all was an FAA engineer's memo from 1996 that noted the large number of incidents and suggested that the EMB-120's minimum recommended speed while holding for landing was too low.
"I have correspondence from the FAA that this is just one engineer's opinion," said an exasperated Bernard Loeb, NTSB director of aviation safety. The memo was marked draft and appears to have only circulated to a few other FAA staff."

I offer three instances of matching similarities to TWA 800, an accident under active investigation:

Pan Am 103 leads to TWA 800. The match is too complete to be dismissed without discussion.

Pan Am 103 and TWA 800 were both:
aged
high time
early model
poly x wired
Boeing 747
shortly after take off
suffers hull rupture forward of the wing
fodded number three engine
sudden sound on CVR
loud sound on the CVR
short duration sound on the CVR
abrupt power cut to FDR
outward peeled skin in cargo door area
midspan latch status not determined
took off in no sun
running late
more severe inflight damage on starboard side
downward bent floor beams in cargo door area
at least nine never recovered bodies
vertical fuselage tear lines forward of the wing and aft of cargo door
bomb in forward cargo hold initially suspected

PA 103 and TWA 800 are the same above and both thought to be bombs and one of them wasn't!

TWA 800 leads to UAL 811 which were both:
aged
high flight time
poly x wired
early model Boeing 747
which took off in no sun
running late
and shortly after takeoff
experienced a sudden initial event in the forward cargo hold
which left a
short
sudden
loud
sound on the cockpit voice recorder, an
abrupt data loss to the flight data recorder,
foreign object damage to starboard engines #3
more severe inflight damage on starboard side,
nine never recovered bodies,
torn off skin in forward cargo door area on starboard side,
rupture at forward cargo door at aft midspan latch,
outward peeled skin on upper forward fuselage,
downward bent floor beams in cargo door area,
vertical fuselage tear lines forward of the wing and aft of forward
cargo door, and
destruction initially thought to be have been caused by a bomb.

PA103, TWA 800, and UAL 811 were all initially thought to be bombs yet two of them were not!

And UAL 811 leads to Air India 182.

UAL 811 and AI 182 were both:
early model
poly x wired
Boeing 747
suffers hull rupture forward of the wing
fodded number three engine
sudden sound on CVR
loud sound on the CVR
short duration sound on the CVR
abrupt power cut to FDR
outward peeled skin in cargo door area
midspan latch status not determined
took off in no sun
running late
more severe inflight damage on starboard side
at least nine never recovered bodies
vertical fuselage tear lines forward of the wing and aft of cargo
door
inadvertent opening of the forward cargo door in flight offered as
explanation during official inquiry
bomb in forward cargo hold initially suspected

PA 103, TWA 800, UAL 811, and AI 182, all initially thought to
be bombs...and two of them were not!

If NTSB is going to blame FAA for not noticing a number of
similar incidents for the Comair accident, they leave themselves
wide open for criticism from FAA for ignoring the number of
similar accidents to TWA 800. I ask NTSB to avoid the same
criticism by noticing the similar accidents.

NTSB denials of wiring/cargo door explanation and refusing to
meet with me to discuss the explanation have been discussed in a
recent letter to me by my Congressman, the Honorable Sam Farr,
17th District, D-California. The letter can be seen at URL http://
www.corazon.com/correspondence.html and http://
www.corazon.com/farr22.html as are all your letters to me placed
on the web.

My reply to Mr. Farr is enclosed.

I again request a meeting with NTSB or FAA officials to present
my evidence from official reports that indicate the forward cargo
door of TWA 800 opened in flight and the cargo door area should
be thoroughly investigated to rule in or rule out that event based
upon a number of similar accidents.

Respectfully,

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US Navy reconnaissance navigator, RA-5C 650 hours.
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Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C.

Enclosure below:

Sam Farr
Member of Congress
17th District, California
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Congress of the United States
1117 Longworth Bldg
Washington, DC 20515-2861

Dear Congressman Farr, 28 August 1998

You are my elected representative in the finest political body on
the planet, the United States Congress to include the House of Representatives. You wrote me a letter on 18 August 1998 which I received today. It has caused me much thought.

I put your letter on my website at:


Thank you for your reply to my request to arrange a meeting between NTSB and me. Here is my thoughtful reply to your quotes:

You state: "Although I recognize that you feel injured by recent statements from the NTSB, it would not be profitable to continue to seek a meeting for you with agency officials."

Reading that is like a steel stake through my heart. 'Profitable'? I have spent thousands of dollars of my own money and years of research and have yet to receive a penny from private or government sources. I assume, Mr. Farr, you mean 'profitable' in the figurative sense, not the financial sense.

Well, 'profitable' for a meeting with NTSB... Well, sir, I say it would and you say it wouldn't. It would be pilot to pilot, aviation talking to aviation about aviation. It would work. "Continue to seek meeting"...well, only Senator McCain has asked NTSB to meet with me and they rebuffed him. They may accede to your request. Let's try it.

How else then to persuade the NTSB to take another look at the forward cargo door area of TWA 800 if they ignore my emails and refuse a face to face meeting in order to present my evidence
for discussion?

"Injured..." Well, just pride and I'm a big boy, I will get over it. The injured is NTSB's reputation for neutrality by denigrating a US citizen to a foreigner in official correspondence. I'm talking evidence of red paint markings and missing latches and they are talking slurs of 'peddling'. Why is that? What was the purpose of that?

You write: "I have been glad to help you communicate with the NTSB, but the agency's continued denial of your theory does not provide any encouragement that further communications will be worthwhile."

Give it a try, sir! You have power. To further communicate with NTSB will be worthwhile to you. They do not ignore you as they do me. They respond to you. Ask NTSB specific questions. I suggest why the red paint markings between the passenger windows above the cargo door exist, or where is the missing 80% of the door, how many forward cargo door latches have they recovered, or why is door shattered outward.

NTSB and I disagree on very small points, about 50 seconds and six thousand feet, and when door opened. We agree the center tank exploded but NTSB says it happened 50 seconds earlier and six thousand feet higher than when and where I say it happened. I say door opened in flight; they say it opened after water impact. We are so close, could you mediate our differences, Mr. Farr? Would you attend the meeting between NTSB investigators and me to resolve minor differences of time and distance in this major investigation?

By the way, NTSB has given denials before regarding a forward
cargo door fatal accident, UAL 811, and corrected itself to its credit. NTSB denied for a year that the forward cargo door of UAL 811 was opened in flight by an electrical problem and steadfastly proclaimed that improper latching did it...until they recovered all of the door pieces and discovered it was chafed to bare wire that caused it to open in flight, not improper latching. NTSB then issued a new NTSB AAR, 92/02, to replace the erroneous one, AAR 90/01. The benefit of NTSB admitting the error of probable cause and correcting it is shown today by me using that corrected AAR to match to TWA 800.

NTSB denials have a precedent of being wrong about forward cargo doors on high time Boeing 747s that suffer a hull rupture forward of the wing on the right side, just like TWA 800. Only the evidence counts and it says forward cargo door opened in flight. Even a FAA engineer agreed for a while with that conclusion.

You wrote: "Although it is clear that you disagree with the NTSB, I am not trained in any profession which would give me the expert knowledge needed to evaluate your theory or NTSB's arguments against it."

Don't denigrate your thinking abilities, Mr. Farr! You have all the expert knowledge needed to evaluate my theory or NTSB's arguments against it. Let me be the judge of your ability and I judge you more than capable to judge my theory for TWA 800, which is identical to NTSB's theory for UAL 811, wiring/cargo door initial event.

May I please remind you of a question you asked of me during my short presentation in our meeting, "What causes the door to open?" you asked.
That is a great question. It got right to the core of the problem. You understood exactly the problem of explosive decompression blowing out big hole in side of airplane nose and the 300 knot slipstream tearing nose off. That's basic physics and you already understand all the principles of my wiring/cargo door explanation.

I think the cause for door opening in flight for TWA 800 was bad wiring, exactly like UAL 811, but it could have been something else. That's why a thorough investigation into the cargo door area is required.

Chafed wiring to bare metal was found in the cargo door area of TWA 800, just like UAL 811. How many more smoking guns need to go off?

Mr. Farr, stick with me on this, please. Can you arrange a meeting with NTSB for all three of us? Will they consent to meet with you, I dare ask? NTSB received the suggestion of Senator McCain to meet with me and rejected it.

I assume you are following the local Monterey County Herald series about the inability of public citizens to access public information as required by California law. It's now a federal problem. Not only do local and state officials deny access to public records by members of the public, federal officials deny access to themselves for discussion by the same public citizens. Is this the government we have today? Secretive and unwilling to talk to a reasonable, experienced, polite citizen pilot talking about real evidence in a plane crash?

You approved my posting on my website of NTSB Exhibit 4A
which indicates you believe in a free exchange of ideas between government and citizen with exceptions of national security. TWA 800 is a civilian airliner in US airspace with no VIPs on board during peacetime and not caused by a criminal act. How open can it be?

For the record, it's been two years, hundreds of emails, thousands of pages, dozens of photographs, many repeated over and over again requests, and still no meeting with FAA or NTSB officials. Why is that? My explanation is all factual and based on precedent; there are no weird bombs or missiles or coverups in it. And yet, no meeting. What is the big deal about meeting with a citizen to talk about an airplane crash, you did it, sir.

Mr. Farr, you also told me in our meeting that 'you admired my passion because you feel that is what made our country great.' Is that true, or is my cynical self saying that's just political flattery? Well, regardless, I got chill bumps, so it worked for me. I am a Vietnam air combat veteran and my sense of duty and loyalty to my country is strong. I seek no favors from officialdom, no grants of government funds, no special dispensation for any clients; I am a citizen who seeks to meet and talk and reason with public officials about a matter of national interest under current investigation.

I come to the government because I respect its power. I want my government to be powerful. I also want it to be smart. To be smart is to be open minded. I want it to be open minded.

Is open minded refusing to meet with me? Is NTSB open minded on this, Mr. Farr?

To review your August 18 letter, Congressman, you say that a
meeting between NTSB and me would not be profitable; communications from you to NTSB will not be worthwhile; and you are not trained enough to understand me or NTSB.

Mr. Farr, I disagree on all three.

A meeting between NTSB and me would be profitable, it depends on who I meet with. Communication between you and NTSB will be worthwhile, it depends on what you write. You are way trained enough to understand my theory and NTSBs arguments against it. You've shown that already.

You have never said you don't agree with me, only that others do. Do you remember my pictures of that blown outward shattered skin with bulges, paint markings and missing pieces of the forward cargo door area of TWA 800? It was the first suspected area by FAA and NTSB. It has failed before. It has very suspicious paint markings. Well, my request for a meeting with NTSB is to persuade them that that area deserves a second look.

Can you arrange that? Can you request that cargo door area review yourself? Can I meet with you to further clarify my theory if you are unclear on it?

Below are pictures on website to substantiate my text about evidence.

http://www.corazon.com/Forwarddoorblowupphoto.html
http://www.corazon.com/TWA800wreckageredpaint.html

The national interest in TWA 800 is about to turn international.
There will be a trial of the next century with terrorism as the accused in the Pan Am 103 event.

And of course Pan Am 103 leads to TWA 800. The match is too complete to be dismissed without discussion.

Pan Am 103 and TWA 800 were both:
aged
high time
early model
poly x wired
Boeing 747
shortly after take off
suffers hull rupture forward of the wing
fodded number three engine
sudden sound on CVR
loud sound on the CVR
short duration sound on the CVR
abrupt power cut to FDR
outward peeled skin in cargo door area
midspan latch status not determined
took off in no sun
running late
more severe inflight damage on starboard side
downward bent floor beams in cargo door area
at least nine never recovered bodies
vertical fuselage tear lines forward of the wing and aft of cargo door
bomb in forward cargo hold initially suspected

PA 103 and TWA 800 are the same above and both thought to be bombs and one of them wasn't!
TWA 800 leads to UAL 811 which were both:
aged
high flight time
poly x wired
early model Boeing 747
which took off in no sun
running late
and shortly after takeoff
experienced a sudden initial event in the forward cargo hold
which left a
short
sudden
loud
sound on the cockpit voice recorder, an
abrupt data loss to the flight data recorder,
foreign object damage to starboard engines #3
more severe inflight damage on starboard side,
nine never recovered bodies,
torn off skin in forward cargo door area on starboard side,
rupture at forward cargo door at aft midspan latch,
outward peeled skin on upper forward fuselage,
downward bent floor beams in cargo door area,
vertical fuselage tear lines forward of the wing and aft of forward
cargo door, and
destruction initially thought to be have been caused by a bomb.

PA103, TWA 800, and UAL 811 were all initially thought to be
bombs yet two of them were not!

And UAL 811 leads to Air India 182.

UAL 811 and AI 182 were both:
early model
poly x wired
Boeing 747
suffers hull rupture forward of the wing
fodded number three engine
sudden sound on CVR
loud sound on the CVR
short duration sound on the CVR
abrupt power cut to FDR
outward peeled skin in cargo door area
midspan latch status not determined
took off in no sun
running late
more severe inflight damage on starboard side
at least nine never recovered bodies
vertical fuselage tear lines forward of the wing and aft of cargo
door
inadvertent opening of the forward cargo door in flight offered as
explanation during official inquiry
bomb in forward cargo hold initially suspected

PA 103, TWA 800, UAL 811, and AI 182, all initially thought to be bombs...and two of them were not!

One of those still thought to be a bomb, AI 182, has an active investigation going on with no resolution in sight. The other suspected bombing is soon to be on trial with international repercussions, PA 103. They both are linked by evidence to TWA 800, an accident still under active investigation. The four fatal accidents match; I claim they have one common cause, the NTSB cause for one of them, UAL 811, wiring/cargo door explanation.

I ask you, sir, to become involved. Americans are intimately
involved in the upcoming international trial from the FBI, the State Department, Boeing, to most of the victims, all Americans.

Respectfully,

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US Navy patrol crewman, P2V-5FS 2000 hours.
Owner Mooney M-20C, 1000 hours.
Survivor of sudden night fiery fatal jet plane crash in RA-5C.

From: John Barry Smith <barry@corazon.com>
Date: August 25, 1998 1:31:53 PM PDT
To: FAA
Subject: Smoking guns for wiring/cargo door for TWA 800

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Renton, WA 98055-4056

Dear Officials, August 25 1998
Facts, data, evidence: Below are URLs with photographs of TWA 800:
http://www.corazon.com/Forwarddoorblowuphoto.html

The photographs contains several smoking guns and bullets.

Why red paint between passenger windows? Transferred red paint on top of white or peeled white paint exposing red; regardless, very unusual and supports outward explosion in flight in cargo door area.
Why white paint where red trim paint was? Red peeled paint exposing white from a strong unusual force.
Why outward peeled skin? Internal explosive decompression when forward cargo door inadvertently opened in flight.
Why downward floor beams? Internal explosive decompression when forward cargo door inadvertently opened in flight.
Why two outward petal shaped ruptures of skin at midspan latches of forward cargo door. Internal explosive decompression when forward cargo door inadvertently opened in flight.

Explosive decompression event matches 182, 103, 811, and 800, all hull ruptures forward of the wing in flight of high time Boeing 747 leaving sudden loud sound and abrupt data loss to flight recorders. That's a match.

It's been almost a year since NTSB has been notified of the unusual 'paint markings and structural deformation' as FAA official Mr. Neil Schalekamp called it, yet no acknowledgement or comment from NTSB about this important evidence. Why is that?
Below was sent September 13th, 1997: (Note below was sent before bottom eight latches reported in Exhibit 15C on December 8th, 1997 as being latched.)

To: DICKINAntsbgov
From: John Barry Smith <barry@corazon.com>
Subject: Paint/hinges/half door/streak
Cc:
Bcc:
X-Attachments:

Mr. Dickinson,

Analysis of NTSB photo of starboard side of TWA 800 reveals match of UAL 811 as shown in pictures and text in AAR 92/02, specifically:

1. The red paint which is not normally present is between the windows of 800. The paint was transferred from door top to fuselage when door slammed upwards, the same way fuselage paint got on the UAL 811 door. The two pieces of metal met at high force.

2. The hinges of 800 are intact and appear to be in working order, just as UAL 811 hinges were reported to be. http://www.corazon.com/811page35analydoor.html has whole hinge analysis, next page too, from NTSB report.

http://www.corazon.com/811page40doorhinge.html has picture of 811 hinge that looks like 800 hinge.

3. Top half of door of 800 is attached to hinge and fuselage skin.
which is then torn away, just as described in UAL 811 report. This piece may be the piece seen as streak as it fell from high and slowed down from fast and reflected evening sunlight to observers on ground.

4. Bottom half of door of 800 is missing, just as bottom half of UAL 811 was broken in half longitude wise at mid span latches.

Overall the picture of damage area of TWA 800, which is supposed to be start of event, shows evidence consistent with bottom of cargo door unlatching, being blown out and away by internal pressure and 300 knot slipstream, the top half peeling upwards taking hinges and skin with it. Paint from door is transferred to area between windows. 300 knots then hits weakened nose and tears it off and rest of damage ensues.

The extensive damage to door area of TWA 800 compared to UAL 811 can be explained that nose of UAL 811 did not come off, only the door and hinge and skin, while TWA 800, nose came off and exposed rest of fuselage to 300 knots.

Forward cargo door area, a worthy place for intense examination.

End email.

Dear Officials, any fire is a three legged stool, requiring ignition source, material to burn, and air. TWA 800 center tank explanation is a three legged stool with only two legs, material and air; the leg of ignition source is missing. A stool can not stand alone on two legs alone and wishful thinking for the missing third leg does not support any weight.

At this time, when terrorist activity is suspected, if another hull
rupture forward of the wing of a high time Boeing 747 occurs resulting in fatalities, as it has four times before, a terrorist bomb will immediately be blamed, as it has four times before, and there will be no seventeen months of luxury time to rule it out, as was done with TWA 800. It could be the start of a war for the wrong reasons with the wrong enemy. The correct enemy is time which ages wires and metal to failure.

It is important that the wiring/cargo door explanation for TWA 800 and others be seriously considered. The evidence says so: Red paint markings and structural deformations and bent floor beams are there and they are real.

Why the red paint markings between passenger windows only above the forward cargo door area? I'd send pictures of the evidence, NTSB evidence, but government servers do not yet accept pictures so I'll again give the URLs of pages containing the pictures. It's just a click away:

http://www.corazon.com/Forwarddoorblowupphoto.html

Is there anybody here who looks at the pictures of the forward cargo door area of TWA 800 and says, 'Yes, that's a door, no doubt, there's the hinge, there's the bottom latches, there's the mid latches, there's the manual locking handle, there's the two overpressure relief doors, there's the torque tubes, there's the viewing ports, there's most of the skin, and there's the door frame," tell me, because I must be blind.

I see a big hole with missing latches, missing locking handle, missing torque tubes, missing 80% of skin, missing viewing ports, and it was all supposed to be in one small debris area on
the bottom of the ocean because it was supposed to be all intact at water impact. It wasn't.

If you see a cargo door, what do the midspan latches look like? The overpressure relief doors? The outside skin? The door frame fore and aft? What position is the manual door locking handle in? I assume the manual locking handle you are looking at in your 'door' is locked before you say the 'door' is locked and latched to frame. I assume before NTSB would conclusively say a door is latched, locked, and intact at water impact the investigating team would have the all the latches, the locks and the 'door'. You don't.

When NTSB continues to call that big hole with a few pieces of skin, hinges and latches a 'cargo door' it defies perception of reality. It's like calling an arm and a toe a 'body'. It's pieces of a door and pieces of a body but not a 'door' and not a 'body.' TWA 800 has both, pieces of doors and pieces of bodies. And both times they are called a 'door' and a 'body'. That's not true.

"Forward cargo door area, a worthy place for intense examination." That was said eleven months ago based on cargo door evidence seen in pictures; it's still true today.

Respectfully,

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From: John Barry Smith <barry@corazon.com>
Date: August 13, 1998 10:34:19 AM PDT
To: FAA
Subject: New TWA 800 photos, new real evidence  http://www.corazon.com/Forwarddoorblowupphoto.html

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Dear Elected and appointed officials involved with the investigation of TWA 800, 13 August 1998

Two new photographs have been received of the TWA 800 cargo door area from a relative of a victim. They are high resolution and reveal previously undetected evidence. Many questions are raised by the new evidence and I solicit your opinions. My response to Mr. Seaman and preliminary analysis is below:
Dear Mr. John Seaman, this afternoon I received your two photographs of the forward cargo door forward section of TWA 800. Both of the photos were scanned and uploaded to corazon.com. http://www.corazon.com/Forwarddoorblowupphoto.html Download time is less than a minute.

Thank you very much. You have done a great service. These are very important. It's what NTSB should have done.

The pictures are very revealing while tantalizing for what is just out of frame. The photos are high quality and will hold together when blown up many times.

My caption of the photos reads:

Above two photographs are of TWA 800 forward cargo door forward section and windows above it. Note: 1. Red paint markings where it should be white paint. 2. White paint where it should be red. 3. Evenly spaced horizontal white dots among the red paint. 4. Lower right door area has difference between door piece and frame damage. 5. Outward peeled skin in door area, under belly, and forward of door area. 6. Inward crushed skin. 7. Missing door skin, manual locking handle, forward midspan latch and viewing ports. 8. Different tone of white to gray on lower part of piece of door. 9. Red tags with the yellow tags.

Discussion:
Important questions are raised by the photos: Calling all photo interpreters, mechanics, pilots, modelers, painters, metallurgists and astute observers; I solicit your opinions. The pictures are very complex and require much analysis.
Below is rough analysis based on a few minutes' observation.

1. Red paint markings between windows: Are they red on top of white or red underneath white? I claim red on top of white based on style of smearing which matches scuffing, not peeling. There is also a small area which blown up reveals a dark circle of primer, then white, then red. However, the rings around the windows are unmarked. Either the ring is recessed, or aluminum which does not take smears, or the white is peeled revealing white. Regardless, this strange pattern of red paint markings only occurs above, forward, and aft of the forward cargo door and must be explained. The red is not supposed to be there, and is, why is that?

2. Missing white paint underneath the windows. The peeling is usually clean, as opposed to the streaking red paint markings above. This is what peeled paint looks like. The TWA paint scheme is supposed to be white between windows and for about three inches below, then two foot horizontal red band, then a white horizontal band for about eight inches, then a broad horizontal red band of about two feet. The top of door is red and the bottom is white. The missing red paint is only evident above the cargo door area and must be explained. The red is supposed to be there and isn't, why is that?

3. Mystery white dots are interspersed among red paint, they are horizontal and evenly spaced. They may be rivet heads beneath subjected to stress and peeled paint above. What is causing the horizontal even spaced white dots?

4. Lower right door area shows different damage to adjacent door frame which indicates the door was not in place at water impact.
Contrast this door area with R2 door which is intact and matches door to frame. http://www.corazon.com/TWA800hullrupture.html

5. Outward peeled skin shows violent explosion, not crushing pillowing water impact. Both midspan latch areas show this outward peeled skin.

6. Inward crushed, pillowed skin is what water impact would look like and exists on bottom of door and adjacent area. It contrasts to shattered outward skin in belly, in door area, and up high on fuselage, roughly a rectangle and would fit an explosive decompression zone of PA 103, AI 182, and UAL 811.

7. The door is not a 'door', it is pieces of door with most pieces missing. This is a door which has obviously suffered a catastrophic shattering event. Most of the heavy hardware is missing, not recovered, and not hung. Contrasted to exact opposite side on nose, the skin is smooth and not shattered with skin intact. The outward shattered skin shows why a bomb is always suspected in explosive decompression events.

8. The color of door pieces and adjacent skin changes from bright white to gray. Gray matches single color. Is the gray a factor of shadow in hangar, or normal paint scheme, or soot. If soot, then the aft cargo door sill has been confused with forward and placed incorrectly in the forward door position. The aft sill was reported sooted while all the other door pieces are unsooted. Is the gray soot? Unlikely TWA had gradual color of bright white to gray. Lighting in hangar for these pictures is such as to not give shadows. Why is lower part of fuselage gray?

9. Red tags are supposed to mean found in the red zone but the
few pieces of cargo door were reported to be in yellow zone, yet red tags are hanging on pieces around door hinge. Why are the red tags there and what do they mean? Also note the yellow tag number '76' under the yellow tag 'RF 25'. All other tags have a letter prefix denoting location on aircraft such as right fuselage, RF, or left fuselage, LF. What does "76" mean?

This is a rough analysis. Opinions welcomed.

Again, I would like to thank Mr. John Seaman for these very valuable photographs of a critical area of TWA 800. If any more are available of any skin area of the right side of TWA 800, they would be appreciated and also immediately posted on the site for all to see and analyze.

Bear in mind that this area, forward of the wing on the right side was the prime suspect as long as the bomb idea in forward cargo bay was in play. The computer simulation of ejected material pinpointed the initial event as occurring at this precise location. When the residue evidence for bomb explanation by FBI was not confirmed, the evidence was ignored and an alternate to explain all the shattered skin was not pursued. Also, the inadvertent opening of the forward cargo door was the prime suspect for FAA and NTSB who inspected the wreckage as it came into the hangar but when the lower sill of a cargo door was found to be still latched, it was assumed the sill was from the forward door and that the entire door was latched and locked so FAA and NTSB looked elsewhere for initial event.

To look at these photographs and state that all the latches are latched, the door was functioning normally, the door was intact and in its frame at water impact is nonsense and confounds common sense. The paint markings, the outward peeled skin, the
mismatch of door and frame, the missing hardware including locking handles and latches speak otherwise.

Any more closeup photographs of this most important area would be most appreciated. Thank you again, Mr. Seaman.

Respectfully,
John Barry Smith

End Letter to Mr. Seaman.

Dear officials, further contemplation of photos reveals:

1. The mystery horizontal white even dispersed dots may be dimples where the rivets have pulled in the outside skin a small amount, enough that when the red painted metal from below slammed upward the dimpled white area did not get the red paint transfer.

2. There are no labels on the lower cargo door pieces while all other large pieces have labels. The lower part of the door pieces including the sill latches and locks may have been mixed up with the reported finding of the aft cargo door sill and therefore the forward lower door pieces needs confirmed location label.

3. One of the two overpressure relief doors may be hung on the wreckage but the open or closed status is not able to be determined.

4. There are apparently two outward peeled skin ruptures in the forward cargo door area, one at the aft midspan latch and the other at the forward midspan latch, and both latches are still missing from the database nor hung on the reconstruction. Both
forward and aft door frames immediately adjacent to the midspan latches show deformed outward peeled and shattered skin consistent with explosive decompression and inconsistent with water impact damage.

5. The cargo door hinge shows evidence of overtravel impression damage with some fuselage hinge knuckles showing bare metal while some of the door knuckles keep its red paint.

6. The mystery '76' tag is probably 'RF 70" described as 'Avionics Bay' piece.

Questions which are raised which can be answered by FAA or NTSB officials closely examining the cargo door evidence are:

1. Why the gray color on lower cargo door pieces? Is it soot?
2. Are the red paint markings between the passenger windows above forward cargo door on top of the white indicating transfer or are they underneath indicating peeled white paint? Regardless, what caused the unusual markings?
3. Why are the red paint markings where they shouldn't be and why is the red paint missing from below the windows?
4. Is there overtravel impression damage on the hinge knuckles?
5. How many of the twenty cargo door latches have been recovered and examined?
6. What is the status of the one recovered overpressure relief door, open or closed?
7. Have the midspan latch pins been recovered and does the aft pin show heat damage?
8. Have the two identical cargo door sills been recovered and do both have all the lower eight latches latched and locked?
9. Why are the lower cargo door pieces not labeled and what are the labels?
10. Why is port side forward of the wing so smooth and the starboard, cargo door side so shattered outward?

Can you turn your talents and skill to answer those questions for me?

Gentleman, these are real photographs of a real wreckage reconstruction of real shattered outward skin, real paint markings, and real big holes where an intact door is supposed to be. It's reality.

I understand the reluctance to bring the ghost of UAL 811 back to life. It was a distressing investigation with all parties being excoriated by each other. But, the reality matches are there:

(1) aged (2) high flight time (3) early model Boeing 747 (4) which took off near darkness (5) running late (6) and during climb (7) experienced a sudden initial event near the leading edge of wing in fuselage which left a (8) short (9) sudden (10) loud (11) sound on the cockpit voice recorder, an (12) abrupt (13) power cut to the flight data recorder, (14) foreign object damage to starboard engine #3, (15) more severe inflight damage on starboard side, (16) at least nine never recovered bodies, (17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area on starboard side, (19) unusual paint smears in forward cargo door area, (20) rupture appearance of skin at aft midspan latch of the forward cargo door, (21) outward peeled skin on upper forward fuselage, (22) vertical fuselage tear lines forward of the wing and aft of forward cargo door, (23) had hinge stay attached to detached top piece of forward cargo door, (24) downward bent floor beams above forward cargo hold, (25) unsooted cargo door pieces, (26) never recovered fuselage skin in cargo door
area, (27) inflight fire to engine number 3, (28) bare electrical wire found in cargo door area, (29) and destruction initially thought to be have been caused by a bomb but (30) later conclusively ruled out.

UAL 811 was an inadvertent opening of the forward cargo door in flight caused by shorted wiring; TWA 800 is probably the same and requires an in depth investigation to rule in or rule out that reasonable mechanical cause for the current investigation to be called 'complete', as the NTSB Chairman has promised.

I again request a meeting with officials in the TWA 800 investigation to present my evidence of wiring/cargo door conclusions for discussion. I will travel to Seattle to meet in the offices of the officials at your convenience. Just tell me where and when.

Respectfully,

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From: John Barry Smith <barry@corazon.com>
Date: August 13, 1998 10:32:23 AM PDT
To: FAA
Subject: Pretend Reality Does Not Exist

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Ron Wojnar,
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Dear Elected and appointed officials involved with the investigation of TWA 800, 13 August 1998

Thank you for your interest in aviation safety.

"If we were able to pinpoint what ignited T.W.A. Flight 800, and fix that ignition source, there are still the other ignition sources we've identified as possibilities, and the ones we haven't even thought of," said James Hall, chairman of the safety board.

Well, it was likely engine number three with its fiery exhaust entering the torn apart center wing tank through the hole from the missing maintenance hatch which ignited the vapors.

"I want to be sure we do as complete an investigation as we can,"
Chairman Hall.

Right. (Engine number three was foddled and on fire and probably ignited the vapors in center tank by the fiery exhaust entering through the open maintenance hatch. It's worth checking out.)

But, based on two years of NTSB refusals to talk or meet with me and recent insults in writing to a foreign news organization, I believe that the minds of US government officials are closed to any reasonable mechanical explanation with precedent for the cause of TWA 800 such as forward cargo door opening in flight probably initiated by shorted wiring.

Based on the annoyed tone of NTSB responses to US government officials inquiring about the cargo door explanation, it appears that NTSB appointed officials are emotionally attached to center tank as initial event and unable to consider the center tank did explode but a few seconds later and a few thousand feet lower.

NTSB officials will not talk to me; will not write to me, will not meet with me. Written statements by Chairman Hall, Mr. Drake of NTSB and Mr. Schalekamp of FAA are attempts to pretend I don't exist.

I am not the problem, government officials: The evidence is the problem. Turning your back on the discover/messenger does not make the evidence go away. However, you can try: Pretend the following reality of evidence does not exist.

Mr. Farr, pretend you never asked me why the cargo doors open in flight when we met for fifteen minutes when I was able to
show you my photographs and text evidence in the only meeting ever granted me by an official, elected or appointed, in two years of asking.

Senator McCain, pretend you never referred my cargo door concerns to your committee for review and you never recommended to NTSB that they meet with me, two events that have yet to happen.

Chairman Hall, pretend you never asked why the passengers above and in front of the exploding center tank showed no evidence of serious burns. If you can, then the lungs of the victims will finally show smoke inhalation and their skin and clothes finally show soot.

Dr. Loeb, pretend you never said on a UK TV documentary your mind was made up about the center tank exploding as initial event within a month or two of the crash and before the reconstruction was complete and all evidence recovered. If you can, then you waited for all the evidence to come in before making up your mind while seriously considering a reasonable mechanical explanation with precedent for the cause of TWA 800 such as forward cargo door opening in flight probably initiated by shorted wiring.

Mr. Wildey, pretend you never wrote that an initial opening of the fuselage lower lobe, where the cargo door sits, would explain the evidence in the reconstruction to include the downward bent floorbeams, floorbeams which would have been bent upward if the center tank had exploded first. Pretend you checked all ten of the latches instead of just the eight you reported in Exhibit 15C. Pretend your report on the forward cargo door included the status of the manual locking handle, the two midspan latches, the
viewing ports, the two overpressure relief doors, the torque tubes, and the other eighty percent of the door skin. Pretend that the ID tags on some of the forward fuselage pieces were not changed from one site to another to better fit the center tank explanation. Pretend that your powerplant report did not say that in engine number three there were missing blades, sooted blades, and soft body impacts. Pretend you did not say hoop stresses were found in the cargo door area. Pretend you did not say that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information. If you can, then the door becomes one intact door with all pieces recovered and present, the floor beams straighten out, the ID tags go back where they belong, the engine number three missing blades reappear, the soot disappears, the four soft body impacts are removed, and no reasonable mechanical explanation with precedent for the cause of TWA 800 such as forward cargo door opening in flight probably initiated by shorted wiring emerged.

Mr. Drake, pretend you did not say that you consider your correspondence on this subject to be complete while the TWA 800 investigation is still an active investigation. If you can, then your Board will show it has an open mind until all the evidence is in, including the most recent request to a Norwegian company for center tank blast location data.

Mr. Streeter, pretend you did not ask about hoop stresses to Mr. Wildey at the hearing and heard his positive response of hoop stresses in the cargo door area. If you can, then the hoop stresses which should not have been there if the door had been intact until water impact will disappear.

Mr. McSweeny, pretend you did not say old wiring in early
Boeing 747s is a problem. If you can, then the reasonable mechanical explanation with precedent of UAL 811 for the cause of TWA 800 such as forward cargo door opening in flight probably initiated by shorted wiring becomes nonsense.

Mr. Francis, pretend you did not say the the TWA 800 investigation would be slow, deliberate, and based upon all the evidence. If you can, then the quick conclusion made by Dr. Loeb only a month or so after the crash that the center tank exploded on its own will be correct and that the hasty conclusion by Mr. Breneman only a few weeks after the event that the forward door was all latched and locked will also become correct.

Mr. Dickinson, pretend you did not say that the CVR had no information the door came off in flight, and that a depressurization event would be noted by crew. If you can, then that sudden loud sound on the CVR that matches another 747 depressurization event will go silent and the suddenness of that event will be gradual instead of the 'tremendous explosion' as reported by UAL 811 flight crew.

Pretend that the TWA 800 investigation team that you lead did not find that wreckage distribution shows that parts were initially shed from the area just forward of the wing. If you can, then the center wing tank moves out of the wing into the forward cargo bay which is just forward of the wing.

Pretend your team did not group Air India 182, PA 103, UAL 811, and TWA 800 CVR data into a matching chart for an exhibit for the public docket. If you can then the sudden loud sounds on the CVRs of those flights shown on Chart 12 will be all different.
Pretend your team did not find glitter, seat track, and an engine stator blade in the right horizontal stabilizer. If you can, then the forward cargo hold did not rupture in flight and fod engine number three which allowed a stator blade to impact directly behind it, a cargo bin to rupture and spew glitter into the slipstream, and a seat track to be explosively expelled in flight thereby making all the glitter, the engine blade, and the seat track disappear.

Pretend your team's reconstruction of TWA 800 shows bilateral damage forward of the wing from a center tank explosion. If you can, then the smooth port side becomes shattered to match the starboard, or the shattered starboard side becomes smooth to match the port.

Pretend that your team recovered all the bodies. If you can, then the bone fragments which revealed DNA for identification become a human body and not something which could have been ingested into engine number three and mulched into bone fragments.

Pretend your team did not find cracked bare wires in the forward cargo door area of TWA 800. If you can, then the bare wires discovered in the same area as UAL 811 will become solid and not allow water or a short to occur to turn door motor on.

Pretend that your team found all the pieces of the center tank sooted. If you can, then the pieces of the center tank which left TWA 800 first, as well as the seats, keel beam, passengers, and cargo bay pieces which left first become sooted from the center tank fuel explosion and the sooting diagrams which report otherwise are wrong.
Pretend that one of your team did not say to an Aviation Week reporter many months after Dr. Loeb said he knew that the center tank exploded first that your team member was intrigued by the streak being part of the fuselage and that the forward door might have popped open in flight. If you can, then Aviation Week misquoted an anonymous NTSB official in its 10 March 1997 edition.

Mr. Schleede, pretend you did not say you were the lead investigator in charge of the UAL 811 and fully knowledgeable in its causes and factors and that you examined the cargo door from TWA 800 and reported it latched and locked. If you can then you can ignore dozens of significant similarities to UAL 811 and the dozens of shattered pieces of cargo door with 80% still missing will become whole into the forward 'door', and not possibly the aft identical cargo door.

Mr. Schalekamp, pretend you did not say that the paint markings and structural deformation indicate an outward explosion for TWA 800. Pretend you did not say that your office will no longer be responding to my further inquiries about these same concerns. If you can then the red paint markings turn white and the outward peeled skin smoothes out and the FAA shows itself to patient and waits for the investigation to be complete before refusing to respond to a reasonable mechanical explanation with precedent for the cause of TWA 800 such as forward cargo door opening in flight probably initiated by shorted wiring.

Mr. Breneman, pretend you did not tell me the status of the two midspan latches was unknown when you concluded the forward cargo door was latched and locked at water impact. If you can, then you checked the bottom eight and the two midspan latches as well as the manual locking handle and other mechanisms of
the door, as well as checked the debris field from which the parts came because there are two identical doors and a mixup is possible. Then you waited until the reconstruction was complete months later before making the final conclusion instead of making it within a week of the event.

Ms. Hazle, pretend you did not write that the two midspan latches do not latch but only align. If you can, then the two midspan latches do not have latching cams that go around latching pins to complete a latching action which is exactly the same pieces of hardware, function, and on the same door as the lower eight latches which have latching cams to go around latching pins to complete the latching action.

Mr. Goelz, pretend you did not write to a foreign news agency implying I am trying to profit from grief by exploiting tragedy by trying to peddle my wiring/cargo door explanation. Pretend that you did not write that the NTSB investigation into wiring/cargo door explanation has not been in depth. If you can, then a US government agency has not slandered a US citizen to a foreign aviation correspondent and NTSB will have done an in depth investigation into a reasonable mechanical explanation with precedent for the cause of TWA 800 such as forward cargo door opening in flight probably initiated by shorted wiring.

Government officials, it's easy to pretend my reality does not exist when you refuse to talk, write, or meet with me. It should then be easy to pretend that dozens of NTSB exhibits are wrong, red paint is white, outward is inward, loud is quiet, sudden is gradual, hasty is deliberate, and a similar matching high time Boeing 747 hull ruptures forward of the wing do not exist either.

If you pretend reality does not exist, the following can happen:
The red paint markings between passenger windows turn to white, the outward peeled skin turns flat, the petal shaped outward bulge closes up, the two midspan latches get found and they are locked, the stator blade in the right horizontal stabilizer disappears and gets put back into engine number three with missing blades, the soot on the engine blades disappears, the soft body impacts disappear, the downward bent floor beams straighten out, the unsooted parts of the CWT which are supposed to be at the scene of a fuel tank explosion get sooted, the passengers and door pieces get burnt and sooted, the sudden loud sound on CVR disappears, the abrupt power cut to the FDR becomes gradual, the red paint transfer mark on the right horizontal stabilizer disappears, the glitter on the right horizontal stabilizer disappears, the 80% of the forward cargo door shows up, the dozens of shattered pieces of door magically come together into one intact door, the missing manual locking handle, the overpressure relief doors, are found and work normally, and a center tank explosion magically happened by itself but no one saw it and the CVR did not hear it.

If you can't pretend, then face reality and go through the implications of fifty facts below.

1. right horizontal stab has red paint smear
2. stator blade in right horizontal stab behind engine number 3
3. inward crush top of cargo door
4. top of cargo door attached to hinge
5. petal shape of rupture area around aft midspan latch
6. missing pieces of forward cargo door include locking handle, latching pins, overpressure relief doors, midspan latches
7. rectangle visible of explosive decompression zone of outward peeled skin on right side forward of the wing on right side
8. downward movement of floor beams near cargo door
9. hoop stresses found
10. CVR sudden loud sound
11. FDR abrupt power cut
12. missing turbine blades in engine number 3.
13. soft body impacts on blades in engine number 3.
14. outward peeled skin near top of nose, under belly, and in cargo door area.
15. red paint smears above cargo door on white paint
16. soot on most blades of engine 3.
17. starboard side more damaged than port side
18. intact R2 door near shattered cargo door.
19. poly x is known to be susceptible to chafing and present
20. section 41 is known to be weak
21. history of cargo door openings in past in various airliners
22. EPR problems on aircraft before or during fatal flight.
23. fires in forward cargo hold in the past on Boeing 747s.
24. vertical tears in fuselage skin forward of the wing on the right side
25. singe marks on right side of fuselage show burnt skin, then abruptly at tear line there are no singe marks
26. red paint rubbed off revealing white paint underneath on skin above cargo door area
27. first pieces off plane came from forward cargo hold just forward of the wing
28. at least nine missing never recovered bodies, just fragments
29. initially thought to be a bomb
30. wreckage debris shows cargo door shattered in many pieces
31. aft portion of forward door which includes aft midspan latch and locking handle missing from recovery effort
32. no soot on maintenance hatch
33. no soot on front spar of center wing tank
34. no burned bodies forward of the wing and very few burned at
all
35. aft cargo door sill, latches, and locks recovered
36. forward cargo door sill, latches, and locks not recorded in database
37. no orange zone pieces recorded in database
38. no orange zone discussion in public record other than identification
39. chafed to bare wires found in cargo door area
40. wiring defects found on Boeing airliners
41. water observed pouring out of forward cargo hold of a Boeing airliner, cargo holds have bilges.
42. no soot on keel beam forward of the wing
43. compression fractures right side forward of the wing
44. tension fractures left side forward of the wing
45. seats in the rows in the explosive shatter zone above cargo door are in red zone and not sooted
46. aft cargo door sill is sooted
47. many witnesses said they saw downward streak that was red-orange
48. NTSB official said possibility of forward door popping open was intriguing.
49. FAA official said, then recanted, that paint smears and structural deformation indicated outward explosion.
50. initial event time was 20:31:12 at 13700 on 17 July 1996 eight miles off coast of Long Island.

Dear officials, if you pretend all of the above did not happen then I'll try to pretend UAL 811 did not happen too. My problem in pretending that the sudden night fiery fatal jet plane accident of UAL 811 did not occur is that I have been in a sudden night fatal jet plane accident in a RA-5C and it is very hard to pretend it did not exist, especially when I get recent emails from the sons of the dead father RA-5C pilots asking for information about their dads.
If any of you had been in a sudden night fatal jet airplane crash, such as TWA 800 or a RA-5C, you would not dismiss a crash survivor's opinion as quickly as you do.

Walk in my shoes and understand how sudden and final airplane crashes are. When you do, then I will believe you when you jump to conclusions about a cargo door being all intact and latched after only checking some of the latches, some of the shattered skin and some of the other hardware of the door.

Since none of you has been in a sudden night fiery fatal jet plane crash, you would be reasonable and prudent to meet with someone who has and is presenting evidence to you about another sudden night fiery fatal jet airplane crash, TWA 800.

I again request a meeting with government officials involved with TWA 800 crash investigation to present my evidence of wiring/cargo door conclusions for discussion.

Respectfully,
John Barry Smith
831 659 3552
551 Country Club Drive, Carmel Valley, CA 93924
barry@corazon.com
www.corazon.com

Attachments below:

Neil Schalekamp> "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"
Docket No. SA-516, Exhibit 15C, Section 41/42, Forward Cargo Door, dated 22 April 1997, with Mr. Al Dickinson, AS-10, listed as investigator and Mr. Wildey as author, states, "Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill."

Docket No. SA-516, Exhibit No. 7A, Structures Group Report, page 33: "5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge

James Wildey>"...there were some fuselage pieces that were recovered that had a red tag on it and were supposedly recovered from the red << the red << earliest debris field...." "...we also examined the fuselage pieces right around there that had red tags on them, and we looked at all the features we could find, and for the fuselage pieces around there we said we find no physical evidence to suggest that those particular pieces actually departed the airplane early on in the sequence. I think, if I remember our report, we said we believed that those particular pieces should be treated as yellow zone parts because we don't find any way that they could possibly have come off the airplane early in the sequence and actually have been found in the red debris field."
disassembly, "Of the 46 fan blades in the fan rotor, 21 blades with complete or partial airfoils and 6 root sections were recovered. All of the fan blades had sooting on the convex airfoil surfaces. Most of the full length airfoils were bent rearward and the tips outboard of the outer midspan shroud were bent forward slightly. About half of the fan blades had impact damage to the leading and trailing edges. Almost all of the impact damage to the airfoils could be matched to contact with the midspan shroud on an adjacent blade. One full length blade had four soft body impacts along the leading edge and a partial airfoil had a soft body impact, which had some streaking extending rearward."

From: Schleede Ron <SCHLEDR@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: TWA crash cause
Date: Sun, 11 Aug 1996 11:39:00 -0400
Encoding: 13 TEXT
Status:

I have examined the cargo door from twa 800--it is locked and latched!

---------

From: Dickinson Al <DICKINA@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: mechanical crash cause
Date: Thu, 19 Sep 1996 19:04:00 -0400
Encoding: 129 TEXT
Status:

Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access
panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been noted by the crew and recorded on the CVR. We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter. Thank you for your interest in aviation safety.

Dear Dr. Wills,

Your proposed article is incorrect. First of all, Senator McCain did not request that the NTSB meet with Mr. Smith. The Senator asked that the Board respond to Mr. Smith's concerns, which we have done numerous times and in great detail.

Secondly, Mr. Smith is simply wrong. There is absolutely no physical evidence to support his personal theory that the forward cargo door came unlatched. In fact, there is considerable evidence to the contrary. As stated in the Metallurgist's Factual Report, Exhibit 15C (which,
of course, is a public document and available at our web site www.ntsb.gov):

Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill.

Overall examination of the forward portion of the airplane showed that sections 41 and 42 contained uniform crushing damage that extended from S-39L across the bottom of the fuselage and up above the right side main cabin window belt to S-14R. This crushing damage is consistent with the intact forward portion of the airplane (including section 41 and 42) impacting the water with a right wing low attitude. The lower lobe forward cargo door was in the crush area.

Although Mr. Smith does display some knowledge of the Boeing 747, he has a basic misunderstanding of the facts. For example, Mr. Smith claims that there are 10 latches on the cargo door and that the Board only discusses eight in the above mentioned report. While a superficial description of the door might imply that there are 10 latches, Mr.
Smith is, in fact, incorrect in implying that they all hold the door onto the fuselage. The eight at the bottom of the door, which were discussed in the report actually hold the door closed - the other two, one on each side of the door are merely "alignment latches" and do not hold the door closed.

We receive numerous inquiries from the public, many with their own extensively developed theories, and we try to be responsive to all. You are free to request copies of the correspondence between Mr. Smith and the Safety Board, a prudent step, I believe, before publishing such an article.

If you have further questions or concerns, please feel free to contact us.

Sincerely,

Shelly Hazle

Mime-Version: 1.0
Date: Thu, 19 Dec 1996 09:53:05 -0500
From: Julie Swingle <Julie_Swingle@mccain.senate.gov>
Subject: Boeing 747 Information
To: barry@corazon.com

Dear Mr. Smith,

Thank you again for contacting me with your concerns regarding the potential hazards involving Boeing 747s.

As you know, I have passed the information you sent to Chris Paul and he has informed me of your findings. I have since forwarded the material you sent to the Commerce, Science and Transportation Committee for their review.

Again, thank you for contacting me. I am always glad to have the opportunity to be of assistance.

Sincerely,

John McCain
U.S. Senator

JM/jes

Total forward cargo door references in the wreckage database:

B250 RF3A Stringer with attached cargo door.
B008 RF3B Stringer with floor beam.
B250 RF3C Stringers with rear top portion of forward cargo door.
B189 RF3D Stringers with top right corner of forward cargo door.
B221 RF3E Small section upper forward cargo door.
B001 RF3F Stringer.
B007 RF3G Cargo door hinge, 2 rollers.
B2017 RF3H Forward portion lower right forward cargo door.

Missing items of forward door: Lower cargo door sill, eight bottom latches, eight bottom pins, eight locking sectors, two midspan latches, two midspan pins, eight viewing ports, two overpressure relieve doors, manual locking handle, torque tubes, and approximately eighty percent of door skin.

29 Oct 97 letter from Mr. Wojnar/Pederson/Breneman to JBS:
"In addition, the door latches at the bottom of the door were still attached to the fuselage lower sill structure. This indicates the door was in the 'latched and locked' position at the time of impact with the water." "However, wreckage for the entire door was recovered at the same location as the nose section and had the same impact damage as the surrounding fuselage structure on the right side. This is additional verification that the forward cargo door had not opened in flight or separated from the airplane."

24 Oct 1997 letter from Chairman Hall, NTSB to Congressman Farr:
"Please be assured that our team has examined all of the structure recovered from TWA flight 800, approximately 95%--including all of the cargo door mechanisms and structures. Early on in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors."
20 November 1997 Letter from Peter Goelz of Sandy Hentges of Congressman's Farr's office:
"As Congressman Farr was advised by letter dated October 24, 1997, early in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors."

4 Mar 98 letter to me from Senator John McCain stating, "I have received your letter regarding the forward cargo door of TWA Flight 800, and your interest in meeting with someone at the National Transportation Safety Board (NTSB) relating your concerns.

I have contacted the NTSB on your behalf, about your concerns. I have asked for a prompt response to be sent directly to you."

17 March 1998 letter from Chairman Hall, NTSB, to JBS:
"As stated in our most recent letter dated March 10, 1998, the TWA flight 800 investigative team has gathered sufficient facts to rule out this possibility of an in-flight opening of a cargo door. We do not believe a meeting is necessary to further discuss this issue."

Responses to JBS regarding further communications:
10 March 1998 letter of John B. Drake of NTSB to JBS :
"We consider our correspondence on this subject to be complete. Should you continue to reiterate your position on this issue in future correspondence, you should expect no further response from the Safety Board."

30 Jan 1998 letter of Neil Schalekamp of FAA to JBS :
"Please note that this office will no longer be responding to your
further inquiries about these same concerns, including your February 6 and February 9 letters that I just received."

17 March 1998 letter of Jim Hall of NTSB to JBS :
"We do not believe a meeting is necessary to further discuss this issue."

SYSTEMS GROUP CHAIRMANÕS
FACTUAL REPORT OF INVESTIGATION  page 116
Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found.

"A. 1996, burning smell in forward cargo compartment, found damaged wiring shorted to ground, charring found.  
Source: NTSB Exhibit 9C, Attachments to the Systems Group Factual Report page 44, 45, 46."

NTSB investigators have suggested unofficially that the streaks the pilots saw could have been light reflections from the skin of the aircraft, tongues of flame from the airliner or the forward door of the aircraft popping open, a possibility that still intrigues investigators, the second official said.
12. 19 May 1997, Mr. Ron Schleede emails me and states, "As I have told you before, the cargo door was locked and latched at impact."

Mr. Jonathan Wills
Jonathan.wills@virgin.net

The National Transportation Safety Board and apparently numerous others have been receiving communications from Mr. Smith for about 2 years. The Safety Board has considered Mr. Smith's theory and has found no evidence to support it. We have responded to Mr. Smith on a number of occasions outlining to him our findings. Mr. Smith has not accepted our findings and has taken his theory, an electrical failure that results in the separation of the forward cargo door, and repeatedly tried to peddle it as the answer to the TWA tragedy. The Safety Board is well aware of past cargo door failures in transport category aircraft and we did examine early in the investigative process the possibility of such a failure on flight 800. The physical evidence simply does not support Mr. Smith's theory.

Mr. Smith's style and persistence does not mask the fundamental flaw in his approach. He apparently embarked on his quest with his conclusion firmly locked in place and unfortunately no amount of factual evidence will dissuade him. Let me reiterate, our investigative team believes that Mr. Smith is wrong. There is no evidence of a cargo door failure on flight 800. There is evidence that a fuel air explosion took place in the heated, almost empty center wing tank causing the structural failure of the aircraft. The investigation is continuing in an effort to determine the source of ignition.
Due to the press of this and other responsibilities, it is unlikely that the Safety Board will be able to respond to Mr. Smith's inquiries in depth.

Sincerely,

Peter Goelz
Managing Director

4. Docket No. SA-516, Exhibit No. 18A, Sequencing Report, page 30: "It is therefore possible that new scenarios (sequences) may emerge as new information is acquired whether it be from newly identified parts, or simply a new interpretation of current information."

Thirty significant matches to UAL 811
(1) aged
(2) high flight time
(3) early model Boeing 747
(4) which took off near darkness
(5) running late
(6) and during climb
(7) experienced a sudden initial event near the leading edge of wing in fuselage which left a
(8) short
(9) sudden
(10) loud
(11) sound on the cockpit voice recorder, an
(12) abrupt
(13) power cut to the flight data recorder,
(14) foreign object damage to starboard engine #3,
(15) more severe inflight damage on starboard side,
(16) at least nine never recovered bodies,
(17) port fuselage side forward of the wing relatively undamaged, (18) shattered, torn, and frayed skin in forward cargo door area on starboard side, (19) unusual paint smears in forward cargo door area, (20) rupture appearance of skin at aft midspan latch of the forward cargo door, (21) outward peeled skin on upper forward fuselage, (22) vertical fuselage tear lines forward of the wing and aft of forward cargo door, (23) had hinge stay attached to detached top piece of forward cargo door, (24) downward bent floor beams above forward cargo hold, (25) unsooted cargo door pieces, (26) never recovered fuselage skin in cargo door area, (27) inflight fire to engine number 3, (28) bare electrical wire found in cargo door area, (29) and destruction initially thought to be have been caused by a bomb but (30) later conclusively ruled out.

7. Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

Date: Mon, 10 Aug 1998 13:38:59 -0400
From: dana white <dwhite@cnsports.com>
Reply-To: dwhite@cnsports.com
Organization: conde nast sports for women
MIME-Version: 1.0
To: barry@corazon.com
Subject: my dad
X-URL: http://www.corazon.com/eject.html
Hello, I came across your website while searching the web for information on the RA-5C. My father flew that plane during the Vietnam conflict. In fact, I was wondering if you remember him. He also trained as a reconnaissance pilot at Sanford in 1967. His name was Danforth E. White. He was a LCDR at the time. He'd just come back from France, where he was in Intelligence officer. He was shot down over Laos in 1969 on a mission, and I'm trying to find men who served with him. Just thought I would give it a shot. Thanks!

Dana White

From: MarkHuber1@aol.com
Date: Mon, 13 Jul 1998 17:59:44 EDT
To: barry@corazon.com
Mime-Version: 1.0
Subject: RA-5C

Hello -
I saw your web-site, re: RA-5C flight operations. The story about your crash brings back strong memories. My name is Mark Huber, son of the late CDR John J. Huber Jr. My father was Commanding Officer of RVAH-12 in Albany, GA when he was killed in a crash of his aircraft. The date of the crash was March 5, 1970. Do you know of my father and/or have any information on the crash?
My brothers and I are interested in any additional information on my father. Additionally, his best friend, Robert Dunn, has been collecting information about his career, possibly for some future publication. Any information you have would be greatly appreciated.

Thank you
Mark Huber
e-mail:MarkHuber1@aol.com

From: John Barry Smith <barry@corazon.com>
Date: July 30, 1998 2:32:04 PM PDT
To: FAA
Subject: WiringCargoDoor CyberReport V.1.0

. JohnBarrySmith Wiring/CargoDoor CyberReport on TWA 800, Release 1.0:

Contents:

A. NTSB website with many, but not all, TWA 800 public docket exhibits and biographies of the senior officials. http://www.ntsb.gov/Events/twa800/default.htm

B. NTSB website with summaries of aircraft accidents for decades. http://www.ntsb.gov/Aviation/months.htm

C. NTSB CD-ROM of TWA 800 exhibits plus hundreds of poor quality photographs in .jpg format, available free from NTSB.
D. Citizen websites about TWA 800:
Richard Hirsch:
   http://home.earthlink.net/~neteagle
Mike Hull:
   http://members.aol.com/bardonia
Tom Shoemaker:
   http://www.webexpert.net/roosedale/twacasefile
Mike Rivero:
Ian Goddard:
Harro Ranter:
   http://web.inter.NL.net/users/H.Ranter/
Patrick Price:
   http://members.aol.com/pappecst/index.html
John Barry Smith:
   http://www.corazon.com

E. Boeing 747 history and reference URLs.


F. Specific URLs for Wiring/CargoDoor explanation for TWA 800 and others: Includes correspondence from public officials, NTSB exhibits not generally available, animated gifs of radar plots, FAA ADs, and analysis by John Barry Smith

1. http://www.corazon.com/forwardcargodoorpicts.html<Contents of links to door on site to show latch pins, openings, hinge, seal, and lock sectors.
Group
Factual Report NTSB Docket Number SA 516, Exhibit 4A and
Forward Cargo Door
Exhibit 15C
Group Chairman's
Factual Report NTSB Docket SA 516, Exhibit 8A.
of Hull Rupture in NTSB TWA 800 Photo with annotation
destructionsequence.html">Destruction Sequence
and Text
11. http://www.corazon.com/800radarblipsani.html">TWA 800
animated radar returns showing mystery blips.
800 animated
radar returns from different radar. 800streakexplained.html"
observed
streak is explained as reflected evening sunlight off fuselage as
door piece
spins away.
forward cargo
door information from news reports.
NTSB comments on all doors of TWA 800 being latched.
NTSB states intrigued by forward door popping open in Aviation
Week.
17. http://www.corazon.com/TWA800essentials.html">Extracts


from news sources concerning cargo door on TWA 800.
25. http://www.corazon.com/800engine3.html"">800engine3.html Photo of damaged engine 3 as it was brought up.
27. http://www.corazon.com/800doorversusfire.html"">800doorversusfire.html TWA 800 cargo door theory versus center tank fire analysis
34. http://www.corazon.com/presskit.html">Pictures and Text of fuselage ruptures at forward cargo door of PA 103, UAL 811, TWA 800, and AI 182
35. http://www.corazon.com/811and800work.html">Comparison between UAL 811 and TWA 800
42. http://www.corazon.com/reasoning.html">Reasoning behind cargo door hypothesis
Closeups of forward cargo door.  
53. http://www.corazon.com/AD90-09-06.html>Airworthiness Directive 90-09-06 Current AD to try again to stop doors from opening when they shouldn't.  
Door Rupture/Open?
60. http://www.corazon.com/chasm.html">Door Goes; Nose
Goes? When door ruptures, how and why nose comes off.
61. http://www.corazon.com/dbcontents.html">Unofficial and
unauthenticated debris database.
correspondence.html">Correspondence from Congress, NTSB,
and FAA
which Aviation Week ordered removed.
64. http://www.corazon.com/"811reportcontentpage.html">To
UAL
Flight 811 NTSB accident report
from
NTSB accident report.
Pan Am
Flight 103 accident report
from AAIB
accident report.
68. http://www.corazon.comAirIndiareportcontents.html">To
Canadian and Indian Air India Flight 182 accident report
from Canadian
report
70. http://www.corazon.com/Page2.html">Details on Accidents
includes AARs, photos, text, drawings, and related accidents, Air
India 182, PA 103, UAL 811, and TWA 800 with URL links to
hundreds of other corazon.com pages about hull ruptures in flight
on high time Boeing 747s.


G. Archives of TWA 800 Flight 800 Discussion Group with
many posts about Wiring/CargoDoor explanation. <http://
HOME.EASE.LSOFT.COM/ >
H. Sumaries.:
Start Location
Sudden Loud Sounds on CVR
Power Cuts to FDR
Engines
Damage
Bodies
Torn Off Noses
destructionsequence.html">Destruction Sequence

From: John Barry Smith <barry@corazon.com>
Date: July 30, 1998 2:24:58 PM PDT
To: FAA
Subject: I am not a 'peddler.'

Sam Farr
Member of Congress
17th District, California
House of Representatives


Congress of the United States
1117 Longworth Bldg
Washington, DC 20515-2861

John McCain III
Member of Congress
Chairman, Committee on Commerce, Science, and Transportation
United States Senate
241 Russell Senate Office Bldg
Washington, DC 20510-0303

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Washington, DC 20594

Robert Francis II
Vice Chairman
National Transportation Safety Board
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Washington, DC 20594

Bernard Loeb,
Director of Aviation Safety
National Transportation Safety Board
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Al Dickinson,  
Lead Investigator, TWA 800  
National Transportation Safety Board  
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Ron Schleede,  
Investigator, TWA 800  
National Transportation Safety Board  
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James F. Wildey II  
National Resource Specialist  
National Transportation Safety Board  
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T. Mason
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NTSB Wreckage Database Manager
National Transportation Safety Board
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Thomas McSweeny
Director, Aircraft Certification Service
FAA National Headquarters
800 Independence Avenue, S.W
Washington D.C 20591

Lyle Streeter
FAA AAI
Aircraft Accident Investigator
FAA National Headquarters
800 Independence Avenue, S.W
Building FOB 10A, Room 838,
Washington D.C 20591

Ron Wojnar,
Manager
Federal Aviation Administration
Transport Airplane Directorate
1601 Lind Ave. S.W.
Renton, WA 98055-4056
Dear Elected and appointed officials involved with the investigation of TWA 800, 30 July 1998

Thank you for your interest in aviation safety.

But no thank you for calling me a peddler. Are you trying to distract me with insults? (Fifty facts, data, and evidence to support wiring/cargo door explanation for TWA 800 are attached. The message is the important thing, not the style of the messenger.)

"peddle \"ped-e\" vb pedelled; peddling : to sell or offer for sale from place to place ~ peddler also pedlar \"ped-ler\" n "

Who called me a 'peddler'? Well, NTSB did. "Mr. Smith has not accepted our findings and has taken his theory, an electrical failure that results in the separation of the forward cargo door,
and repeatedly tried to peddle it as the answer to the TWA tragedy."

This is a grievous insult. It is actually Mr. Mason acting for Mr. Goelz acting for Mr. Wildey acting for Dr. Loeb acting for Chairman Jim Hall said I 'peddle'. So it is, in effect, Chairman Jim Hall calling a citizen investigator a 'peddler' regarding an explanation for the partial obliteration of TWA 800 offered to authority for consideration, not for sale.

Chairman Jim Hall, I address you directly, my wiring/cargo door explanation includes a center tank explosion and rules out missile explanation while explaining the streak. I offer a solution to the wiring/cargo door problem by grounding all high time Boeing 747s for emergency repair to include: 1. Replacing all the wiring. Or better yet, go wireless. 2. Turning all outward opening nonplug cargo doors into plug type cargo doors. Or better yet, sealing all big holes cut in pressurized hulls and leave the small passenger plug doors intact.

NTSB also called me 'persistent' in the same statement as 'peddle'. Thank you. I trust that 'persistent' is not yet a dirty word. It's true and attached are year 1996 emails to Mr Dickinson of NTSB to show my persistence.

To call my wiring/cargo door explanation an insignificant piece of almost trash with few buyers insults yourself too, Chairman Hall, because I say center tank did explode, debunk missile
theory, and conclude with bad polyX wiring and you say all those things too. To demean wiring/cargo door explanation is to demean yourself.

To call wiring/cargo door explanation unworthy of serious consideration is to demean Representative Sam Farr and Senator John McCain, both elected officials who have expressed interest in writings to NTSB (attached).

Why do you or your representative not meet me face to face, Chairman Hall? Why do you refuse to respond to my detailed evidence? I'm on your side. Your actions towards me are in direct contradiction of your recent words (attached) "to pursue many avenues of inquiry in assembling the definitive report on the circumstances surrounding the accident."

Chairman Hall, you have insulted me personally. Calling someone a 'peddler' is an insult, with my apologies to the real peddlers of this world. And you did it behind my back. Twice behind my back have you insulted me through your chain of command for TWA 800. Why the personal disparagement?

1. "Mr. Smith has not accepted our findings and has taken his theory, an electrical failure that results in the separation of the forward cargo door, and repeatedly tried to peddle it as the answer to the TWA tragedy. " Mr. Mason, NTSB.

2. "Although Mr. Smith does display some knowledge of the Boeing 747, he has a basic misunderstanding of the facts." Shelley Hazle, NTSB.

Tell me where my 'basic understanding of the facts' are. Tell me one fact I have wrong of the hundreds I have reported to you and
specifically in the fifty (attached) that directly support wiring/cargo door explanation and were culled from NTSB, FAA, and other government documents.

Tell me why you think I'm trying to 'peddle' my wiring/cargo door explanation. To whom? The insult is deep because it implies I am trying to make money off misery and taking advantage of the grieving. I make no money off wiring/cargo door explanation and I have a very good basic understanding of the facts. I have spent nine years researching hull ruptures in high time Boeing 747s and have never received one penny while expending thousands of dollars. I have compiled thousands of pages of documents, photographs, drawings, for research and analysis.

I ask for the respect due a citizen air crash survivor and commercial pilot that you not call me bad names behind my back, Chairman Hall. Either tell me to my face, or tell your staff to stick to the facts and omit personal attacks on the messenger. It's not me that irritates you; it's the evidence that contradicts center tank as initial event and puts wiring/cargo door in plain view.

So, Chairman Hall from Tennessee, is it up to me to be the Southern gentleman to take the high road and always be polite even when insulted with lies? I would accept as an adequate apology a meeting with your representatives to present my evidence for discussion at a time and place of your convenience. I stick to the facts, data, and evidence and leave the name calling to the missile guys.

Chairman Hall, you recently stated in a letter to Elaine Scarry, "However, please be assured that the Safety Board is considering every possible event that could have led to this accident,
including EMI or HIRF."

Apparently you consider one sentence in Exhibit 15C about five percent of a door, the lower sill, as fulfilling the obligation 'to consider every possible event'. That door is a confirmed killer of nine, UAL 811, and gets one sentence and an hour of examination of a small portion of it.

Methane gas has killed no airliner passenger and yet got the NTSB ordered attention of four scientists for a day to consider it.

HIRF has killed no airliner passengers and yet has at least ten months of NTSB ordered consideration.

Center tank blowing up spontaneously in a 747 has never killed an airliner passenger and yet gets two years and millions of dollars of NTSB investigation.

You are formal with CDR Donaldson and his unsubstantiated missile explanation. You are polite to Ms. Scarry with her never before HIRF explanation. You checked out the bizarre methane gas explanation. Meteor explanation received time and serious consideration at the hearings. All these explanations have never caused a fatal hull rupture of an early model 747 in flight but you still devote time and respectful discourse with the proponents.

And yet you are rude to me, Chairman Hall, the person with a consistent explanation with precedent, UAL 811, which you initially agreed with, inadvertent opening of the forward cargo door in flight. So, why are you calling me names and being polite with others?

And the prime, early on suspect, the forward cargo door, gets one
sentence and no discussion permitted from a citizen investigator. That's hardly 'consideration'.

(By the way, the official probable cause for UAL 811 as listed in the current NTSB accident database is improper latching which is wrong. The forward cargo door of UAL 811 was properly latched. The error of probable cause was corrected with AAR 92/02 and it's time to correct the NTSB accident database to reflect that correction.)

Normally, personal discussion is not warranted in official correspondence but I will take my cue from NTSB spokespersons Ms. Hazle and Mr. Mason who wrote behind my back to a reporter how misinformed I was, how superficial my research was, how I didn't know what I was talking about, and how I was trying to profit from grief.

So, my personal comments to personal people:

I believe you to be hard working, dedicated public servants who are ordinary people caught up in extraordinary circumstances. There is no coverup of wiring/cargo door cause for TWA 800. There is no conspiracy to refuse to thoroughly investigate the original suspicion of inadvertent opening of forward cargo door in flight for TWA 800. There is no plot to hide a design defect of a large outward opening non-plug cargo door in wide body airliners. There is no laziness to examine the wreckage evidence for overtravel impression damage on the door hinge, the large red paint markings, outward peeled skin, and petal bulge at aft midspan latch for confirmation of forward cargo door opening in flight. There is no fear that years of work into PA 103, UAL 811, and TWA 800 will be for nought.
I believe that the TWA 800 investigation by NTSB has been a zealous prosecution of center tank explosion by an unknown ignition source as initial event to the exclusion of another reasonable mechanical explanation with precedent, wiring/cargo door.

I keep thinking about the baggage handler for UAL 811 that lived for two years with the knowledge that everyone around him thought him to be responsible for the deaths for nine and serious injuries to five passengers because he did not close a door properly, and he knows he did.

I keep thinking of the father of the dead teenage son on UAL 811 that pressed to have the door recovered from the bottom of the ocean which revealed the true cause of the cargo door opening in flight, not improper latching but chafed wire to bare conductor to short door unlatch motor on.

I keep thinking about FAA Neil Schalekamp who said that the paint markings and structural deformation indicated an outward explosion in cargo door area and later said he agreed with others who said it was not.

I keep hearing Chairman Hall asking in effect, "Why were not more passengers burnt?"

All the while knowing he heard the answer that they were not there to be burnt because the nose had already separated before the center tank explosion.

I keep hearing Jim Wildey saying words to the effect, "Yes, there were hoop stresses found in the cargo door area."
All the while knowing hoop stresses would not be there if the door had been intact to water impact.

I keep reading Jim Wildey's explanation of downward fractured floor beams as an initial opening of the fuselage lower lobe matches the evidence.

All the while knowing that description exactly fits the wiring/cargo door explanation of explosive decompression pulling floor beams down, not blowing them upwards as a center tank explosion would.

I keep reading Jim Wildey's report on engine number three that had missing blades, sooted blades, and soft body impacts.

All the while knowing that engine number three was on fire, had uncontainment, and ingested FOD from the nearby and open cargo hold which caused the fire and provided the ignition source for the fireball and probably center tank explosion.

I keep reading the NTSB investigator's evaluation of the first objects to leave TWA 800 were forward of the wing, not in the wing.

All the while knowing the forward cargo hold is forward of the wing and the center tank is not.

I keep thinking of the NTSB investigator who discovered the cracked to bare conductor wiring found in the cargo door area of TWA 800, the same type chafed wire in the same area of the same high time early model Boeing 747, UAL 811.

I keep thinking of the NTSB investigator who painstaking
examined the right horizontal stabilizer that had a red paint transfer mark, glitter, and an engine 'stator blade' embedded in it.

All the while knowing the engines were said to have no uncontainments, glitter was in the forward cargo hold, and red painted metal was above the cargo door, directly in front of the stabilizer.

I keep thinking about the NTSB 'second official' who was intrigued by the thought that the forward door popping open could have caused the streak of light.

All the while knowing he may have been sent to Miami for another accident to investigate after report in Aviation Week was published.

I keep hearing senior government officials reiterating how safety is number one priority and no stone will be left unturned in pursuit of the truth of TWA 800.

All the while knowing that wiring/cargo door explanation has been on the table for consideration since 48 hours after the event and was ruled out with one sentence about eight of ten latches checked.

I keep reading that Mr. Dickinson says 'A depressurization event most certainly would have been noted by the crew and recorded on the CVR.'

All the while knowing how sudden and catastrophic UAL 811 was when that forward door popped.

I keep reading that Ron Schleede wrote, "I have examined the
cargo door from twa 800--it is locked and latched!"

All the while knowing both cargo doors are in shattered pieces and most of the forward door is still missing, including the two midspan latches.

I keep reading Shelly Hazle writing: "Although Mr. Smith does display some knowledge of the Boeing 747, he has a basic misunderstanding of the facts. For example, Mr. Smith claims that there are 10 latches on the cargo door and that the Board only discusses eight in the above mentioned report."

All the while knowing there are ten and the Board only discusses eight; basic facts clearly understood.

I keep reading a 18 Nov 96 letter from FAA Mr. McSweeny, to Congressman Farr: "The Federal Aviation Administration (FAA) has no evidence that door failures played a role in the TWA flight 800 accident."

All the while knowing FAA Bob Breneman only examined the lower eight and did not know the status of the two midspan latches and FAA Mr. Schalekamp believed that the door area opened outward in flight.

I keep reading 24 Oct 1997 letter from Chairman Hall, NTSB to Congressman Farr: "Please be assured that our team has examined all of the structure recovered from TWA flight 800, approximately 95%--including all of the cargo door mechanisms and structures. Early on in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors."
Knowing all the while all most the cargo door mechanisms and structures where not recovered to be examined to be concluded they were all latched and locked at water impact.

I keep on reading the 20 November 1997 Letter from Peter Goelz to Sandy Hentges of Congressman's Farr's office: "As Congressman Farr was advised by letter dated October 24, 1997, early in the investigation we determined conclusively that the cargo doors were latched and locked at impact with the water, and there was no evidence of any failure of any of the latching mechanisms on the doors."

Knowing all the while it is impossible to conclusively rule out cargo door opening in flight with 80% of the door still missing and shattered door pieces as evidence of failure of something in that door especially since the area has outward peeled skin, outward petal bulge at latch, and water impact gives 'pillowing' effect, not shattering.

I keep on reading the 19 December 1997 letter from Chairman Hall, NTSB to me: "However, to repeat, the investigation of the accident involving TWA flight 800 has revealed no evidence to suggest that a failure of a cargo door precipitated the event."

All the while knowing Chairman Hall and NTSB officials refuse to meet with me to allow me to present evidence to show precisely that; 'a failure of a cargo door precipitated the event' while chafed wiring probably precipitated the rupture/failure of the door.

I keep on reading the 17 March 1998 letter from Chairman Hall to me: "As stated in our most recent letter dated March 10, 1998,
the TWA flight 800 investigative team has gathered sufficient facts to rule out this possibility of an in-flight opening of a cargo door. We do not believe a meeting is necessary to further discuss this issue."

All the while knowing that Senator McCain thought it a good idea to have a meeting and the wiring/cargo door explanation warrants further discussion.

I keep on reading responses to me regarding further communications from public safety officials:
10 March 1998 letter of John B. Drake of NTSB to JBS:
"We consider our correspondence on this subject to be complete. Should you continue to reiterate your position on this issue in future correspondence, you should expect no further response from the Safety Board."

30 Jan 1998 letter of Neil Schalekamp of FAA to JBS:
"Please note that this office will no longer be responding to your further inquiries about these same concerns, including your February 6 and February 9 letters that I just received."

All the while knowing they are public safety officials rebuffing a retired military officer, a crash survivor, and one who documents every statement to support wiring/cargo door explanation for a fatal crash that can happen again, the cause of which is under active investigation with a significant event officially unexplained, the ignition source.

And most of all I keep on hearing in my head and seeing on paper the very rare events of sudden loud sound on the CVR followed by the abrupt power cut to the FDR on four high time Boeing 747s in flight, AI 182, PA 103, UAL 811, and TWA 800,
a difficult event to reproduce. Only four Boeing 747 accidents have that sequence, and one of them is TWA 800. Only one of them has conclusive evidence of the cause, chafed wiring to door unlatch motor, UAL 811.

Lastly, because it happened yesterday, 29 July 1998, I think of Peter Goelz, Managing Director of NTSB saying, "Due to the press of this and other responsibilities, it is unlikely that the Safety Board will be able to respond to Mr. Smith's inquiries in depth."

Which is upfront admission that wiring/cargo door explanation has had only shallow consideration, not the 'in depth' investigation it warrants.

I ask again for a meeting with NTSB and FAA officials to present my evidence for wiring/cargo door explanation for TWA 800 and other hull ruptures in flight of high time Boeing 747s.

Respectfully,

John Barry Smith
831 659 3552
551 Country Club Drive,
Carmel Valley, CA 93924
barry@corazon.com
www.corazon.com

Attachments below to support statements made in body of text:

1. right horizontal stab has red paint smear
2. stator blade in right horizontal stab behind engine number 3
3. inward crush top of cargo door
4. top of cargo door attached to hinge
5. petal shape of rupture area around aft midspan latch
6. missing pieces of forward cargo door include locking handle, latching pins, overpressure relief doors, midspan latches
7. rectangle visible of explosive decompression zone of outward peeled skin on right side forward of the wing on right side
8. downward movement of floor beams near cargo door
9. hoop stresses found
10. CVR sudden loud sound
11. FDR abrupt power cut
12. missing turbine blades in engine number 3.
13. soft body impacts on blades in engine number 3.
14. outward peeled skin near top of nose, under belly, and in cargo door area.
15. red paint smears above cargo door on white paint
16. soot on most blades of engine 3.
17. starboard side more damaged than port side
18. intact R2 door near shattered cargo door.
19. poly x is known to be susceptible to chafing and present
20. section 41 is known to be weak
21. history of cargo door openings in past in various airliners
22. EPR problems on aircraft before or during fatal flight.
23. fires in forward cargo hold in the past on Boeing 747s.
24. vertical tears in fuselage skin forward of the wing on the right side
25. singe marks on right side of fuselage show burnt skin, then abruptly at tear line there are no singe marks
26. red paint rubbed off revealing white paint underneath on skin above cargo door area
27. first pieces off plane came from forward cargo hold just forward of the wing
28. at least nine missing never recovered bodies, just fragments
29. initially thought to be a bomb
30. wreckage debris shows cargo door shattered in many pieces
31. aft portion of forward door which includes aft midspan latch and locking handle missing from recovery effort
32. no soot on maintenance hatch
33. no soot on front spar of center wing tank
34. no burned bodies forward of the wing and very few burned at all
35. aft cargo door sill, latches, and locks recovered
36. forward cargo door sill, latches, and locks not recorded in database
37. no orange zone pieces recorded in database
38. no orange zone discussion in public record other than identification
39. chafed to bare wires found in cargo door area
40. wiring defects found on Boeing airliners
41. water observed pouring out of forward cargo hold of a Boeing airliner, cargo holds have bilges.
42. no soot on keel beam forward of the wing
43. compression fractures right side forward of the wing
44. tension fractures left side forward of the wing
45. seats in the rows in the explosive shatter zone above cargo door are in red zone and not sooted
46. aft cargo door sill is sooted
47. many witnesses said they saw downward streak that was red-orange
48. NTSB official said possibility of forward door popping open was intriguing.
49. FAA official said, then recanted, that paint smears and structural deformation indicated outward explosion.
50. initial event time was 20:31:12 at 13700 on 17 July 1996 eight miles off coast of Long Island.

Reasonable conclusions derived from facts above:
1. water in forward cargo bay.
2. chafed bare wire touched by water.
3. electrical short occurs.
4. forward door motor turns on to unlatch position.
5. aft midspan latch of forward cargo door partially unlatches.
6. pressurized hull ruptures at aft midspan latch.
7. cargo door tears into pieces, some pieces stay with nose, some don't.
8. shiny metal pieces spin away reflecting evening sunlight and perceived as red-orange streak to observers far away.
9. explosive decompression occurs shattering cargo door area forward of the wing on right side exposing twenty foot by forty foot hole in nose producing sudden loud sound on CVR.
10. 300 knots slipstream tears weakened nose off.
11. ejected debris is ingested by starboard engines which catch fire.
12. wing and wing fuel tanks; engines, tail, and fuselage fall and disintegrate on way down.
13. fiery starboard engine ignites fuel vapor clouds from disintegrating tanks, including center tank.
14. fireball observed on the ground.
15. water impact of wreckage, cargo bay material first to hit water.

Evidence available to check to rule in or rule out cargo door involvement.
1. hinge overtravel impression damage to match AAR 92/02
2. aft midspan latch pin for heat damage to match AAR 92/02
3. aft midspan latch for damage
4. put door back together from shattered pieces to show petal rupture
5. stator blade from which engine
6. red paint matching from cargo door area to right horizon stab
7. chafed wire bundles to bare wire in forward cargo hold to match AAR 92/02

Below is current incorrect NTSB explanation for UAL 811 on NTSB website and requires correction from improper latching to chafed wiring.

"NTSB Identification: DCA89MA027 For details, refer to NTSB microfiche number 37772A
Scheduled 14 CFR 121 operation of UNITED AIRLINES (D.B.A. UNITED AIRLINES, INC.)
Accident occurred FEB-24-89 at HONOLULU, HI
Aircraft: BOEING 747-122, registration: N4713U
Injuries: 9 Fatal, 5 Serious, 33 Minor, 309 Uninjured.
FTL #811 WAS A SCHEDULED PASSENGER FLIGHT FROM LOS ANGELES TO SYDNEY, AUSTRALIA, WITH STOPS IN HONOLULU (HNL), HI, AND AUCKLAND, NEW ZEALAND. THE FLT WAS UNEVENTFUL UNTIL AFTER DEPARTURE FROM HNL. WHILE CLIMBING FROM FL220 TO FL230 THE CREW HEARD A "THUMP" FOLLOWED BY AN EXPLOSION. AN EXPLOSIVE DECOMPRESSION WAS EXPERIENCED AND THE #3 AND #4 ENGS WERE SHUTDOWN BECAUSE OF FOD. THE FLT RETURNED TO HNL AND PASSENGERS WERE EVACUATED.
INSPECTION REVEALED THE FORWARD LOWER LOBE CARGO DOOR DEPARTED INFLT CAUSING EXTENSIVE DAMAGE TO THE FUSELAGE AND CABIN ADJACENT TO THE DOOR. NINE PASSENGERS WERE EJECTED AND LOST AT SEA. INVESTIGATION CENTERED AROUND DESIGN AND CERTIFICATION OF THE DOOR WHICH ALLOWED IT TO BE IMPROPERLY LATCHED, AND THE OPERATION AND MAINTENANCE TO ASSURE AIRWORTHINESS OF THE DOOR AND LATCHING MECHANISM. (SEE NTSB/AAR-90/01)
Probable Cause
THE SUDDEN OPENING OF THE IMPROPERLY LATCHED FORWARD LOBE CARGO DOOR IN FLIGHT AND THE SUBSEQUENT EXPLOSIVE DECOMPRESSION. CONTRIBUTING TO THE ACCIDENT WAS A DEFICIENCY IN THE DESIGN OF THE CARGO DOOR LOCKING MECHANISMS, WHICH MADE THEM SUSCEPTIBLE TO INSERVICE DAMAGE, AND WHICH ALLOWED THE DOOR TO BE UNATCHED, YET TO SHOW A PROPERLY LATCHED AND LOCKED POSITION. ALSO CONTRIBUTING TO THE ACCIDENT WAS THE LACK OF PROPER MAINTENANCE AND INSPECTION OF THE CARGO DOOR BY UNITED AIRLINES, AND A LACK OF TIMELY CORRECTIVE ACTIONS BY BOEING AND THE FAA FOLLOWING A PREVIOUS DOOR OPENING INCIDENT.

Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area recovery of interior components as far forward as STA 600 would not be inconsistent with this floor collapse and associated structural breakup."

Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800)
aircraft. Wire insulation known as Poly-X had three in-service problems:
-Abrasion of the insulation in bundles installed in high vibration areas.
(This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)
-Random flaking of the topcoat.
-Insulation radial cracks in tight bend radii.
Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor."

The Systems Exhibit 9A continues on same page 47, "Evidence of arcing or short circuiting was found in the fuselage of N93119, (TWA 800) in addition to what was found in the wiring from the raceway below the left cabin floor and near the forward wing spar.

The Systems Exhibit 9A continues, page 116: "Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

(Please note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811.
Neil Schalekamp>"The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"

"NTSB investigators have suggested unofficially that the streaks the pilots saw could have been light reflections from the skin of the aircraft, tongues of flame from the airliner or the forward door of the aircraft popping open, a possibility that still intrigues investigators, the second official said."

Docket No. SA-516, Exhibit No. 22B, Trajectory Study Supporting Material, page 45 in faded numbers and page 30 in dark numbers. One chart that shows the first items to go, that is page 30 chart, Forward cargo door trajectories. The first item is A489, fwd lower cargo bay struct, FS 900. The next item to go before anything else in the entire plane is A470, R fwd lower cargo bay struct, FS 820. There are five other forward cargo bay structures which are plotted and leave soon thereafter. On dark page number 29 lower frame stringer 40L-40R is shown to leave very early.

Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."5. Docket No. SA-516, Exhibit No. 12-B, Sound Spectrum Study, page 21, Chart 12. The sudden loud sound on the CVR which is followed by an abrupt power cut which occurred on four high time Boeing 747s is displayed for comparison. TWA 800, Pan Am 103, Air India 182, and United Airlines 811 are plotted together in that sequence.

8. Docket No. SA-516, Exhibit No. 7A, Structures Group Report,
"5.1 Horizontal Stabilizer, "Some of the items found in the horizontal stabilizer are sections of seat track, a stator blade from turbine section, and glitter." On 5.1.1 Right Horizontal Stabilizer, page 34, "An engine stator blade from turbine section penetrated the upper honeycomb surface near the outboard trailing edge.

Exhibit 8A, Page 11, paragraph 3, discussing results of engine 3 disassembly, "Of the 46 fan blades in the fan rotor, 21 blades with complete or partial airfoils and 6 root sections were recovered. All of the fan blades had sooting on the convex airfoil surfaces. Most of the full length airfoils were bent rearward and the tips outboard of the outer midspan shroud were bent forward slightly. About half of the fan blades had impact damage to the leading and trailing edges. Almost all of the impact damage to the airfoils could be matched to contact with the midspan shroud on an adjacent blade. One full length blade had four soft body impacts along the leading edge and a partial airfoil had a soft body impact, which had some streaking extending rearward."

FAA LTR DTD: 4/5/93 Since the issuance of this NPRM, the FAA has further reviewed the circumstances surrounding this door opening incident and has confirmed that an inadvertent inflight opening of the cargo door cannot be caused solely by wire chafing.

From: Schleede Ron <SCHLEDR@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: TWA crash cause
Date: Sun, 11 Aug 1996 11:39:00 -0400
Encoding: 13 TEXT
Status:
I have examined the cargo door from twa 800--it is locked and latched!

From: Dickinson Al <DICKINA@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: mechanical crash cause
Date: Thu, 19 Sep 1996 19:04:00 -0400
Encoding: 129 TEXT
Status:

Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been noted by the crew and recorded on the CVR. We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter. Thank you for your interest in aviation safety.

NTSB Public Affairs Office: (202) 314-6100 The following statement was released today by Jim Hall, Chairman of the National Transportation Safety Board, following the issuance yesterday of a final report by Congressman Jim Traficant of Ohio, on the investigation of the crash of TWA flight 800:
"I am gratified that, after an exhaustive review of the federal government's investigation of the tragic loss of TWA flight 800, Congressman Traficant has agreed that the inquiry has been thorough and forthcoming, and that the evidence has supported our belief that an explosion of the aircraft's center fuel tank was the event that brought the plane down. "I am particularly pleased that the Congressman's report endorses the integrity and hard work of the men and women of the National Transportation Safety Board and the many other government agencies that have been selflessly pursuing the cause of this accident for two years. "I want to thank Congressman Traficant, a senior member of the House Transportation Committee, Chairman John Duncan and the committee staff who entered this review in an attempt to sort out the many alternative theories proposed by parties outside the investigation. "As we approach the 2nd anniversary of this tragedy, I want to assure the family members of those who perished, as well as all the American people, that the Safety Board is continuing to pursue many avenues of inquiry in assembling the definitive report on the circumstances surrounding the accident."

- 30 -

Neil Schalekamp of FAA> "The paint markings and structural deformation that you cite, do indicate an outward explosion, generally accepted to be caused by the explosion of the CWT"

1. Docket No. SA-516, Exhibit No. 18A, Sequencing Study, page 20, "Downward separation directions were noted at STA 900, 880, 840, 820, 800, and 780..." and ""The initial opening of the fuselage lower lobe (e.g. LF6A) would have the expected result of rapid depressurization accompanied by collapse of the main deck floor for some distance forward of STA 1000. The red area
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The overall debris appraisal was made by Docket Number SA-516, Exhibit No. 22A, Trajectory Study, page 3: "The wreckage distribution shows that parts were initially shed from the area just forward of the wing."

Dear Dr. Wills,

Your proposed article is incorrect. First of all, Senator McCain
did not request that the NTSB meet with Mr. Smith. The Senator asked that the Board respond to Mr. Smith's concerns, which we have done numerous times and in great detail.

Secondly, Mr. Smith is simply wrong. There is absolutely no physical evidence to support his personal theory that the forward cargo door came unlatched. In fact, there is considerable evidence to the contrary. As stated in the Metallurgist's Factual Report, Exhibit 15C (which, of course, is a public document and available at our web site www.ntsb.gov):

Examination of the lower lobe forward cargo door showed that all eight of the door latching cams remain attached (along with pieces of the door itself) to the pins along the lower door sill.

Overall examination of the forward portion of the airplane showed that sections 41 and 42 contained uniform crushing damage that extended from S-39L across the bottom of the fuselage and up above the right side main cabin window belt to S-14R. This crushing damage is consistent with the intact forward portion of the airplane
(including section 41 and 42) impacting the water with a right wing low attitude. The lower lobe forward cargo door was in the crush area.

Although Mr. Smith does display some knowledge of the Boeing 747, he has a basic misunderstanding of the facts. For example, Mr. Smith claims that there are 10 latches on the cargo door and that the Board only discusses eight in the above mentioned report. While a superficial description of the door might imply that there are 10 latches, Mr. Smith is, in fact, incorrect in implying that they all hold the door onto the fuselage. The eight at the bottom of the door, which were discussed in the report actually hold the door closed - the other two, one on each side of the door are merely "alignment latches" and do not hold the door closed.

We receive numerous inquiries from the public, many with their own extensively developed theories, and we try to be responsive to all. You are free to request copies of the correspondence between Mr. Smith and the Safety Board, a prudent step, I believe, before publishing such an
If you have further questions or concerns, please feel free to contact us.

Sincerely,

Shelly Hazle

July 29, 1998

Mr. Jonathan Wills
Jonathan.wills@virgin.net

The National Transportation Safety Board and apparently numerous others have been receiving communications from Mr. Smith for about 2 years. The Safety Board has considered Mr. Smith's theory and has found no evidence to support it. We have responded to Mr. Smith on a number of occasions outlining to him our findings. Mr. Smith has not accepted our findings and has taken his theory, an electrical failure that results in the separation of the forward cargo door, and repeatedly tried to peddle it as the answer to the TWA tragedy. The Safety Board is well aware of past cargo door failures in transport category aircraft and we did examine early in the investigative process the possibility of such a failure on flight 800. The physical evidence simply does not support Mr. Smith's theory.

Mr. Smith's style and persistence does not mask the fundamental flaw in his approach. He apparently embarked on his quest with his conclusion firmly locked in place and unfortunately no
amount of factual evidence will dissuade him. Let me reiterate, our investigative team believes that Mr. Smith is wrong. There is no evidence of a cargo door failure on flight 800. There is evidence that a fuel air explosion took place in the heated, almost empty center wing tank causing the structural failure of the aircraft. The investigation is continuing in an effort to determine the source of ignition.

Due to the press of this and other responsibilities, it is unlikely that the Safety Board will be able to respond to Mr. Smith's inquiries in depth.

Sincerely,

Peter Goelz
Managing Director

Text of 1 May 98 letter from Congressman Farr:

"Dear Mr. Smith:
Thank you for contacting me recently regarding your ongoing interest in the forward cargo door of TWA flight 800. I appreciated hearing from you. I am, of course, glad to help, and am therefore in touch with the appropriate government agency on your behalf. I will write to you again as soon as a response is available, but please let me know if there is anything further that I can do for you in the interim.

Sincerely,

Sam Farr
Member of Congress

Excerpt of 4 Mar 98 letter from Senator John McCain to me: "I have received your letter regarding the forward cargo door of TWA Flight 800, and your interest in meeting with someone at the National Transportation Safety Board (NTSB) relating your concerns. I have contacted the NTSB on your behalf, about your concerns. I have asked for a prompt response to be sent directly to you."

Below emails through September 1996

9/12/96
To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Prime suspect
Cc:
Bcc:
X-Attachments:

Please rule out cargo door as the cause of TWA Flight 800. It is a matter of life and death. It is a prime suspect with two ADs against it and it was at the scene of destruction, on the right side forward of the wing. It has already killed nine passengers in UAL Flight 811.

To come upon a crime scene with 230 dead people stabbed to death and a bloody knife is in plain sight and to not pursue that bloody knife as the killer weapon is not good. To continue to look for a bomb that stabbed all the victims to death is not good. Investigation on a mechanical object that may have failed and led to the killing of the people is good. Especially if the object has documented failures three times before, two Airworthiness Directives to try to stop failure, and the mechanical object is
located extremely near the scene of the start of the destruction of the aircraft, forward right side, and the death of all aboard. The mechanical object is the forward cargo door. It is the prime suspect and it is guilty.

It is an extremely important discovery.

If true. Is it true? Did the outward opening cargo doors inadvertently open on early model Boeing 747s which were torn off in the 333 mile per hour slipstream pulling fuselage skin with it a exposing large nine foot by fifteen foot gash in right side of nose just forward of the wing allowing wind forces to tear whole plane's nose off, thereby leaving short, loud sound on the cockpit voice recorder, cutting off power abruptly, throwing debris into the number three engine, forcing decapitated nose to crash to the surface, allowing the rest of the aircraft to disintegrate to the surface, resulting in the aircraft destroyed and all crew and passengers dead?

Did it that happen that way for Air India Flight 182 in 1985, Pan Am 103 in 1988, and TWA 800 in 1996? And almost happen for UAL 811 in 1989, nine dead, where the only difference from the others is the nose did not come all the way off and only nine passengers were swept out of their seats to their deaths?

I say yes, yes, yes, yes and can document every step of the way. No exaggerations, no slanting; only facts and conservative logic. It is on my website. http://www.corazon.om You must review/scan/browse the pages for the explanation. It is all there.

I say this with a smile on my face to hide my fear, but this is a matter of life or death. Hundreds of these 747s are flying right now with the potential of the door to tear off and cause another large gaping hole in the side of the nose which may or may not lead to the destruction of the aircraft and the death of all aboard.

Sincerely, John Barry Smith call 4086593552

To: DICKINA@ntsb.gov
Mr. Dickinson, when a door/hatch/access panel/window is at the scene of a breakup, that door/hatch/access panel/window must be investigated. That is a basic tenet of crash investigation starting with the British Comet which had metal fatigue around the square passenger windows. The Comet is a good example of a mystery crash that could have been called a bomb but wasn't because of outstanding accident investigation. The Comet was another explosive decompression accident, just like Air India 182, Pan Am 103, and TWA 800 that looked like a bomb and wasn't.

The basic tenet of checking the holes in the hull near breakup is being ignored in TWA 800. The computer located scene of destruction in TWA 800 is the exact spot on the aircraft where the cargo door hole exists when the door comes off, as in UAL 811 picture, (http://www.corazon.com/). On the right side, forward of the wing is your location of destruction and the cargo door is right there. To not thoroughly investigate the forward cargo door is to betray the profession of aircraft accident investigation.

You are being handed the solution to three of the biggest aircraft crash mysteries ever, Air India 182, Pan Am 103, and now TWA 800. They were all brought down when the nose tore off when a huge gaping hole in the right side of their nose was exposed when the outward opening forward cargo door cracked open and tore off in the slipstream taking fuselage skin with it. UAL 811 is the key and your report of UAL 811 has the answers to TWA 800.
The question as to why the doors open is also mostly answered in the UAL 811 report which states on three occasions the doors opened uncommanded when an electrical short affected frayed wire bundles to the door.

Why this investigation is so important is that there are 747s still flying as we write that are at risk to coming apart. The NTSB is dawdling with bombs and missiles and other exciting stuff while ignoring the basics, mechanical failure. One such failure is door opening in flight.

My question is: why is such an obvious avenue of investigation not being pursued? It is so obvious that a mechanical cargo door system with two ADs against it found at the scene of the destruction must be ruled in or out immediately, and the fact that nothing has been mentioned about the defective item for seven weeks is very suspicious. Can it truly be ignorance? Are the wild goose chases of bombs and missiles really misleading you? Of course there was a fuel tank explosion; it happened later and five thousand feet lower; it is not the cause of the crash but an effect of what happens when a forward cargo door opens in flight, tears of nose, rest of plane disintegrates on the way down, just like Pan Am 103.

Does the claim of door for 103 scare you off? The bomb cause can easily be debunked by a careful review of the AAIB report on the crash. It is all there, it was a small blast after the door caused explosive decompression but the blast did not bring the plane down. It was a red herring which was followed by the avid bomb fishermen.

I was interviewed by Newsday recently for a story to run on Sunday and I go on the New York radio station WBAI again Wednesday night to talk about the cargo door theory. It’s only drops in the bucket to persuade the NTSB to go down the avenue of mechanical malfunction of the cargo door as cause.

You are the most important person there, can you request that
the door be ruled out as a cause just because it would be following good accident investigation procedure? The formal accident reports all have weather, crew experience, airplane flight hours, and any corrosion found, etc. It would be obvious to ask were there there any proven defective mechanical systems at the scene of destruction? Well, yes, there was, the forward cargo door. Was it ruled out?
The claim of the cause of TWA 800 being cargo door is being made by me, a commercial pilot, instrument rated, Part 135 certificate holder, military aircrewman and navigator, combat experienced, jet crash survivor, and internet user. My web site at http://www.corazon.com has hundreds of pages of documentation. This is a substantial effort on my part reflecting years of aircraft intelligence officer training and flying experience.

Why ignore an informed, concerned member of the public who is answering your agency's appeal for public help? This is not wartime with a secret airplane. This is peacetime with a civilian airplane. All the secrecy is not good. All the non interaction with the public is not good. Staged briefings are not good. Ignoring basic investigation procedures is not good.
The investigation of TWA 800 so far is not good and is shown by not having determined the cause seven weeks after the event. The cause is there; it is the inadvertent opening of the forward cargo door in flight, as has happened before, happened now, and will happen again.
John Barry Smith

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Thank you for saying thank you
Cc:
Bcc:
Mr. Dickinson, thank you for replying, my faith in a responsive government official to an informed concerned citizen is about to be restored.
I'm reading and re-reading your email very carefully. Permit me to be picky.
We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash.
To be specific:
1. Did you get the forward cargo door? Was the forward cargo door found closest to the event site indicating it came off with the first batch of debris? Initial news reports indicated this was so. Does the forward cargo door have the latch cams in the unlocked position while the lock sectors are in the locked position? That was the way of UAL 811. The FBI may have altered the position of the latches while examining for residue.
2. Do the main floor beams bend downward as in explosive decompression or upward as in bomb blast?
3. Does engine number 3 show EPR blip just before destruction, as did Pan Am 103?
4. Is radar blip anomaly of 800 on right side of track similar to Pan Am 103 just before destruction?
5. Is engine number three the only fodded engine? What kind of fodd? Pan Am 103 had engine cowling fodd also.
6. Does short loud sound of TWA 800 match short loud sounds of Air India 182, Pan Am 103, and UAL 811. Short loud sound on Air India is described in Canadian report as matching short loud sound of explosive decompression of DC-10. Do the unrecovered bodies match the seating of the unrecovered bodies UAL 811, and Pan 103, all of whom sat in about the same
rows at TWA 800.
In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event.
The event is catastrophic and almost instantaneous. The short loud sound indicates something happened. I offer door opened, tore off large patch of skin allowing 300 knot force air to blow out other side of fuselage tearing off nose severing power supply allowing only short loud sound of CVR and abrupt power cut on FDR.
A depressurization event most certainly would have been noted by the crew and recorded on the CVR.
Yes, sir, and only when the nose does not tear off and allows the copilot to report a bomb went off to the tower, as happened to UAL 811. The explosive decompression of door opening and the subsequent explosion of fuel air mix later mimic bomb. It is the classic red herring, in this case two red herrings.
When the depressurization event such as Pan Am 125 and UAL 811 do not tear nose off quickly the crew does notice comes around and lands safely. When an older airframe by 35000 hours (TWA 800 had 93000 hours) has door open, the nose comes off and there is no time for crew to talk about it or for cvr or fdr to record consequences.
We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter.
Thank you. Your questions indicate an open mind. Thank goodness this bomb/missile exciting nonsense is waning and the basic difficult work of real problems can be checked out. I realize
the immense implications of the cargo door and not bombs on Air India 182, Pan Am 103, and TWA 800. I can show cargo door on Pan Am 103 and debunk the bomb too, a mean feat. My web has the cold hard data and I invite you, sir, to peruse at leisure and respond with best criticism to my theory of frayed wire door control bundle, worn latches, damaged door cams, and fuselage flex and door motor gets power which unlatches door which pops open, tears out and up taking skin with it exposing nine foot by 15 foot hole which allows 300 knots wind force to blow in and blow out other side of fuselage tearing off entire nose to land in separate debris trail, allowing fuselage and wings to fall and disintegrate later and form own debris trail. The door opening caused explosive decompression which spewed baggage and passengers outside and then they were sucked into number 3 engine foding it. The door and debris are picked up on radar. That is the mold of UAL 811 into which the other crashes fit. The mystery now for me is why do doors open in flight? The web site has several possible explanations from cargo shift to VHF transmitters triggering power to door actuator. But that is conjecture.

To be sure, door openings have caused the noses to be torn off Air India 182, Pan Am 103, and TWA 800, and almost UAL 811. All the clues match. Why and when and how the doors opened is a current mystery. The cause is still out there and another early model 747 with outward opening forward cargo door may again disintegrate in flight. I suggest emergency AD to weld forward cargo door shut until investigation of TWA 800 complete and door is cleared or not cleared.

Mr. Dickinson, indulge me a primitive analogy: imagine a soda can with the tab pressing on round partially cut aluminum. Pressing thumb against round area inside scribe mark can not open can but once tab using lever action cracks scribe area, poof, soda/debris is ejected, and round area can now be pushed down/
open with little finger. Add a 300 knot slipstream on lip of area and you don't need little finger to push open, the air does. The integrity of the pressurized hull, soda can/747 is impeached by tab/door open and nature's laws take over, pressure equalizing, wind force, tearing action, weight; aerodynamic changes engineers never figured would happen and are not supposed to happen. Crack the pressurized hull of 747 exposing large nine foot by 15 foot hole, as in UAL 811, and by golly, nose coming off in ensuing 300 knot wind is plausible and warrants further investigation. Especially since that door has killed before for sure.

My morale is lifted significantly, sir, I now believe the investigation will focus on plausible reality and start ruling out mechanical causes. Let's put than damn door at the top of the list. Please visit my extensive web site at <http://www.corazon.com> I welcome comments and criticism. The cause must be found and quickly before it happens again.

Sincerely, John Barry Smith

9/19/96
To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: The Pattern, the Cause.
Cc: 
Bcc: 
X-Attachments:

Well, the first blush of excitement has passed after receiving a communication from you, a member of the investigation team. My quick reply was to establish contact and to confirm I am vitally interested in everything you have to say. Now that I am relaxed other thoughts have occurred to me.

Other ideas have been rebutted but one of mine has not. Can it
be rebutted? I offer the explanation of the streak being the cargo door ejected and spinning away from 800 just before destruction. I contend that at that altitude, 13700 feet, at 830PM on July 17th, past Long Island in lat/long that indeed a metal object spinning, descending, reflecting dusk sunlight, would be perceived as a streak by human eyes. If that can be rejected by sun angle, black non reflective door, too small, too high, too low, or whatever, please do it. If not, then please put the streak as door as a possible answer. Put it in the 'could be' category. The radar anomaly of 800 before destruction... can that be put in the 'could be' category also? Pan Am 103 also had the radar anomaly at same time. Would a metal object the size of a cargo door give primary radar return? I say yes.

I contend the door was seen visually, seen on radar, heard on cvr, and felt in engine number three. Please rebut if possible.

There is another angle that may put your hairs on end. Air India 182 and Pan Am 103 were transmitting on VHF when event occurred. Can you confirm for me what exactly the pilot/copilot of TWA 800 were doing at event time, to the second? If either of the flight crew were transmitting then something very very interesting is going on. Then confirm through raw notes, if you can, what exactly, to the second, the flight crew of UAL 800 were doing at the time the door tore loose. If transmitting then the clues point for certain to some interaction in the avionics bay between VHF power supply/transmitting antenna and door actuator motor. One plane transmitting at event is ordinary, Air India 182, two planes AI 182 and PA 103 is coincidence, three planes would be amazing and four would be a certain connection. I am very interested in the actions of the crews at instant of event. Were they transmitting?

This raises the other point I wanted to mention: The internet and hindsight have permitted me to look at the forest of early 747s crashes and see the pattern. Just looking at the tree of each crash
is not revealing. Each government, India, Canada, UK, and USA look at the fallen tree and can't explain why it fell so the political answer is given which is to offend the least and to benefit the most. In the case of Air India 182, Pan Am 103, and maybe TWA 800 that reason is outside evil forces such as foreign bombers. They did not have the advantage of hindsight and did the best they could.

The pattern is this, similar models of early Boeing 747s with outward opening doors have these documented events occur:

UAL preflight has uncommanded door opening traced to faulty wiring.

Pan Am 125 has uncommanded door opening in flight traced to faulty wiring.

UAL 811 has uncommanded door opening in flight traced to faulty wiring which leaves nine never recovered dead in certain seats, fod in number three engine, radar blips at destruction, short loud sound on cvr, abrupt power loss, explosive decompression in forward cargo hold, and crew thinking a bomb had gone off.

Pan Am 103 has event occur in flight near cargo door, leaving ten never recovered bodies in certain seats, fod in number three engine, radar blips at destruction, short loud sound on cvr, abrupt power loss, explosion in cargo hold, nose torn off, and people on ground thinking a bomb had gone off.

Air India 182 has event occur in flight near cargo door, fod in engines, short loud sound on cvr described as explosive decompression, abrupt power loss, explosion in cargo hold, nose torn off, and people on ground thinking a bomb had gone off.

TWA 800 has event occur in flight near cargo door, leaving so far seventeen never recovered bodies in certain seats, fod in number three engine, radar blips at destruction, short loud sound on cvr, abrupt power loss, explosion in cargo hold, nose torn off, and people on ground thinking a bomb had gone off.

The pattern is there, the links are there. It goes directly from
uncommanded door opening on ground with no damage to uncommanded door openings in flight with total damage. There are more potentially relevant clues which fit the pattern of UAL 811, night takeoffs, talking on the radios, sequence of destruction, bent floor beams, similar damage to tail and wings, deployment of oxygen masks, and blow out of pressure equalizing doors in fuselage and door.

The forest of six linked fallen trees make up the forest. One fallen tree is explained. By looking at the other trees alone the cause is unknown but looking at the forest of them all the cause is plain to see because the pattern matches the explained fallen tree.

That's why, sir, I have been able to connect the crashes to determine the common cause as inadvertent opening of the forward cargo door in flight.

Debunking the bomb in 103 is relatively easy now that TWA 800 evidence has shown that traces of explosive on fragments can be benign. There was a blast in the cargo hold of 103 but not a bomb big enough to bring down the plane. It was another red herring. My web site provides pictures of the reconstruction of 103 to see the pattern of destruction starting at the cargo door. The text of the UK report also describes the mild blast in the cargo hold.

Regardless, the issue at the moment is the cause of the crash of TWA 800 and I propose a full effort to rule out or rule in the forward cargo door, that villain with three ADs against it who has killed nine already and was near the scene of the recent crime. The messenger, me, should not be confused with the message, cargo door, but the messenger must be considered so here I am:

Regarding airplanes: models at 12, control line models at 13. Navy enlisted aircrewman at age 17-21 operating, maintaining avionics and radar on P2V antisubmarine plane, two burnin' and two churnin', Navy officer navigator bombardier on twin jet
carrier RA5C age 22-26, private pilot, then commercial pilot, instrument rated, with Part 135 certificate holder. Air intelligence officer in Navy Reserve.
Involved in fatal jet crash, on web site as crash of Buno 149314. US Army major as audiologist retiring in 1984.
I have to get the information out and web site is mode of the day, six years ago it was newsletter when I was president of EAA chapter 204 when I first published column stating 103 was not bomb but cargo door. Then writing letters in 1992 to Flying magazine where editor commented on my theory. Writing to insurance agency in 1995. Finally, the internet! With search engines and email and ftp and web sites.
So either stone tablets, hand press, or skywriting, the story will go out, inadvertent opening of forward cargo doors in early model 747s is causing catastrophic crashes. Fix the doors; weld them shut. Now. Please.
I predicted a crash like TWA 800 in writing in 1990. It happened, I don't want it to happen again.
Mr. Dickinson, I again invite you to my extensive web site with official accident reports of Air India 182, UAL 811, Pan Am 103, Navy 149314, and news reports of TWA 800. There are also a few fiction stories regarding this matter written to relieve my frustration in getting through to important official government agents, such as yourself. Your opinion counts much more than mine or the press. I really want to know what you think about this cargo door theory.
Another idea to throw out is to put video cameras in the cargo holds of early model 747s and watch how the door moves in and out during pressure changes. It may move a lot or not at all. If it fluctuates at all then something is wrong such as loose latches or worn cams, just waiting for door open motor to turn on for a few seconds, enough to crack the door to allow the slipstream to tear it away...
Mr. Dickinson, as a retired military officer, a middle class family man, aviation enthusiast, I offer the feet on the ground documented cause of door popping open when it shouldn't as cause of crash of TWA 800 and others. Please reply.
Sincerely, John Barry Smith

From: Dickinson Al <DICKINA@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: mechanical crash cause
Date: Thu, 19 Sep 1996 19:04:00 -0400
Encoding: 129 TEXT
Status:

Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access panel-windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been noted by the crew and recorded on the CVR. We will continue to look for any indications leading to the source of the event and definitely pay attention to items mentioned in your letter. Thank you for your interest in aviation safety.
To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Cargo door, what else?
Cc:
Bcc:
X-Attachments:

Mr. Dickinson, your 'Thanks for your interest in aviation safety' bromide triggered off this email. I needed the kickstart. John Barry Smith

Robert Francis, Vice Chairman, National Transportation Safety Board, Wash, DC webmaster@ntsb.gov
Ron Schleede, Investigator, National Transportation Safety Board, Wash, DC webmaster@ntsb.gov
Al Dickinson, Investigator, National Transportation Safety Board, Wash, DC webmaster@ntsb.gov
Robert Knight, Producer/Host Earthwatch, WBAI, New York City, USA, rknights@escape.com
Mike Busch, Editor-in-Chief, AVweb, AVsig member, Cyberspace, editor@avweb.com
Nick Fielding, Reporter, Mail on Sunday, London, UK, msnews@mailonsunday.co.uk
Byron Acohido, Reporter, Seattle Times, AVsig member, Seattle, USA, baco-new@seatimes.com
Bob Kaputa, Managing Editor, AVsig member Cyberspace help@avweb.com
Jessica Kowal, Reporter, Newsday, Long Island, USA, plugin@newsday.com

Messrs. and Ms. Francis, Schleede, Dickinson, Knight, Busch,
Fielding, Acohido, Kaputa, and Kowal,  
23 Sep 96

I have established contact via email with you before so I know you are receiving my information. Mr. Kaputa and Mr. Francis have direct conversation links to Mr. Busch and Mssrs, Schleede and Dickinson so are included in this email.

Determining the cause of the crash of TWA Flight 800 is urgent. Several hundred of the same type of early model Boeing 747 are flying with passengers as I type. The US government flies four E-4B and Air Force One, all modified Boeing 747-200s. All those 747s are at risk from a cause officially unknown at this time.

I know the cause. It is the inadvertent opening of the forward cargo door in flight. This cause is documented at my website <http://www.corazon.com> with over 50 megabytes of data extracted from four government accident reports, news articles and based on thirty five years of flying experience.

You have sent me emails regarding this possible cause. Your replies would be adequate from a layman who has a passing interest in plane crashes but totally unsatisfactory from aviation career professionals or investigative journalists.

Let's go through them, it shan't take long.

"From Mr. Schleede on 29 July 96:  
Be assured that we are checking that. I was the investigator in charge of the UAL flight 811 case and fully knowledgeable in its causes and factors.  
Thanks for the interest.

--------

From: barry
To: schledr
Subject: TWA crash cause ATTN Robert Francis
Date: Sunday, July 28, 1996 9:58AM
Mr. Francis. The reasonable cause of the TWA crash is the inadvertent opening of the forward cargo door. That is the mechanical cause that must be ruled out. Compare to United Flight 811 of Feb 1989."
end email.
Well, Mr. Schleede, I am not assured you are checking that, in fact, I am quite unassured you are not checking that.
Another email:
"From: Schleede Ron <SCHLEDR@ntsb.gov>
To: barry <barry@corazon.com>
Subject: RE: TWA crash cause
Date: Sun, 11 Aug 1996 11:39:00 -0400
Encoding: 13 TEXT
Status:
I have examined the cargo door from twa 800--it is locked and latched!"
end email.
Mr. Schleede, there are three cargo doors on 800, you never replied to my question of which one; did you check?
an email from Mr. Dickinson:
"Mr. Smith, thank you for your message concerning the TWA 800 crash investigation. We have recovered many of the door/hatch/access panel/windows from the sea floor and none of them indicate that they came off the aircraft prior to the event which lead to the crash. In addition, both the CVR and the FDR do not have any information that indicates any of the above things departed the aircraft prior to the event. A depressurization event most certainly would have been
noted by
the crew and recorded on the CVR. We will continue to look for any
indications leading to the source of the event and definitely pay
attention to items mentioned in your letter.
Thank you for your interest in aviation safety."
end email.
Mr. Dickinson, thank you for your interest in aviation safety.
Spelling error indicates you never proof read your email and two verb tense errors indicate you may not know better. And yes, the crew would have noticed depressurization event when their eardrums blew out. Did you check their bodies for baro-trauma? And yes, the event was recorded on the CVR as short loud sound.
email from Mr. Busch:
"Speculation like this is fascinating, but it has no place in responsible reporting. As a journalist, I have to grit my teeth and wait until sufficient hard data is available to draw a conclusion."
end email.
Like another mystery crash and 300 more dead to add to the 838 dead and four crashes already, before sufficient hard data is available to draw a conclusion?
an AVweb ezine comment:
"This one could find its way onto "The X-files." Speculation that an errant missile launched by a U.S. warship or aircraft downed TWA 800 abounds in cyberspace; ditto theories purporting that a baggage door came open in-flight, or that ET did it -- actually, that a meteorite pierced the plane. Of course, it's all being covered up by the government, many say."
end excerpt.
Between a missile and an alien fits the cargo door; birds that fly together flock together, weirdos love company.
an excerpt from print article, Ms. Kowal, "Smith, who said he has been "sensitive" to doors since his finger was slammed in a car door when he was 5-years old, has contacted the White House, FBI, FAA, Air Force, NTSB, and airline insurance companies to alert them to his view of the problem."
end excerpt.
Well, I knew that when the questions referred to my smashed finger and ignored 800 dead persons, this was not a serious interview, and I never said "coverup."
an email from Mr. Acohido: "I agree your thesis is plausible."
end excerpt of email.
What? What? Plausible? And then Mr. Acohido asked reasonable, relevant, and probing questions regarding that thesis. Hope lives!
an email from Mr. Knight. "This is one of the most cogent malfunction scenarios I have encountered so far, especially since the detail reported by REUTERS, the NY Times and others on 30 Jul 96 that a cargo door fell into the sea well ahead of the fuselage and the decapitated cabin of TW800."
Ah! Articulate reasoning!
Yes, gentlemen and lady, hope lives that reason, logic, and clear thinking will prevail and the truth of the cargo door will emerge, one way or the other.
See, if I'm wrong, and I could be wrong about the cargo door cause, no one dies. If you are wrong, someone dies. And will, the clock is ticking.
The time between Pan Am 103 and UAL 811 was 65 days. The time between uncommanded door opening of UAL preflight and TWA 800 was almost five years. It's been 77 days since TWA 800 and counting as I type this.

I'm assuming you know about the uncommanded cargo door opening of June 13, 1991, on a UAL preflight where the cargo door started to open by itself and the ground crew could not stop it until the circuit breakers were pulled in the cockpit? Put that on the list of times the door opened when it shouldn't. The list includes that one plus Pan Am 125, UAL 811, Air India 182, Pan Am 103, and TWA 800.

Well, maybe you don't know about it. I'm assuming that government officials assigned to investigate one of the more serious accidents to occur in the country's history are well qualified by education, experience, and demeanor. But I could be wrong. The evidence as shown by correspondence is of inarticulate, incoherent bumblingers who don't have any focus on what they are doing. At best the response to detailed and reasonable documented evidence about the accident cause presented by an informed citizen responding to a public appeal for help has been a vague brush off. I am left with the impression that the priority of government investigators is not the urgent mystery solution but figuring out how to get on the next boondoggle flight to London, or Paris, or Athens. What is the per diem in Paris, anyway, must be a bunch.

The press, ah, the press. Gives me chills to think of the First Amendment. And stomach cramps to realize what that means in reality. It means that the press is now a shill to government press releases and a copy machine for TV sound bites and photo ops. I'm assuming that press and radio reporters are interested in their subject, curious, and feel satisfaction when presenting all aspects of an issue. But I could be wrong. The evidence as shown by correspondence and several articles is of meek, narrow minded,
uninformed sensationalists. (With one exception yet to be fully tested and one still on the fence.) I am left with the impression of reporters who look at computer screens and cut and paste what other reporters have cut and pasted from manufacturer and government pufferies. As soon as an original idea passes into your consciousness you cut and run. Safer on the fence, in the cave, don't commit.

You are not doing your job, gentlemen and lady. You are failing. You are betraying your professions. You are living a lie. You have had your asses kissed so often you think your shit don't stink.

The proof is that today, this minute, the cause of the crash of TWA 800 is officially unknown. The proof is that today, the only explanation given any depth of investigation in the papers, ezines, TV, and radio is bomb, bomb, bomb. One focus, one failure, and that's it. 77 days and 7 million dollars and what do you have? Another day older and deeper in debt.

OK, let's sit down and have a meeting now that the pleasantries are over.

It's a round table. My name is John Barry Smith. We've all flown supersonic in combat, ejected from flaming jet aircraft, landed on pitching carrier decks at night, flown passengers for hire, written aviation articles for pay, and constructed extensive web sites on the internet, haven't we? Oh, we haven't? Am I the only one to have done all those things? Well, then I guess I will open the meeting.

I've discovered something. I didn't invent it. Through hindsight and the internet I've discovered a link to several Boeing 747 crashes over a period of eleven years. It is the inadvertent opening of the forward cargo door inflight. It is a common type of mechanical malfunction. It has happened before on this type aircraft. The event is well documented on cockpit tapes and data
recorders. The consequences of the event are clearly shown on wreckage. The event has been seen visually, tracked on radar, heard on audio tapes, felt by engines and passengers bodies, and thought about by many people.

It is a mystery no more. The cause of the crashes of Air India 182, Pan 103, UAL 811, and TWA 800 was the forward cargo door opening outward when it shouldn't, tearing off skin forming nine foot by 15 foot gash in the side of the nose of the early model Boeing 747 allowing a 300 knot airstream to flow into the fractured and broken floor beam compartments and snapping off the nose leaving a short loud sound of explosive decompression on the audio tape, abrupt power loss to data recorder, foddling of number three engine, and at least nine missing bodies.

After we get over the mental hurdle of the cargo door causing the crashes, the next mystery is why do the doors open inadvertently. There are twelve possible reasons and many more to be discovered. That is the proper focus, why do doors open?

But back to the cargo door cause. What is it that makes you reluctant to consider the door as culprit? Too ordinary? Not exciting enough?

I think of a musical hook in a song...what can be the hook for the cargo door theory. It is not enough to discover a great truth, but it must be presented in a persuasive manner.

The O rings were put into a glass of ice water to show brittleness.

I can use a soda can as a pressurized hull. If the integrity of the can/hull is not cracked, it is impossible to open can/hull by pressing down with fingers/wind on round drink opening. But when cracked by tab lever/open door, the soda/baggage spews out into face/engine 3. Then the cracked drink hole/nose can be easily pushed open by finger/airstream.

You are not plumbers who know not the force of 300 knot slipstream. You are not a movie viewer who watches Arnold
Schwartzenegger in movie "Erasers" holds on to the outside of a flying jet passenger airplane with his bare hands and believes it. You know that 300 knots of slipstream is twice as much force as any natural force on earth, twice as powerful as the recent hurricane Fran that tore roofs off and leveled houses. And they were sealed up.

You are not the car driver who hears baggage door and thinks car trunk. You know that a forward cargo door of a Boeing 747 is huge, eight feet by nine feet, and when that poorly designed door opens outward into the 300 knot slipstream it gets torn up and away leaving an even larger nine foot by fifteen foot hole in the nose. When the combination of the large hole and forceful air come together, the nose gets snapped off in an instant.

The picture of UAL 811 with the huge gash in the nose after it landed may be the hook for you, but not for me. For me the connecting event which ties it all together is the .6 second loud sound on the cockpit voice recorders. This is the link inside the links.

It started with the DC-10 cargo door explosive decompression event recorded on tape. That short loud sound matched the short loud sound on the cockpit tape of Air India 182. The short loud sound on the tape of Pan Am 103 and TWA 800 are similar also. The loud sound does not have the short rise time of a bomb explosion. The sound is followed by an abrupt power loss. The sound is explained by acoustic experts as describing a structural breakup or explosive decompression.

Structural breakup or explosive decompression is what happens when the forward cargo door comes off in flight based upon the events of UAL 811.

Once the link of the short sound and abrupt power loss connects AI 182, Pan Am 103, and TWA 800, then the similarities of the consequences match UAL 811 which is a confirmed, explained forward cargo door opening in flight with foded engines,
missing bodies, wreckage patterns, radar blips, and breakup locations.

What else is there, gentlemen, before you start a vigorous investigation? Can you overcome the horror of falling down into the abyss of killing men woman and children by incorrectly giving accident cause of Air India 182, Pan Am 103 and maybe TWA 800 as bombs? Are you afraid of the dominoes falling on you as the cargo door cause ripples out to Boeing, FAA, DOT, the President, NTSB, FBI, and the airlines?

Maybe you are and maybe you shouldn't be. The government system gives you protection to defend you against that fear. The NTSB is an independent board aloof from political influence. The press is protected by the First Amendment which allows conjecture, speculation, and hypothesizing without fear of censorship.

The two institutions you represent, the press and independent boards, are acting as if the police were standing outside your offices with handcuffs.

And that's why it is always the guy in the converted garage, me, who finds out all this interesting neat stuff first, before the guys who are supposed to find it first and tell all these rest of us about it.

Facts, facts, facts. My hypothesis, which is documented by facts, is never rebutted by facts but by attacking the messenger. Hey, easy target, this messenger is telling you unpleasant truths, not the pleasant lies you are used to. The type of messenger who tells unpleasant truths, me, is not the kind of guy you like and want to be friends with. So what? You're not gonna like me anymore? You never liked me, so what? Cargo doors don't fall in love and they don't read Airworthiness Directives.

I assume you know about AD 88-12-04 ("To Insure That Inadvertent Opening Of The Lower Cargo Door Will Not Occur In Flight,"") issued on May 13, 1988? And (AD) ADT 89-05-54
which superseded AD 88-12-04?
Ah, the cargo door, protected by friends in high places, Boeing; convicted of killing nine in UAL 811, suspected as culprit in AI 182, ignored as suspect in Pan Am 103, and idly mentioned in TWA 800 although the villain was on the scene of the crime, as stated by investigators, forward of the wing on the right side, and left first.
The invisible suspect: A great big hunk of malfunctioning piece of aluminum complex mechanical system that happens to be right there at the scenes of destruction of similar model aircraft, forward cargo hold Air India 182, forward cargo hold Pan Am 103, forward cargo hold TWA 800.
Well, let's us the word coverup here as a word to consider. I reject the word. I believe from day one there is no coverup, no plot, and no conspiracy to protect the killer from identification.
The reason the obvious suspect has not been fully investigated is blind self interest by the detectives and fear of their supervisors who definitely do not want the suspect named. The President of the United States, the boss of all of us has stated, "These terrorist acts..." referring to the Olympic village bombing and the crash of TWA 800. He thinks it's not a cargo door. He thinks it's a bomb; who are we to disagree with a person who holds our lives in his hands?
Well, I do. Mr. Clinton is not a pilot, he's not a sound expert, he's never crashed in a plane, he's never stuck his hand out into a fast moving slipstream while flying, and he's not an avionics technician. Well, I am, and I disagree that it was a terrorist act. It was not a bomb or missile or alien. It was the inadvertent opening of the forward cargo door in flight. Of course the President does not want a cargo door fault, he's a politician and this cargo door cause is trouble politically. Well, too bad, that's his problem and his job to solve it. My problem is to find out why TWA 800 crashed and I solved it.
You can too. This is how. Go to the website at http://corazon.com and review the literature. I've just added about thirty pages from the Canadian and Indian accident report of Air India Flight 182. The documentation for the description of the short sound as explosive decompression and not bomb sound is there on page 23.

Obtain the thick official accident reports from the governments of US, Canada, India, and UK.

http://www.open.gov.uk/aaib/aaibhome.htm will lead you to 103.
http://bst-tsb.gc.ca/english.html will lead you to 182
http://www.ntsb.gov/ will lead you to 811

I encourage the NTSB to put technical data of the 800 crash on the TWA 800 link on the NTSB homepage; things like engine breakdown info, wreckage plot of items found, cvr and fdr tape printouts.

Compare all the many similarities in the reports to all the crashes: loud sound, type model A/C, fod, wreckage, passenger injuries, missing bodies, abrupt power loss, crew activity, destruction datum, and many many more, some trivial and some possibly significant. The crashes of UAL 811, AI 182, PA 103, and TWA 800 are inextricably linked together by many clues and one event, the inadvertent opening of the forward cargo door in flight.

Get to where I am on the mental ledge to the peak of understanding these crashes, the door openings are causing the crashes but why do the doors open when they shouldn't? Could be bomb, could be cargo shift, could be transient electronic interference to door motor, could be nine other possibilities and I want to hear more.

Review, investigate, think, write, discuss, conclude, commit. Get to it.

See, gentlemen and lady, if I am wrong, I am the bad person and I'm sorry. If you are wrong, people die, you are the bad persons
John Barry Smith, Amateur Sleuth
SSN: 562 58 2308
Phone: 408 659 3552
email: barry@corazon.com
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Carmel Valley, CA 93924

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Re-create streak
Cc:
Bcc:
X-Attachments:

To re-create streak, charter C-130, take up some old cargo doors, open back cargo door (the way cargo doors should be), determine time that would match sun angle from July 17 to present time, get to 13700 feet, up to 300 knots, toss out door, make another pass toss out door, ask witnesses on ground if they saw streak. I say yes. John Barry Smith

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Cargo door theory waiting in line
Cc:
Bcc:
X-Attachments:
Dear Mr. Al Dickinson and Mr. Ron Schleede, John Barry Smith here waiting patiently in line for my theory to be considered as a cause for TWA 800. I've watched as bomb came and went, missile came and went, fuel center tank came and went, and now toying around with unexplained. Is it my turn yet? The cargo door theory? Well, there is no conspiracy, no coverup, no plot to conceal the truth of the cause of TWA 800, it's just a matter of time, of waiting my turn. Is it the cargo door turn yet? Please call me when it is. I know you will leave no stone unturned in your pursuit of the true cause of that crash.

How about pilot error? I personally believe not but it must be considered and ruled out because it is the number one cause of all aircraft accidents. Can a pilot crash a 747? Of course by flying straight down to the ground. Can a pilot crash a 747 and leave the clues left by TWA 800? Radar blips, short loud sound, fodded engine, abrupt power loss, nose torn off, and streak? I say no but let's look. Let's say a pilot jammed full left rudder, pulled the stick all the way aft, gave full right wing down on yoke, and then pulled power all the way back to idle. Plane yaws left, goes nose up, right wing down, stalls, spins, crashes but not in .6 second of loud sound on tape and abrupt power loss on flight data recorder with nothing unusual before that. So, I say that after consideration there is no way a pilot or flight crew member can cause a 747 to destroy itself within the evidence constraints of TWA 800. The cargo door can.

The mechanical malfunction that you have been saying for two months is the right answer. You have the right answer. Cargo door. Pictures on web site www.corazon.com from your report, NTSB on UAL 811 show it all.

Let the cargo door have its turn in the spotlight. Offer it up for consideration as a plausible mechanical explanation for TWA 800.
I have been reading about another theorist about the cause and he said he had a vicious exchange with NTSB investigators. Well, that's not right. I was wrong also. I couldn't help it. If you believed you knew the cause of airplane crashes and the cause was still there and could happen any minute, then you would be impatient too.

So, I am patient, is it cargo door turn yet?

FBI said bomb, you said maybe mechanical and you are right. You have always been right. It is mechanical and specifically, the door closing and opening mechanism on the forward cargo door. I await the cargo door turn for investigation. Sincerely, John Barry Smith

Oct 96
To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: A lawyer from Justice has the answer!
Cc:
Bcc:
X-Attachments:

What is going on here? The Justice Department is now making decisions about TWA 800? And she's right! How about a nine foot by 15 foot hole could cause a crash...and did...when the forward cargo door opened in flight. Is the cargo door turn yet to be investigated? Is bomb done, and missile done, and unexplained done, and center fuel tank done? Time for the obvious yet?

John Barry Smith

WASHINGTON (Reuter) - Investigators may dredge the Atlantic Ocean floor for more wreckage of TWA Flight 800 in an effort to learn what caused the plane
to crash, U.S. Deputy Attorney General Jamie Gorelick said Thursday.

"We are considering dredging," she told the weekly Justice Department news conference when asked about the investigation into the July 17 explosion of the Paris-bound jetliner shortly after takeoff from Kennedy International Airport.

"Even a small hole in the plane could cause the crash...and it is for that reason that recovery of as much of the plane -- wreckage -- as possible is necessary," Gorelick said. She added that it could be an eight-inch or 10-inch hole.

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Mantra
Cc:
Bcc:
X-Attachments:

"It's looking more and more like mechanical failure because of the lack of other evidence," said one senior law enforcement official. "It's important to understand that the NTSB is not just chanting a mantra when they say they are looking into mechanical causes."

Mantra, cargo door, cargo door, cargo door...
Mechanical causes is plural, fuel tank explosion is singular, what other mechanical causes are you looking into? A nine foot by 15 foot hole in side of nose at 300 knots? Called the cargo door theory?
Well, still waiting patiently in line for cargo door theory turn.
I got the following off your web site...

The Safety Board conducts an accident investigation in a public environment. For a major accident, press briefings are held on scene in the days immediately following the accident. A public docket containing factual information about the accident is available within a few months. Usually within a year, the Board Members will review a draft of the accident report in a public meeting at Safety Board headquarters in Washington, D.C. Soon after the meeting, the Board's Public Affairs Office issues an abstract containing the Board's conclusions, probable cause statement, and safety recommendations from the accident report. The final report of a major accident is subsequently printed for public distribution.

Looking forward to the public docket and public meeting in DC. Do you take questions from the floor, like cargo door cause? Check it out, that's all the request is and will be. Check it out.

John Barry Smith

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Mechanical cause Cargo Door
Cc:
Bcc:
X-Attachments:

Yes, it is a mechanical problem.

Please examine cargo door for steel rods to confirm AD 88-12-04 complied with on TWA 800.
Please examine cargo door for status of cam latches, unlocked or locked.
Please examine cargo door lock sectors, unlocked or locked.
Please note condition of cargo door, in how many pieces.
Please note position of cargo door when found, close to event site or far away.
John Barry Smith

Dr. Bernard S. Loeb, director of aviation safety for the National Transportation Safety Board, reflected the new stance of many in his agency
when he said last week that the missile and bomb theories were now "lower probability." He added, "That means there is a higher probability
that it's a mechanical issue."

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: balloon popping, public docket, cargo door
Cc:
Bcc:
X-Attachments:

Mr. Dickinson, a hole is cut in a balloon. A patch is put on the hole in balloon. The balloon is blown up and deflated 20000 times. The next time the balloon pops. The site of the popping is at the patch. The patch has trouble before. The patch is not examined? The patch is not examined closely? An experienced balloon investigator would go right to the patch as the cause of the popping and rule it in or out. And check out previous balloon poppings.
Please examine forward cargo door for steel rods to confirm AD
88-12-04 complied with on TWA 800.
Please examine cargo door for status of cam latches, unlocked or locked.
Please examine cargo door lock sectors, unlocked or locked.
Please note condition of cargo door, in how many pieces and if skin attached to it.
Please note position of cargo door when found, close to event site or far away.
John Barry Smith
When will the public docket be available?

The following was emailed to me.

Yesterday, Tuesday

At Boeing Commercial Aircraft, The 747 engineering team discounted any possibility of a center or other fuel tank problems as a failure site for TWA:800..

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: rebuild cargo door area
Cc:
Bcc:
X-Attachments:

Alfred W. Dickinson, the lead investigator on the crash for the National Transportation Safety Board, said examining a rebuilt plane would give investigators a different perspective from examining
Yes, and be sure to rebuild the forward cargo door area, just like Pan Am 103.

Reasons why center tank fire not initial event but happened later.
1. Center tank fire would give equal destruction to both sides of aircraft, not right side as reconstruction will show and early evaluation reported. More severe right side damage is consistent with open cargo door and other 747 cargo door crashes.
2. Wreckage trail would be one big one, not two trails with one small with nose inside closest to event site, and the other large and further away which is consistent with cargo door opening and similar with other cargo door 747 crashes.
3. All engines would be foddled equally and they aren't.
4. CVR and FDR would be different than that which exists now, which match other 747 cargo door crashes. TWA 800 should match Iran 747 center tank fire but won't. Also destruction pattern of Iran 747 is different than 800, wreckage pattern is different with left wing apart from rest of debris.
There was a center tank fire but after the initial event which was prime suspect cargo door doing what it has done before, opened in flight, causing nose to separate and rest of fuselage to fall and disintegrate into fuel vapor and spinning hot jet engines.
5. Eyewitness reports of fireball at 7500 feet and initial event at 13700 feet.
6. Fire evidence would be on nose section and isn't because nose separated before fire happened.

The final Pan Am 103 report had the radar anomaly just before destruction, is TWA 800 going to report the same anomaly? The Pan Am 103 reconstruction had the entire fuselage including the forward cargo door, is TWA 800?
Pan Am 103 omitted the condition of the forward cargo door but did report the status of the CRAF door and the aft door, is TWA
800 going to omit that vital data also? Maintenance history was omitted in Pan Am 103, is TWA 800 going to omit that also? A first order of business when an aircraft breaks up in flight is to locate locus of damage. When that site is near a large door known to have failed before with deathly results the maintenance history of that particular door must be investigated for compliance with ADs and previous gripes against the door.

1 Was TWA 800 in compliance with 88-12-04?
2 Did it have previous cargo door gripes against it?
3 Were the lock sectors locked and the cam sectors unlocked in the door? The door has been recovered in pieces, why not walk out there and check the door cam and lock sectors.

The cargo door theory relies on facts and things which can be checked. Why have you not checked out the matching CVR tapes to UAL 811, AI 182, PA 103, and the explosive decompression of a DC-10 which was matched to AI 182 which was matched to PA 103 which matched to TWA 800?

Is the horror of a structural defect in a production aircraft so horrible that it can't even be checked out and the wishful thinking cause of a one time cause driving on the investigation?

To not consider the cargo door seriously as the cause of TWA 800 is more than oversight, more than negligence, it would be intentional, and I can't believe that. John Barry Smith

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: One Consistent Theory, Cargo Door
Cc:
Bcc:
X-Attachments:

From day one, July 18th, one crash cause theory has been
consistently correct, inadvertent opening of the forward cargo
doors in flight. It fits all the evidence as it becomes available
during the investigation.
1. Radar anomaly just before destruction...cargo door spinning
away within primary radar range.
2. Streak...cargo door spinning away at dusk at 13700 feet.
3. Short loud sound on CVR, explosive decompression sound
matches PA 103, which matches AI 182 which matches DC-10
cargo door explosive decompression on CVR.
4. Abrupt power loss on FDR indicating nose separating instantly
which would occur when nine foot by 15 foot gash is exposed
when cargo door rips away and allows 300 knot slipstream to
enter.
5. At least nine missing bodies sitting in same general area above
and aft of cargo door which indicates bodies swept out and into
jet engines vaporizing bodies which can't be found even after
extensive, lengthy, and comprehensive searches.
6. Fodded engine number three when cargo door opens and jet
sucks in contents.
7. Two wreckage trails, one of nose and the other of rest of
aircraft which indicates nose came off first when decapitated by
300 knot slipstream into gash.
8. More severe flying object damage on right side of aircraft, the
cargo door side.
9. Locus of destruction above and forward of the wing on the
right side, exactly where the hole appears when cargo door rips
away.
10. Fire in center tank after nose separates and rest of severed
fuselage and disintegrating wing fall into ball of fuel vapor and
spinning jet engines.
   Gentleman, Dr. Bernard Loeb, Mr. Alfred W. Dickinson, Mr.
   Ron Schleede, let me use this use of cyberspace to address you
directly. TWA 800 is a tree in a forest of four; TWA 800, AI 182,
PA 103, and UAL 811. Lift your gaze up from TWA 800 to the other crashes.

How many Boeing 747s have ever crashed and left a short loud sound on the CVR? Four. AI 182, PA 103, UAL 811, and TWA 800.

How many Boeing 747s have crashed, left a short loud sound on the CVR and then had an abrupt power loss? Four. AI 182, PA 103, UAL 811, and TWA 800.

How many Boeing 747s have crashed, left a short loud sound on the CVR, had an abrupt power loss, and have at least nine never recovered bodies? Four. AI 182, PA 103, UAL 811, and TWA 800.

How many Boeing 747s have crashed, left a short loud sound on the CVR, had an abrupt power loss, had at least nine never recovered bodies, had high flight time airframe, fodded engines, and outward opening cargo doors with four Airworthiness Directives? Four. AI 182, PA 103, UAL 811, and TWA 800.

How many Boeing 747s have totally destructed, left a short loud sound on the CVR, had an abrupt power loss, had at least nine never recovered bodies, had high flight time airframe, fodded engines, outward opening cargo doors, and left two wreckage trails? Three. AI 182, PA 103, and TWA 800.

AI 182, PA 103, and TWA 800 are three similar trees in the forest of crashed and destroyed Boeing 747s. They have the same cause.

The cargo door must be thoroughly investigated as the cause since it is known to be defective, was at the scene of destruction, and when it malfunctions can cause the total destruction event.

When the cause is determined to be the cargo door the credit for the discovery can go to the experts in AI 182 investigation in 1985 who suggested the loud sound on the CVR matches the decompression of the DC-10 and the sound would occur in an explosive decompression such as an opening forward cargo door.
The cargo door idea existed in 1985 in the official report of AI 182. The expert was right then and I am right now and you can be right tomorrow.

You have said, and I have said, since day one this TWA crash cause could be mechanical. We are right. Now that the sabotage and accidental shooting have been ruled out, the mechanical takes center stage. Yes there was a fire, but after the event of door opening which occurred after the initial event of...ah, the mystery to be solved...why the doors are opening inadvertently. UAL 811 has several possible reasons, one of which is electrical short. Many questions are raised on the issue though, why and when does the door become unlocked? There is a sticky issue and worthy of the best aircraft investigators in the world, far above my humble observations.

So, as a 35 year aviation professional, a jet crash survivor, and an informed member of the public answering a call for help made by the authorities, I, John Barry Smith, urge you gentlemen, Dr. Bernard Loeb, Director, Office of Aviation Safety, NTSB; Mr. Alfred W. Dickinson, lead investigator-TWA 800; Mr. Ron Schleede, investigator-TWA 800; check out the forward cargo door.

John Barry Smith

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Now try cargo door theory
Cc:
Bcc:
X-Attachments:

Flight 800 Fuel Probe Shows No Sign of Sparks
7:55pm EST, 10/30/96
NEW YORK - Tests on two sections of fuel probes from TWA Flight 800 that might have provided clues to why the plane crashed in July revealed no signs of mechanical failure, investigators said Wednesday.

The two sections showed no evidence of electrical arcing, or sparking, which would have indicated a power surge in the Boeing 747's center fuel tank.

Mr. Dickinson, now will you try out the cargo door theory? No bomb, no missile, no ignition source for initial fire event, now to alternative mechanical problem, inadvertent opening of forward cargo door in flight. John Barry Smith

November 1996

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: clues and money
Cc:
Bcc:
X-Attachments:

WASHINGTON, Oct. 31 (UPI) _ Investigators are searching (Thursday) for new promising clues to what destroyed TWA Flight 800 after two fuel probes showed no signs of having caused the deadly explosion that killed 230 people. The probes,
which carry a tiny electrical current, had been considered a possible source of a spark that could have caused the 747's center fuel tank to blow up.

Yes, Mr. Dickinson, new clues. New clues match old clues in other Boeing 747 accidents, CVR, FDR, missing bodies, inflight damage, destruction start location, foddred engines, missing bodies, and unlocked cam sectors, and are the same for the crashes. Same everything. New clues can be found in the official accident reports of Air India 182, Pan Am 103, UAL 811 which are on my web site and available for review at a click. The new clues are there.

The sudden loud sound on the CVR of a DC-10 explosive decompression is matched to Air India 182 which is matched to Pan Am 103 which is matched to TWA 800. The clues and links are there to show the cause of the crashes was the inadvertent opening of the forward cargo door in flight.

Now is the time to investigate the cargo door as initial cause.

Î Î Î SMITHTOWN, N.Y. Ñ The cost of the TWA Flight 800 investigation has ballooned to $23.9 million, four times the amount Congress set aside for the non-criminal side of the probe, according to documents and sources.

Mr. Dickinson, instead of blowing up a plane, take just the cargo doors and throw them out of a C-130 at 13700 feet at the same sun angle as July 17th at same location and observe streak as door spins away in the setting orange sun. Also observe on radar as spinning door gives strange radar anomaly return on scopes. Time to get to square one and do research. Compare official government safety agency reports of AI 182, Pan Am 103, UAL 811, and TWA 800 all side by side and note similarities of CVR, FDR, FOD, damage start location, missing bodies and seating, and inflight damage sequence on right side, the cargo door side.
Time for a scholarly approach to solving mystery. My web site has charts with all similarities shown. It is remarkable, either they were all brought down by bombs, center tank fires, or cargo doors but it is one cause for all four.

A forward cargo door investigation can be justified to save money as cheaper to check out and it is reasonable to investigate a previously malfunctioning complex mechanical object close to scene of destruction.

As you reconstruct the fuselage you will see the similarities of the skin tearing to Pan Am 103 and AI 182 and UAL 811. You will solve the TWA mystery and two others at the same time. Big mysteries have big solutions. Forward cargo door. John Barry Smith

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Garage Door, Cargo Door in the Lineup
Cc:
Bcc:
X-Attachments:

Amendment to suggestion to take a couple of cargo doors and toss them out of C-130 at same sun angle as July 17th near NYC...add another seven feet of metal to door to approximate the nine foot by 15 foot piece of metal of door and fuselage skin that tears off when door opens. The size of the object that created the streak is the same size as hole in side of 811, a double car garage door. In fact, take a double car garage door, bend it a little, paint it white and silver, then throw it out of a C-130 going as fast as it can to get to close to 300 knots and watch streak appear. Then have ground radar pick up double car garage door as it goes out of C-130 and spins to ocean. Both visual and radar returns will be seen from that double car garage door as it falls from 13700
feet at sun angle of July 17th, 8:35PM off East Moriches.

Dr. Loeb, I appeal to your respect for education and research. I have an advanced degree from a university. I was an Air Intelligence Officer in the Navy. I have done a study of studies and extracted similarities, made conclusions and produced my own study, it's called the cargo door website. The studies were the official accident reports of AI 182, PA 103, UAL 811, and my own blazing jet crash, BUNO 149314 and all are on the website. Although I do not have hands on experience with the actual evidence of the TWA crash, I can deduce the evidence as it was being discovered based upon the documented sequence of Air India 182, Pan Am 103, and UAL 811 described in the studies. I can deduce that the floor beams above the cargo door of TWA 800 will be bent down. I can induce that the accident will happen again to another early model high time Boeing 747 when the door pops again.

Four crashes with similarities and one is explained. Moderately damaged UAL 811 was the one almost destroyed plane that made it back to tell what happened. The other three total destruction crashes have matches on all the important parameters, CVR, FDR, FOD, missing bodies, damage start location, destruction sequence, and other clues. All four have the same reproducible mechanical cause.

To put it another way, how many Boeing 747 crashes have ever ended with a short loud sound? Four. That match puts the four airplanes in a group. How many Boeing 747 crashes have abrupt power cut? Four, and it's the same four so the group is tight. Then add the similarities of fiddled engines, damage location start at forward cargo hold, more severe inflight damage on right side, at least nine missing bodies, radar blips at time of destruction, and the four crashes of the same type aircraft are inextricably linked together like cookies from a tin pattern. The name of the pattern is inadvertent opening of the forward cargo
door in flight. The cookies are UAL 811, AI 182, PA 103, and TWA 800.

It's the cargo door theory's turn for TWA 800. The fringe thinkers had friendly missile fire theory. It was an entertaining story based on true streak observation. It was investigated and discounted from lack of evidence, I believe. The FBI had bomb theory and that was based on the true fact there was an explosion, an explosive decompression which mimics a bomb. That theory has been discounted, I believe from lack of evidence. The NTSB had center tank fire which is true, there was a fire after disintegrating fuselage and wing mixed fuel and hot jet engines. The fire as initial event is discounted, I believe from lack of evidence.

Now is the time to investigate another reasonable cause theory, with evidence, the mechanical problem theory of inadvertent opening cargo door in flight leading to large gash in nose the size of double car garage door allowing twice hurricane force winds to enter and tear off weakened nose in a second leaving evidence of visual streak, radar blips, FOD, sudden loud sound on tape, abrupt power cut to FDR, same missing bodies in general same seating, same inflight damage to right side of aircraft in leading edges of wing and horizontal stabilizer, damage start location of forward cargo hold in front of the wing on the right side, and it's happened before. It's no weird coincidence that four airplanes have same destruction evidence, they had the same cause, cargo door. The cargo door theory has corroborative evidence of real things that can be touched, listened to, and felt.

Mr. Dickinson, I appeal to your respect for hands on evidence. Pick up the pieces of the forward cargo door of TWA 800, do they have the steel lock sectors to replace the aluminum as per AD 88-12-04? Are the cam sectors in the locked or unlocked position? Are the lock sectors and cam sectors worn or gouged? What is the condition of the manual locking handle? Is there any
frayed wiring around the motor actuators? What are the computer simulations of 300 knot wind entering nine foot by 15 foot hole in side of weakened nose of 747 with 93000 hours on airframe? What would a large metal sheet look like being ejected from an aircraft at 13700 feet at dusk to observers on the ground? Would radar pick it up? Are the floor beams bent down just above the cargo door?

You are lead investigator on TWA 800, do you call the shots on the direction the investigation takes? I suggest the cargo door direction to ensure a complete investigation to leave no stone unturned, no door unopened, no avenue unexplored...

Mr. Schleede, fortunately you were the lead investigator on UAL 811 and can offer confirmation of matches of evidence to TWA 800. Does the sudden loud sound on CVR of 811 match sudden loud sound TWA 800? Does the engine breakdown of FOD in engines 3 and 4 match 811? Why the same missing bodies in same general seating of 811 and 800? Is the inflight damage sequence of 800 the same as 811 damage to leading edges, root fillet, flaps, and tail?

Gentlemen, an inflight structural breakup of a pressurized aircraft hull has occurred and the locus of destruction is near a hole cut in the hull and patched with a door. The patch failed. The British Comets had a pressurized hull with cut holes that disintegrated at passenger windows. The patch failed. Meet the new boss, same as the old boss, hole cut in pressurized hull that failed to plug, outward opening forward cargo door on high time early Boeing 747 that opened when it shouldn't.

The real mystery right now is why the doors are opening. It's happened, in my opinion, six times in eleven years, 1985, 1987, 1988, 1989, 1991, 1996. The events just listed are all documented on my web site which is a study of those events based upon studies by government safety boards and quotations of safety board members to the reputable press.
Cargo door's time in the investigative spotlight; put cargo door in the lineup. Let's see if truth picks it. John Barry Smith

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: TWA 800 mechanical cause analysis, door versus fire
Cc:
Bcc:
X-Attachments:

Dear Mr. Al Dickinson, please consider the following analysis...
Friday, 15 November, 1996

Crash of TWA 800: Analysis of two possible causes.
Not a bomb.
Not a missile, friendly or enemy.
Not a meteor/space debris.
Not pilot or other crew error.
Not environment/weather factors.
Not air traffic control.
Not other aircraft/midair.
What else is there?
Mechanical/equipment failure.
What failed?
What is the evidence?
Yes, aircraft was in climb.
Yes, visual streak observed at event.
Yes, primary radar return recorded just before event.
Yes, secondary radar return disappeared abruptly.
Yes, sudden loud sound heard on cockpit voice recorder, CVR.
Yes, abrupt power cut to flight data recorder, FDR.
Yes, fifteen never recovered bodies after extensive search.
Yes, nose separated from rest of aircraft.
Yes, one or more engines exhibited foreign object damage, FOD.
Yes, fireball observed.
Yes, center fuel tank exploded.
Yes, explosive damage on wreckage.
Yes, two main wreckage trails.
Yes, nose wreckage was closer to event than rest of aircraft wreckage.
Yes, breakup started at forward part of fuselage, over or just in front of wing.
Yes, aircraft was high time/high cycles Boeing 747-131.
Yes, 230 people died.

What initial mechanical/equipment failure caused the crash and still satisfies the evidence?
There are only two; center fuel tank explosion and inadvertent opening of the forward cargo door. Which is more likely? Let us examine them side by side.

Climb: Fuel tank contents were same as takeoff, climb should have no effect on explosion. Or: Climb is pressure changing mode of flight and might assist in popping cargo door.

Streak: Fuel streaming out of wing and somehow catching fire leading to explosion. Or: Shiny metal cargo door with white fuselage skin attached spinning away at orange dusk on clear summer night at 13700 feet.

Radar blip anomaly just before event: Tank fire doesn't fit. Or: Large metal cargo door with fuselage skin attached spinning away at 13700 feet close to ground radar site.

Secondary radar return disappeared abruptly. Center fuel tank exploded and cut off power to transponder. Or: Cargo door opened and with fuselage skin tore away and allowed 300 knot wind to enter gash on right side which tore off nose severing power to main equipment compartment housing transponder.

Sudden loud sound on CVR. Tank explodes and sound is
recorded on cockpit voice recorder before power is severed. Or: Cargo door with fuselage skin tore away causing explosive decompression loud sound to be recorded on cockpit voice recorder before power is severed.

Abrupt power cut to flight data recorder. Center fuel tank exploded and cut off power to FDR. Cargo door with fuselage skin tore away and allowed 300 knot wind to enter gash on right side which tore off nose severing power to main equipment compartment housing FDR.

Fifteen never recovered bodies: Center tank explosion cremated passengers sitting in explosion area. Or: Cargo door and fuselage skin tore away exposing passengers who were ejected in decompression and sucked into number 3 jet engine and cremated.

Nose separated from rest of aircraft: Center tank explosion cuts fuselage in two just forward of the wing. Or: Cargo door with fuselage skin tore away and allowed 300 knot wind to enter gash on right side which tore off nose just forward of the wing.

One or more engines foreign object damage. Center tank explosion ejects debris into running engines. Or: Cargo door tore away exposing baggage compartment which explosive decompression ejects material into engines.

Center fuel tank exploded into fireball. Center tank explodes from unknown ignition source. Or: Cargo door with fuselage skin tore away and allowed 300 knot wind to enter gash on right side which tore off nose allowing rest of wing and fuselage to fall and disintegrate into mass of fuel vapor and spinning jet engines which exploded.

Explosive damage on wreckage. Center tank explodes. Or: Cargo door with fuselage skin tore away allowing explosive decompression to occur in passenger compartment and cargo hold which mimics explosion.

Two main wreckage trails. Center tank explodes, severs nose
which falls into tight wreckage pattern and rest of aircraft disintegrates into a larger wreckage trail. Or: Cargo door with fuselage skin tore away and allowed 300 knot wind to enter gash on right side which tore off nose which fell into tight wreckage trail and rest of aircraft fell and disintegrated into larger wreckage trail.

Nose wreckage was closer to event than rest of aircraft wreckage. Center tank explodes, severs nose which falls into tight wreckage pattern and rest of aircraft disintegrates into a larger wreckage trail. Or: Cargo door with fuselage skin tore away and allowed 300 knot wind to enter gash on right side which tore off nose which fell into tight wreckage trail and rest of aircraft fell and disintegrated into larger wreckage trail.

Breakup started at forward part of fuselage, over on just in front of wing. Center tank near forward part of wing explodes. Or: Cargo door and fuselage skin tears away just forward of the wing.

Aircraft was high time/cycles Boeing 747-131. Two hundred thirty people died.

So, two theories exist which explain much of the evidence. Here is why the cargo door theory is more credible than the center tank explosion theory.

Mechanical/equipment failure. Both are mechanical/equipment failure. Center tank has yet to be discovered essential ignition source which isn't supposed to be ignition source while cargo door is a complicated, previously known to fail and kill, mechanical system with four airworthiness directives against it. Cargo door more likely failure.

Streak at event. Metal door with metal skin spinning away could be reflected orange dusk light and appear as streak. Time of year, altitude, clear night, sun angle, and type of object all fit streak as spinning door. Tank fire with streaming fuel on fire is less likely. Cargo door more likely streak.
Primary radar return before event. Metal door with metal skin spinning away could be primary radar return recorded on nearby ground radar. Center tank would not give return. Cargo door more likely radar return.
Second secondary radar return disappeared abruptly. Center tank explosion and nose separating when nine foot by 15 foot gash appears allowing 300 knot wind to enter and tear off nose would both cause abrupt secondary radar return to disappear. Tie.
Sudden loud sound on CVR. Center tank explosion and cargo door would both give sudden loud sound on CVR. Tie until sound matched to fuel tank explosion or explosive decompression.
Abrupt power cut to FDR. Center tank explosion and cargo door causing nose separation would both cause abrupt to FDR. Tie.
Fifteen missing bodies. Center tank explosion and cargo door would both cause missing never to be recovered bodies. Tie.
Nose separated from rest of aircraft. Center tank explosion would cause nose to separate. Cargo door with fuselage skin tore away and allowed 300 knot wind to enter gash on right side which tore off nose just forward of the wing. Tie.
One or more engines foreign object damage. Center tank explosion and cargo door opening would both cause engines to be foddled. Tie.
Fireball. Center tank explosion and cargo door opening leading to fuselage disintegration would both cause fireball. Tie.
Center fuel tank exploded. Center tank explosion and cargo door would both cause center tank to explode. Tie.
Explosive damage on wreckage. Center tank explosion and cargo door opening would both cause explosive type damage on wreckage. Tie unless no fire explosive damage found on nose section.
Two main wreckage trails. Center tank explosion and cargo door opening would both cause two main wreckage trails. Tie.
Nose wreckage was closer to event than rest of aircraft wreckage. Center tank explosion and cargo door would both cause nose wreckage to be closer to rest of aircraft wreckage. Tie.

Aircraft was high time/cycles Boeing 747-131. Center tank fire and cargo door more likely on aging aircraft. Tie.

Breakup started at forward part of fuselage, over on just in front of wing. Center tank explosion and cargo door opening would cause breakup at forward part of fuselage. Tie unless breakup is traced to above and forward of the wing on the right side, nearer to the cargo door.

Yes, 230 people died. Center tank explosion and cargo door could both cause the deaths of all passengers. Tie.

Many of the evidence explanations are ties, a few go to cargo door and none alone go to center tank fire. Cargo door theory is more likely.

Additional statements to support cargo door theory.

A structural breakup of a Boeing 747 which is disintegrating in flight can catch fire into a fireball as shown by the Saudi Arabian Airlines Boeing 747 involved in a midair over India. The initial event was not a center tank fire and yet there was fireball. Eyewitness pilot saw the fireball of TWA 800 and stated altitude of fireball was 7500 feet, initial event for TWA 800 was at 13700 feet. Center tank fire was secondary event.

Foreign object damage can be cowling material or baggage or human material.

Explosive decompression produces loud sound and mimics a bomb for pressure damage on seats and baggage.

NTSB computer simulation traced inflight breakup of TWA 800 to above and forward of the wing on the right side, exactly where the hole is formed when the cargo door tears away with fuselage skin.

Cargo doors opening in flight are more common than inflight
fuel tank explosions.
A cargo door accident exists, UAL 811, with much evidence which matches TWA 800. Two other Boeing 747 crashes exist with much evidence which matches TWA 800 and UAL 811, none of which was caused by a center tank fire.
Tank fire accident of Iranian Boeing 747 exists which does not match TWA 800 in wreckage pattern, left wing alone, or extreme weather and lightning.
A Boeing 737 tank fire on the ground does match a Boeing 747 in flight.
Cargo door theory includes center tank explosion.
Additional statement to support center tank explosion. It happened, there was a center tank explosion.
Forward cargo door theory can be proved or disproved easily be examination, experiment and observation:
1. examine forward cargo door for steel rods to confirm AD 88-12-04 complied with on TWA 800.
2. examine cargo door for status of cam latches, unlocked or locked.
3. examine cargo door lock sectors, unlocked or locked.
4. examine cargo door lock sectors and cam sectors for wear and gouging.
5. examine cargo door manual locking bar for locking position.
6. examine all door electrical switches for proper operation.
7. check maintenance history of TWA 800 for previous cargo door problems.
8. note condition of cargo door, in how many pieces to match UAL 811.
9. note position of cargo door when found, close to event site or far away indicating time it left aircraft.
9. detect frayed wiring in door control system.
10. examine direction of buckled floor beams, up or down indicating decompression or explosion.
11. match TWA 800 evidence with other similar crashes leaving similar evidence.
12. check for presence or non presence of evidence of fire/explosion on separated nose.
13. match sudden on loud sound on CVR to sound library of in flight aircraft explosions and decompressions.
14. match abrupt end of tape signals on FDR to two other abrupt end of tape Boeing 747 crashes.
15. confirm by computer simulation that 300 knot wind blowing into nine foot by 15 foot hole in right side of weakened nose will tear nose of in an second.
16. examine wreckage for more severe in flight debris damage on right side of aircraft to include wing fillet, leading edges of wing and horizontal stabilizer and vertical stabilizer, engine cowls and pylons.

A low cost experiment to reproduce the streak and radar anomaly is to take several two car garage doors painted silver and white and push them out the back of a C-130 going as fast as it can at 13700 feet on clear evening with same sun angle as July 17th near New York and look for streak and radar primary return. They will be there, two mysteries explained at reasonable cost.

Analogies:
1. A hole is cut in a balloon. A patch is put on the hole in balloon. The balloon is blown up and deflated 20000 times. The next inflation the balloon pops. The site of the popping is at the patch. The patch has failed before. The patch is a likely cause of the balloon popping.
2. A soda can has a semi cut hole in the top to drink out of. The can is the pressurized hull and quite strong. The semi cut hole can not be opened by pressing on it with fingers. But once the semi cut hole/door seal is broken by pressing on the hole with the metal tab using leverage, the soda fluid/debris escapes in the explosive decompression and flies into face/engines. Now the
semi cut hole can easily be pressed down further with little force from finger because the structural integrity of the soda can/hull has been cracked.

Now is the time to investigate another reasonable mechanical cause theory, with evidence, the real possibility of inadvertent opening cargo door in flight. This event leads to a large gash in nose the size of double car garage door allowing twice hurricane force winds to enter and tear off weakened nose in a second leaving evidence of visual streak, radar blips, FOD, sudden loud sound on tape, abrupt power cut to FDR, same missing bodies in general same seating, damage start location of forward cargo hold in front of the wing on the right side, wreckage trails, and it happened to TWA Flight 800, it happened before to UAL Flight 811, and it will happen again.

Disregard the demeanor of the discoverer/messenger, examine the message of cargo door, and exploit the medium of internet to email barry@corazon.com and study cargo door web site at www.corazon.com. Sincerely, John Barry Smith

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: Safety responsibility
Cc:
Bcc:
X-Attachments:

Mr. Dickinson, an important mission may fail because a door did not do what it was supposed to do; just like cargo doors which are supposed to stay closed but don't. An inadvertent opening cargo door is not a science fiction/weirdo explanation for an explosive decompression on a 747. It happens all the time.

Every fire fighter has to respond to a 'fire' call even though that firefighter may believe it is a false alarm. He can not ignore the
'fire' call because it is his duty, regardless of his personal feelings.

I contend that the person assigned to the NTSB (S means Safety) must respond to a call of "Danger" even though he may believe it is a false alarm.

I report to you that there is 'danger' in high time Boeing 747s in which the forward cargo door may open. As evidence of the event happening in the past I refer to AI 182, PA 103, UAL 811, and TWA 800. (Documentation on web site www.corazon.com)

Deductions from those crashes lead to the conclusion that TWA 800 had an inadvertently opened cargo door. Inductions from those crashes lead to the conclusion that it can happen again to other similar high time Boeing 747s, approximately 650 now flying.

I urge you, as I would urge a firefighter to check out a fire that I believe was caused by an event and may cause another fire until fixed, to check out the crash of TWA 800 being caused by an inadvertently opened forward cargo door that may cause other Boeing 747s to crash until fixed.

The cargo door did what it was not supposed to do, just like the Columbia space Shuttle mission now flying overhead with its malfunctioning door. High time spacecraft=malfunctioning door; high time 747=malfunctioning door.

CAPE CANAVERAL, Fla. - NASA officials are due to meet Saturday morning to discuss a jammed hatch on Columbia that has kept astronauts leaving the shuttle for planned space walks. The most likely explanation was that two of the six latches on the door were misaligned, Bantle said at a news conference.
Friday. The latches could be out of adjustment by as little as one-20,000th of an inch.

Forward cargo door theory can be proved or disproved easily by examination, experiment and observation:

1. Examine forward cargo door for steel rods to confirm AD 88-12-04 complied with on TWA 800.
2. Examine cargo door for status of cam latches, unlocked or locked.
3. Examine cargo door lock sectors, unlocked or locked.
4. Examine cargo door lock sectors and cam sectors for wear and gouging.
5. Examine cargo door manual locking bar for locking position.
6. Examine all door electrical switches for proper operation.
7. Check maintenance history of TWA 800 for previous cargo door problems.
8. Note condition of cargo door, in how many pieces to match UAL 811.
9. Note position of cargo door when found, close to event site or far away indicating time it left aircraft.
10. Detect frayed wiring in door control system.
11. Examine direction of buckled floor beams, up or down indicating decompression or explosion.
12. Match TWA 800 evidence with other similar crashes leaving similar evidence.
13. Check for presence or non presence of evidence of fire/ explosion on separated nose.
14. Match sudden on loud sound on CVR to sound library of in flight aircraft explosions and decompressions.
15. Match abrupt end of tape signals on FDR to two other abrupt end of tape Boeing 747 crashes.
16. Confirm by computer simulation that 300 knot wind blowing into nine foot by 15 foot hole in right side of weakened nose will
tear nose of in an second.
16. examine wreckage for more severe in flight debris damage on right side of aircraft to include wing fillet, leading edges of wing and horizontal stabilizer and vertical stabilizer, engine cowls and pylons.

A low cost experiment to reproduce the streak and radar anomaly is to take several two car garage doors painted silver and white and push them out the back of a C-130 going as fast as it can at 13700 feet on clear evening with same sun angle as July 17th near New York and look for streak and radar primary return. They will be there, two mysteries explained at reasonable cost.

If I should not send my inquiries from the public, that's me, to you, NTSB investigator, who should I send them to?
Sincerely, John Barry Smith

December 1996

To: DICKINA@ntsb.gov
From: barry@corazon.com
Subject: You're right
Cc:
Bcc:
X-Attachments:

Mr. Al Dickinsin, if you are the senior investigator, you are right. Static electricity is a cop out. There is no evidence of it. There is however evidence that engine number 3 was the ignition source as it is burnt, the only engine to show burn damage. It was falling with the rest of the disintegrating fuselage and wing and ignited the vaporizing fuel. All this fireball stuff was after the nose came off after the 300 knot wind blew in big hole made by departing cargo door.

I make my plea again, please check out inadvertent opening of
the forward cargo door in flight as the cause of TWA 800. It fits all the evidence. Converse with me. Read my documentation on my web site at www.corazon.com. Email questions. The facts speak for themselves once they are assembled in a coherent fashion. Cargo door opened, plane crashed. Balloon popped. Door explains streak, radar anomaly, fireball, wreckage plot, inflight damage, missing bodies, engine fad, CVR and FDR data. It's all there, Mr. Dickinson, really. John Barry Smith

The senior investigator working on the wreckage, who insisted on anonymity, said crash investigators had recovered only a few pieces of the pipe in question, "but nothing you could draw any conclusion from."

The pipe is called the cross-feed manifold, and the safety board officials in Washington said on Friday that they believed a flaw in the pipe might have allowed static electricity to build, resulting in a spark that could have ignited fuel vapors in the plane's center fuel tank.

But the senior investigator, who said he was speaking for other safety board investigators in the Calverton, N.Y., hangar, said the theory was purely hypothetical and not based on any evidence. In fact, he added, investigators have recovered so few pieces of the pipe that they have not even added it to a reconstruction
of the center fuel tank wreckage.

"Static is not something we are confident of," this investigator said.

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If I should not send my inquiries from the public, that's me, to you, NTSB investigator, who should I send them to?

Sincerely, John Barry Smith
Mr. Dickinson, I'm trying to save the 747 from extinction. No one will fly in an airplane that might blow up if you scuff your shoes on the carpet. They will fly in the 747 that had a problem but is now fixed. The problem would be the forward cargo door comes open when it shouldn't. Fix for real on the fifth AD on that door. It's not like it's a surprise the door is failing and causing the crashes of 800 and others. Non plug outward opening doors are well known as killers.

Mr. Alfred Dickinson, lead investigator to the TWA 800 crash, writer of the accident report, I beg/invite you to listen/investigate the forward cargo door as cause.

When you write the report, if you go with center tank fire, which is true, there was a center tank fire/explosion, you will have trouble as fire/explosion as initial event. The problem is not the ignition source (engine number 3, the burnt one,) but the timing. First nose separates, rest falls to 7500 feet and fireball. Time between nose separating and fireball about 24 seconds. Plus eyewitnessess said fireball later, and seen from the air at 7500 feet, and seen on radar.

So, if not fire/explosion as initial event, what? I respectfully submit the previous identified killer of mechanical defect, like your center tank fire killer, of ...forward right side lower lobe outward opening, four Airworthiness Directives against, great big vulnerable cargo door...which just opened a little bit, but got
caught up in the slipstream, torn away, taking skin with it, reflecting in evening sun, picked up on radar, and so weakening the nose with missing structural members, bent and fractured floor beams, that the 300 knot wind blew in and blew nose off, just like that, cutting off power, too.

Full support and documentation for this mechanical fault explanation on www.corazon.com

Mr. Dickinson, really, please, exhaust all reasonable explanations before committing. Cargo door is reasonable. It merits a chance. Please investigate as cause. Why door opened I can not say. That is mystery to me. That answer is important and is found by experts like you and your crew after identifying the door as faulty. I can do that. Contact me at 408 659 3552 phone or email at barry@corazon.com. I can factually explain any confusion or refute any doubts you may have.

This is a matter of life and death, as we speak, hundreds of planes are flying with this hazard. I realize the gravity of the situation.

John Barry Smith

End of 1996

From: John Barry Smith <barry@corazon.com>
Date: July 24, 1998 10:08:33 AM PDT
To: FAA
Subject: Check cargo door area wiring too on 747s.

Dear Mr. Streeter and FAA officials, 24 July 1998

Very good to check the wiring in older 747s...in and around the center tank only? There were no bare wires found in the center tank of TWA 800 and bare wires in 747s center tanks have never
caused explosions before, but it good to be safe than sorry.

Now about those bare wires that were found in the cargo door area of TWA 800 and about that previous fatal accident caused by bare wires in the cargo door area... to not check those wires in early 747s is not right, that is not safe, that can lead to being sorry. Why ignore known dangerous bare wires in previous 747 accident that were found in TWA 800 fatal accident carcass? (Sources below from NTSB and FAA reports.)

Not right. Can be corrected. Check the bad wiring of early 747s that has been confirmed bad in the past, confirmed bad on TWA 800 wreckage and may confirm bad now or planes flying around.

I again request a meeting with FAA officials to allow me to present my nine years of research into hull ruptures in flight of high time 747s for analysis by government experts who can then ask questions to rule in or rule out the wiring/cargo door explanation.

Respectfully,
John Barry Smith

PREVIOUSLY, the FAA had proposed or put into effect inspection and replacement programs dealing with wiring and equipment outside the tanks. Among the new demands: an inspection
of the center fuel tank, tests of its components, separate measurements of the insulation in the fuel measuring system, replacement of fuel probes and the installation of flame arresters on scavenger pumps on 214 of the aircraft.

Quote from TWA 800 Public Docket 516A, Exhibit 9A Systems Group Chairman's Factual report of Investigation, Page 47, "A Boeing telefax of June 25, 1997, stated that: The Poly-X wire was used as general purpose wire on the RA164 (TWA 800) aircraft. Wire insulation known as Poly-X had three in-service problems:
- Abrasion of the insulation in bundles installed in high vibration areas.
  (This problem was corrected by Boeing Service Bulletin No. 747-71-7105, Dated July 19, 1974)
- Random flaking of the topcoat.
- Insulation radial cracks in tight bend radii.
Radial cracking phenomenon of the Poly-X wire was mainly associated with mechanical stress. Bend radius is the largest contributor to mechanical stress in installed wire or cable. Presence of moisture in conjunction with mechanical stress is also a contributor."

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The Systems Exhibit 9A continues on same page 47, "Evidence of arcing or short circuiting was found in the fuselage of N93119, (TWA 800) in addition to what was found in the wiring from the raceway below the left cabin floor and near the forward wing spar.

The Systems Exhibit 9A continues, page 116: "Some wires found in the section of W480 from forward of station 570 and identified as BMS13-42A had numerous cracks in the insulation. Most of the cracks in this bundle were found to expose the core conductor when examined by microscope. Only within five feet of the aft end of the W480 bundle from station 570-900 were insulation cracks found."

(Please note that BMS13-42A is Poly-X wiring. Cargo door location is FS 560-670 and cracked wires discovered are within that zone. Frayed wires in that area have shorted before and caused the forward cargo door to open in flight, NTSB AAR 92/02 UAL 811. Water has been seen pouring out of a forward cargo bay of a Boeing airliner. Water and leaking electricity
make a powerful conductor. Both are known to exist in Boeing airliners.)

Wiring problems in UAL preflight when cargo door opened uncommanded, 1991.
Check the wiring as described in Safety Recommendations Rprt_Nbr: A-91-83 and -84
(1) the wiring bundle in the area normally covered by the conduit for the presence of damaged insulation (using either an electrical test method or visual examination);
(2) the conduit support bracket and attached standoff pin on the upper arm of the forward lift actuator mechanism;
(3) the flexible conduit for the presence of cracking in the convoluted innercore.

Wiring problem in 1989 with UAL 811 as described in NTSB AAR 92/02:
Plug P3 and Plug P4 at a distance between three to four inches from plug pin tips. The P4 damage location may correspond to wire bundle clamp positions. These areas are where the chafed bare wires shorted on the door latch actuator motor to the unlatch position for UAL 811 as described in NTSB AAR 92/02.

FAA proposes new work on 747s
Agency announces new inspections of center fuel tanks

OCIATED PRESS

WASHINGTON, July 23 ÑIn a new response to the explosion of TWA Flight 800, the
Federal Aviation Administration announced Thursday a new series of inspections, tests and replacement work inside the center fuel tanks on older Boeing 747s. The latest proposed airworthiness directive would apply to 251 planes.

PREVIOUSLY, the FAA had proposed or put into effect inspection and replacement programs dealing with wiring and equipment outside the tanks.

TWA Flight 800 was flown on a Boeing 747-100 series, an original model of the aircraft. All 230 aboard died in an explosion shortly after the plane took off from New York en route to Paris. Investigators believe it was triggered by a spark inside the center fuel tank. Among the new demands: an inspection of the center fuel tank, tests of its components, separate measurements of the insulation in the fuel measuring system, replacement of fuel probes and the installation of flame arresters on
scavenger pumps on 214 of the aircraft. The FAA intends to complete the order after a period of comment from the airlines and analysis by the agency. Some of the actions are in response to recommendations made by the National Transportation Safety Board, but others do not fully satisfy the board’s requests. For example, the NTSB recommended periodic inspections of the center fuel tanks, but for the time being, the FAA is proposing a one-time inspection to address the potentially unsafe conditions, an FAA statement said. Costs for the work, which will have to be borne by the airplanes’ owners, would vary from $28,000 to $63,000.

From: John Barry Smith <barry@corazon.com>
Date: November 3, 1997 10:41:55 AM PST
To: webmasterAAI@faa.dot.gov
Subject: for Office of Accident Investigation

Dear Webmaster, please forward to Office of Accident Investigation.
Dear Office of Investigation, below is letter in reply to FAA call to me about investigation into TWA 800. Are you involved in this?

Sincerely,
John Barry Smith

Bob Brenerman,
Aerospace Engineer,
Federal Aviation Administration
Transport Airplane Directorate, ANM-100
1601 Lind Ave. S.W.
Renton, WA 98055-4056
(206) 227-2100
Ron Wojnar, Manager
Darrell Pederson, Assistant Manager

Dear Mr. Brenerman,

31 Oct 97

Thank you for your telephone call on Thursday, 30 Oct 1997. You told me that a letter had been sent to me from FAA about my concerns about the forward cargo door area in Boeing 747s rupturing in flight. We were able to chat for a few minutes about the crash of TWA 800 and others. You were able to tell me that:
1. The bottom sill of the forward cargo door is intact and attached to fuselage skin but in several pieces.
2. The bottom latches are latched around the locking pins.
3. AD 88-12-04 was implemented in TWA 800 including all other ADs.
4. The nose hit the water on the right side and caused inward hydraulic impact damage in door area.
5. The door did not open in flight.
6. The door was found with nose debris and did not come off first.
7. Admiral who said door was found first was wrong because metal piece was misidentified underwater.
8. Nose came off at station 741.
9. You didn't scrutinize the paint smears on TWA 800 reconstruction photo.
10. PA 103 and AI 182 were inflight breakups and would show similar evidence but were proven to be bombs.
11. NTSB has tagged each piece of metal of wreckage and it's plotted.
12. You referred my photos to NTSB for reply.
13. A letter is coming to me from FAA explaining the above.

Well, sir, that was a lot and thank you again for chatting with me. For the first time in a year and a quarter I was able to hold a scientific conversation about TWA 800 with a government authority. As an engineer and commercial pilot we respect science. I contend fuselage rupture at cargo door area is all science which means it is reproducible and explainable.

Your statement of inward damage to the cargo door area from impact with water took me aback as I have not heard that before. I have had time to digest that information and wish to reply in this letter. I invite you to have a scientific discussion with me about metal and wreckage and air pressure. I'm not an engineer but a pilot with aerodynamic background.

I understand your sequence of events. Essentially it is center tank explosion of unknown origin, nose comes off at station 741, plane falls and later fireball and destruction. The nose falls intact and alone on right side into water which hydraulic impact pushes metal skin into and past the stringers and bulkheads in cargo door
area while leaving port side smooth and intact. Forward cargo door is in pieces from this impact and is in debris field of nose. The lower part of door has latches which are latched and attached to bottom sill of frame indicating door did not open in flight.

Do you understand my sequence? Did you go to my extensive web site which documents my explanation? To present such a complex sequence concisely is difficult but I will try.

Fuselage ruptures at forward cargo door area for unknown reason. Nose comes off at station 741, plane falls and later fireball and destruction. The nose falls intact and alone on right side onto water which gives hydraulic impact damage to nose gear doors which drives them inward. When fuselage ruptures at 13700 feet the skin is burst outward and the red painted metal on door is slammed against white painted area between windows above the door and red paint is transferred leaving red smears only above rupture area. Fireball is ignited by flaming fodded engine number three at 7500 feet. Sudden loud sound is explosive decompression when fuselage ruptures. Streak is shiny metal piece of door spinning away reflecting evening sunlight to ground observers. Missing bodies were ingested into number three engine. Abrupt power cut when cargo hold floor is severely disrupted. Nose comes off when huge hole appears in side of nose and 300 knot wind tears it off.

I offer that the fuselage rupture explanation explains all the evidence of streak, sudden loud sound, abrupt power cut, debris pattern, and many other observed events. I will be glad to go over them one by one with you. Center tank explosion as initial event leaves too many contradictory conclusions such as autopsies with no burns, abrupt singed areas on fuselage skin, soundless explosion, no ignition source, etc.

As an engineer and pilot we understand the enormous internal forces of 4 pounds per square inch on a nine foot by ten foot outward opening door and the incredible power of 300 knots of
slipstream on a weakened airframe. I trust you respect reality which means things you can see, touch, hear, and feel. In that regard, let me attempt to rebut the inward impact damage at cargo door area conclusion with the following reality which can be checked out:

If we look closely at NTSB TWA 800 reconstruction photograph there are red paint smears on the white paint between windows alongside the fuselage. These red paint smears are only above and slightly aft of the forward door. The cargo door normally has red paint on it. The space between the windows normally had white paint. The between window spaces now have red paint smears on them in the reconstruction. This indicates the red colored metal below expanded upward and struck the white painted area and transferred the red to the white. If the damage had been caused by inward action of water impact there would be no red paint smears on the white paint between the windows. But there are many smears and that is consistent with rupture outward, not inward.

Let us assume that the forward cargo door was latched and rode nose down to the water. That rules out FBI innocently altering latches searching for explosive residue in their lab, or a mistaken identity with the identical aft cargo door, and confusion with any other of the twelve doors on the 747.

Because the door was latched does not mean there was not a fuselage rupture at the cargo door area. In fact, I believe the picture shows such a rupture in the shattered right side forward of the wing. I don't have three dimensions but it appears to be a round outward rupture hole at lower left of cargo door. Doors can open at places other than where they are supposed to.

The damage on the right side is consistent with an outward opening rupture. It does not look like impact damage because it is located only around the cargo door and not far above it or aft. Of course the entire nose is not reconstructed nor is the NTSB
photo complete with part of the extreme forward part missing so it is difficult to make definite conclusions based on observations of pictures, as you said in your call. Hands on examination is needed and you have that opportunity.

I am very familiar with AI 182 and PA 103 and 'they' did not 'prove' a bomb was the cause. On the contrary the evidence is very flimsy and could have gone either way of structural failure or bomb. AI 182 had structural failure as cause but said it was bomb that blew out the forward cargo hold on the right side without naming the door. AI 182 door description on the bottom of the ocean matches TWA 800 door area NTSB photo. PA 103 reconstruction drawing matches UAL 811 after landing with huge hole in side.

The importance of including other similar accidents is to group them and then draw conclusions based upon deductions. I did not choose the flight numbers; they were included only because of the evidence of sudden loud sound on CVR, inflight damage, abrupt power cut, and many more significant similarities. If you know of any more high time Boeing 747s that have a fatal accident centered near the forward cargo hold that left a sudden loud sound, an abrupt power cut, fodded engines, missing bodies, and forward door in pieces, and I'll include them in the group. So far it's only AI 182, PA 103, UAL 811, and TWA 800. As an aerospace engineer do you not welcome a possible scientific explanation for an aviation event rather than shadowy conspiracy Sikh terrorists or evil foreign secret agents?

But to talk of AI 182 and PA 103 is fraught with emotion and difficult without the reports to point to specific items. But let us at least agree that AI 182 and PA 103 and UAL 811 and TWA 800 all had inflight structural problem starting forward of the leading edge of the wing, with three of them pinpointing to forward cargo hold.

I checked TWA 800 station 741 nose separation point on PA 103
and it matches too. Both noses came off at same point on fuselage give or take a few inches.
To be specific about TWA 800 cargo door:
1. Is it confirmed it is forward and not aft or other latches?
2. Are all latches accounted for? There are eight below and one on each side for total of ten.
3. Are all latches latched around locking pins? If only one unlatches that may be sufficient for internal pressure to bulge out door into slipstream when ultimate destructive force of 300 knots tears door away and nose off.
4. Mid span latches are particularly critical as rupture appears to be in middle of door.
5. Where are the missing pieces of the door? Only about 20 percent of the door is in reconstruction. The missing portions may be the pieces that fell first and closest to event site and still unfound.

To say forward cargo door was latched is not sufficient to rule out rupture at cargo door area as initial event for TWA 800 because:
1. Not all latches are accounted for.
2. Most of door still missing.
3. Rupture can occur with a latched door but failure at corners or middle.
4. Description of TWA 800 door area matches AI 182 door area which had door attached to fuselage skin which was explained as fuselage rupture at forward cargo hold (caused by bomb). TWA 800 was thought to be bomb also based upon early evidence which NTSB computer simulation showed baggage spewed forth from forward cargo hold as first event.

I understand the problem NTSB has with that unilateral damage on right side because a center tank explosion should give bilateral damage and doesn't. So the water impact explanation is offered. If damage at cargo door area is inward then no rupture
and if latches latched then no door opening. What can be done to persuade you that rupture occurred? What evidence is there to examine? Can you confirm the direction of the metal in the forward cargo door area of TWA 800? Is that scientifically possible? If it is outward will you reconsider your conclusion of not door failure? I point to the red paint smears as evidence to warrant such an effort at confirmation of metal direction, in or out. If you should find that the right side damage is outward and not inward, or not all of the latches or pieces of door are accounted for, please reconsider your conclusion that the door area did not fail in flight and rupture.

Please establish a dialogue with me. My email is barry@corazon.com and I can send and receive high resolution color photographs via email. My web site has accident reports from DC-10 to B747 and others to support cargo door fuselage rupture. I’ve attached some of the web page analysis for your consideration.

I apologize for any name misspellings; my hearing is shot from thousands of hours in recips and jets and I may have heard names wrong on the phone. I may have heard other statements wrong too and that is why I prefer writing to talking such as this letter and email. Please correct any misstatements I may have made.

Sincerely,

John Barry Smith

From: John Barry Smith <barry@corazon.com>
Date: October 29, 1997 9:56:04 AM PST
To: WebmasterFAA@mail.hq.faa.gov
Subject: For Mr. McSweeney, Aircraft Certification Service
Below links show in NTSB pictures and text show TWA 800 fuselage blowout at cargo door area. Other aircraft accidents are matched also. Your experience will enable you to identify the cargo door area. Note round rupture circle.

http://www.corazon.com/crashcontentspagelinks.html

Click on 'Newest page'. http://www.corazon.com/presskit.html

http://www.corazon.com/800foreafthororreconweb.html

http://www.corazon.com/doorpixweb.html

http://www.corazon.com/reasoning.html

Sincerely,

John Barry Smith

From: "WebmasterFAA" <WebmasterFAA@mail.hq.faa.gov>
Date: December 19, 1996 1:39:53 PM PST
To: barry@corazon.com
Subject: Rule: Re: Airplane crash cause and danger

Thank you for your recent message to the FAA Webmaster. Unfortunately, it has become impractical to answer each message individually due to the large amount of e-mail we have been receiving. Therefore we are sending this auto-response to 1) acknowledge that we have received your e-mail message, and 2) to make some suggestions in response to the most
frequently asked
questions/comments we have been receiving via e-mail (see
below).

We will continue to monitor this mailbox and respond when
possible to
individual mail messages.

Thanks for your questions and constructive comments

WebmasterFAA

Most of the e-mail messages we receive are of the type "where
can I find
the FAA (name of document) on the 'Net?" or "I am a pilot/
airman/curious
citizen, and I want to register/verify/find/comment on an FAA
process/rule/document/system"

In most cases, the information requested is best provided by
the particular
program office involved in that area. Therefore the best path
is to
contact the program office directly.

Information on how to contact FAA offices and management is
on-line at
General information on who to contact for particular issues and how to obtain FAA documents can be found in http://www.faa.gov/apa/faafaq.htm, our most Frequently Asked Questions.

A topical index of points of contact for information in the FAA can be found at http://www.faa.gov/apa/phone/contact.htm.

In addition, the growing number of FAA World Wide Web pages have points of contact for questions and comments in those FAA program areas. The e-mail address for that point of contact should be listed on the home page for that office or program.

Some examples of these organizational pages are:

Regulation and Certification, found at http://www.faa.gov/avr/avrhome.htm

and

Airports, found at http://www.faa.gov/arp/arphome.htm

As the FAA's presence on the Internet evolves, we will strive to provide more information and better ways to find it. Please continue to let us...
know what you think.

From: barry@corazon.com
Date: December 18, 1996 10:55:27 AM PST
To: WebmasterFAA@mail.hq.faa.gov
Subject: Airplane crash cause and danger

WEBMASTERS: Please forward this email to appropriate staff to reach addressee as you see fit. Please ensure picture of Boeing 747 is attached with .jpg viewer if necessary. Thank you, John Barry Smith barry@corazon.com

Dear Mr. President, Bill Clinton
Dear Mr. Chief of Staff, Leon Panetta
Dear Mr. Secretary of Transportation, Federico Peña
Dear Mr. Director, Federal Aviation Authority, David Hinson
Dear Mr. Chairman, National Transportation Safety Board, James Hall

Dear Mr. Vice Chairman, National Transportation Safety Board, Robert Francis
Dear Mr. Investigator, National Transportation Safety Board, Ron Schleede
Dear Ms. Attorney General, Department of Justice, Janet Reno
Dear Mr. Director, Federal Bureau of Investigation, Louis Freeh
Dear Mr. Agent, New York Field Office, Federal Bureau of Investigation, James Kallstrom

Mr. Bill Clinton, President of the United States of America
Dear Mr. President,
Hello, Sir. I have important news to give. Your life is in
immediate danger, although slight, hopefully slight, when you fly on Air Force One, a Boeing 747-200B. This type aircraft has a history of inadvertent forward cargo door openings in flight. Hindsight and the internet have enabled me to link several crashes of early model Boeing 747s to a common cause, the inadvertent opening of the forward cargo door in flight. Documentation, pictures, comments, and emails from all over the world regarding this discovery are on the internet web site at http://www.corazon.com

Your life, the lives of those who fly with you, and all the passengers on early model Boeing 747s are at risk to this door opening outward and upward, tearing off in the slipstream exposing a large gash in the nose which tears off.

The door openings at altitude mimic a bomb. It is not a bomb. The world will be a bit less dangerous once the causes are determined to be mechanical and not evil.

Have you ever had a car door, or hood, or trunk open unexpectedly? I have; it’s not unusual. If you have, then please give thought to possible airplane door opening and the severe consequences.

Please be responsive to this informed citizen.

Mr. Clinton, leader from follower, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.

Sincerely, John Barry Smith

Mr. Leon Panetta, Chief of Staff, Clinton Administration

I feel like saying, Leon, Leon, Leon, as that was the way I thought of you when I voted for you as Congressman several times in Monterey.

Mr. Panetta, we met in 1980 in your second floor office on Alvarado where I personally thanked you for inquiring on my behalf on a personnel matter while I was stationed in Korea. The last time I saw you, you were walking alone across Toro Park
during Earth Day in 1992, just before your selection as Budget Director. I remember thinking, what a job politics is shaking hands at a post hippie ecology get together. I was with a friend selling United Nations videos, not a hot seller. I live up on Country Club Drive in Carmel Valley and pass your family’s hand painted sign, Villa Bella Donna, every day on the way to drop my daughter off at Tularcitos Pre-School.

I have come to alert you, sir, of danger to you, the President, and all passengers who fly in early model Boeing 747s. Yes, this is unorthodox, an email letter from a member of the public but then, I trust, as a former congressman, that you believe that occasionally a citizen may have something important to say. I do; here it is: The forward cargo doors of early model Boeing 747s are inadvertently opening in flight, tearing off door and skin, allowing the slipstream to enter the large gash which tears off the nose leading to total destruction and the deaths of all aboard. This has happened several times before and appeared to be explosions. The attached picture is of a Boeing 747 that almost had the nose come off.

Mr. Panetta, former representative of the people from former constituent, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800 or call me at 408 659 3552 or visit my web site at http://www.corazon.com. Sincerely,
John Barry Smith

Mr. Federico Peña, Secretary of Transportation,

Dear Mr. Secretary, I invite you to a visit to my web site at http://www.corazon.com. named after my wife, Corazon Luna Smith.

Mr. Peña, traveller to traveller, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith
Mr. David Hinson, Director, Federal Aviation Authority,
Dear Director, I am looking at my FAA pilot’s license, number 1787797, commercial pilot, airplane single engine land, instrument airplane, of which I am very, very proud. I also received a Part 135 certificate from your agency. I was also a US Navy Lieutenant Naval Flight Officer in RVAH -1, RA-5C Vigilantes. My ejection story and US Navy accident report are on my web site at http://www.corazon.com along with the official accident reports on UAL Flight 811 and Pan Am 103.
All of the four Boeing 747 crashes described were caused, in my opinion, by the inadvertent opening of the forward cargo door in flight. The web site provides documentation, reasoning, and opinion supporting that hypothesis.
At minimum, there now exists a mysterious early model Boeing 747 crash. Air Force One is an early model Boeing 747. There are several hundred early model Boeing 747s now flying. The location of the start of destruction for TWA Flight 800 and others is near the forward cargo hold. I ask that you seal the door shut to prevent explosives from being placed there or to prevent the door from accidentally opening.
The forward cargo door has two Airworthiness Directives against it and has killed nine persons already in UAL Flight 811. A glance at the attached picture of a Boeing 747-121 with the large gash in the right side of its nose may persuade you a nose could easily tear off in a 300 knot slipstream.
Mr. Hinson, naval officer to naval officer, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith

Mr. James Hall, Chairman, National Transportation Safety Board,
Dear Mr. Chairman, in 1992, the NTSB conducted a very complete and well explained accident report on the crash of UAL
Flight 811 in which a cargo door came open in flight and nine passengers where sucked out of their seats to their deaths. Use the key of 811 to unlock 800.

The thrust of the crash investigation should then focus on what causes the forward cargo door to open inadvertently. The NTSB stated electrical short to the door control system in UAL 811. For others, an explosive device could do it, or random electrical signals in the avionics bay might do it. There are eleven rational causes for accidental door openings listed on the web site at http://www.corazon.com. The cause of the door openings is unknown and must be discovered.

Mr. Hall, passenger to passenger, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.

Sincerely, John Barry Smith

Mr. Robert Francis, Vice Chairman, National Transportation Safety Board

Dear Mr. Vice Chairman, IÔve seen you on TV and believe you are a compassionate man above all. I appeal to you to prevent the future deaths of innocent passengers in early model Boeing 747s whose forward cargo door may inadvertently open outward and upward, tearing off with skin into the slipstream, exposing a large gash in the side of nose which then tears all the way off. Please compare evidence collected in the explained cargo door crash of UAL 811 to those of Air India Flight 182, Pan Am 103, and currently, TWA Flight 800.

The specific similarities will be: 1: Short loud sound on CVR. 2. Abrupt power cut. 3. Fodded number three engine. 4. Radar blips during destruction. 5. Never recovered bodies sitting in similar seats above and just aft of the cargo door. 6. Same type of aircraft, Boeing 747 series 100 or 200 with high flight time. 7. Destruction sequence starts forward of the wing. Sun angle lighting may confirm spinning loose cargo door near New York
in July at 8:30 PM at 13,500 feet would be reflected as streak. Other similarities in four crashes include: nose tears off, explosive decompression mimics bomb, crew talking on radios when event happens, night takeoff, and pressurization changes to hull at catastrophic event.

The forward cargo door has opened inadvertently many times, usually on the ground. It has opened several times in the air with only minor or moderate damage. Airworthiness Directives were issued after those events. It has opened in flight leading to total destruction three times, in my opinion, which is supported by documentation on my web site at http://www.corazon.com. A glance at the attached picture of a Boeing 747-121 with the large gash in the right side of its nose may persuade you a nose could easily tear off in a 300 knot slipstream.

Mr. Francis, survivor consoler from jet crash survivor, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith

Mr. Ron Schleede, Investigator, National Transportation Safety Board.

Dear Mr. Investigator, you have seen the hole on UAL Flight 811. Could that hole become larger in the slipstream and tear the whole nose off? I think so.

You investigated UAL Flight 811. That model of plane was a Boeing 747-121. That Boeing 747-121 crash, off Honolulu in February 1989, left conclusive evidence that was very similar to another Boeing 747 crash years earlier which killed 329 people off the Irish coast in 1985. That plane was a Boeing 747-237B.

A Boeing 747-122 also crashed with similar evidence trails left. And yet another Boeing 747-131 also crashed with similar evidence trails left. Three destroyed and one that killed only nine and returned to land and tell its story which was inadvertent opening of the forward cargo door in flight.
Facts, facts, facts. There are 105 pages of facts on my web site. If you were to go on the internet to the World Wide Web and go to Universal Resource Locator, URL address http://www.corazon.com you will fine 105 pages of documentation, support, argument, and correspondence from all over the world regarding this matter, the inadvertent opening of the forward cargo door of early model 747s, one of which is Air Force One.

Regarding the four Boeing 747 crashes, Air India Flight 182, Boeing 747-237B; Pan Am Flight 103, Boeing 747-121A; UAL Flight 811, Boeing 747-122; and TWA Flight 800, Boeing 747-131.: 
Fact: All four crashes were early model Boeing 747s.
Fact: All four crashes had deaths.
Fact: All four crashes had a short loud sound before destruction.
Fact: All four crashes had abrupt power cut.
Fact: All four crashes had start of destruction start near forward cargo hold.
Fact: All four crashes had apparent explosions in forward cargo hold area.
Fact: All four crashes had explosive decompression.
Fact: Three crashes had nose snap off.
Fact: Three crashes had radar blips during destruction, possibly all four.
Fact: Three crashes had nine or more missing bodies never recovered, possibly all four.
Fact: Three crashes had number three engine ingesting foreign object damage, possibly all four.
Fact: Two crashes had mysterious blip before destruction door on radar, possibly all four.
Fact: Two crashes had crew talking on radio when catastrophic event occurred, possibly all four.
Fact: One crash had visual clue, possibly all four.

All of the above clues fit the puzzle that is solved by the
inadvertent opening of the forward cargo door of early model high flight time Boeing 747s inflight.

Mr. Schleede, pilot to pilot, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.
Sincerely, John Barry Smith

Ms. Janet Reno, Attorney General,

Dear Ms. Attorney General, your late mother would have loved this cargo door story. It has everything: mystery, money, politics, death, red herrings, explosions, prime suspects, and of course, tragedy.

Prevention is not as glamorous but more powerful than curing. Please prevent more deaths in early model Boeing 747s rather than heal the injured after the crash.

Ms. Reno, former State Attorney from a former Preventive Medicine hearing conservationist, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.
Sincerely, John Barry Smith

Mr. Louis Freeh, Director, Federal Bureau of Investigation,

Dear Mr. Director, the solution to the mystery of these plane crashes is a common mechanical fault. Although the previous investigations came to different conclusions, there is no cover up, there is no plot, there is no conspiracy; it is just honest people describing reality from their own best interest point of view, and they are wrong. We've all done it, not seeing the object we don't want to see, not hearing what we don't want to hear, and not believing what we don't want to believe.

Fidelity, Bravery, Integrity, and there is no qualifier in front of ÔInvestigationÔ, and this email is unencrypted and sent in the clear, and man to man, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. My Social Security Number is 562-58-2308. Sincerely, John Barry Smith
Mr. James Kallstrom, New York Field Office, Federal Bureau of Investigation.

Dear Mr. Agent, there was an explosion in TWA Flight 800. It was called explosive decompression. It happened when the forward cargo door opened in flight exposing the higher pressure air in the cargo compartment to the lower outside air pressure. The decompression mimicked a bomb. The deceleration following the nose tearing off in the slipstream caused many items to smash into bulkheads, mimicking a bomb. The fuel from the disintegrating wing vaporized and exploded, mimicking a bomb.

The cargo door has a criminal profile that begs to be investigated. It has killed nine passengers already under similar circumstances and has two Airworthiness Directives against it. It is the prime suspect in TWA Flight 800. Please examine attached photo of damaged Boeing 747 for clues to determine how a nose of a 747 could tear off in a split second, as has happened several times already and may happen again.

Mr. Kallstrom, professional sleuth from amateur sleuth, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith

CC: Boeing Company

US Air Force

TWA

From: "WebmasterFAA" <WebmasterFAA@mail.hq.faa.gov>
Date: September 27, 1996 9:31:04 AM PDT
To: barry@corazon.com
Subject: Rule: Re: The President, Airplane crash cause and danger
Thank you for your recent message to the FAA Webmaster. Unfortunately, it has become impractical to answer each message individually due to the large amount of e-mail we have been receiving. Therefore we are sending this auto-response to 1) acknowledge that we have received your e-mail message, and 2) to make some suggestions in response to the most frequently asked questions/comments we have been receiving via e-mail (see below).

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Thanks for your questions and constructive comments

WebmasterFAA

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know what you think.

From: "WebmasterFAA" <WebmasterFAA@mail.hq.faa.gov>
Date: September 27, 1996 9:30:14 AM PDT
To: barry@corazon.com
Subject: Rule: Re: Airplane crash cause and danger

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Date: September 27, 1996 9:30:02 AM PDT
To: barry@corazon.com
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From: "WebmasterFAA" <WebmasterFAA@mail.hq.faa.gov>
Date: September 27, 1996 9:30:00 AM PDT
To: barry@corazon.com
Subject: Rule: Re: More Fiction Stories part 1 "You Won't Believe Me.

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From: "WebmasterFAA" <WebmasterFAA@mail.hq.faa.gov>
Date: September 27, 1996 9:28:12 AM PDT
To: barry@corazon.com
Subject: Rule: Re: The President's Life is still in Danger

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From: "WebmasterFAA" <WebmasterFAA@mail.hq.faa.gov>
Date: September 27, 1996 9:27:11 AM PDT
To: barry@corazon.com
Subject: Rule: Re: The President's Life is in Danger

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From: barry@corazon.com
Date: September 21, 1996 3:20:08 PM PDT
To: WebmasterFAA@mail.hq.faa.gov
Subject: The President, Airplane crash cause and danger

WEBMASTERS: Please forward this email to appropriate staff

Dear Mr. President, Bill Clinton
Dear Mr. Chief of Staff, Leon Panetta
Dear Mr. Secretary of Transportation, Federico Peña
Dear Mr. Director, Federal Aviation Authority, David Hinson
Dear Mr. Chairman, National Transportation Safety Board, James Hall
Dear Mr. Vice Chairman, National Transportation Safety Board, Robert Francis
Dear Mr. Investigator, National Transportation Safety Board,
Dear Ms. Attorney General, Department of Justice, Janet Reno
Dear Mr. Director, Federal Bureau of Investigation, Louis Freeh
Dear Mr. Agent, New York Field Office, Federal Bureau of Investigation, James Kallstrom

Mr. Bill Clinton, President of the United States of America
Dear Mr. President,

Hello, Sir. I have important news to give. Your life is in immediate danger, although slight, hopefully slight, when you fly on Air Force One, a Boeing 747-200B. This type aircraft has a history of inadvertent forward cargo door openings in flight. Hindsight and the internet have enabled me to link several crashes of early model Boeing 747s to a common cause, the inadvertent opening of the forward cargo door in flight. Documentation, pictures, comments, and emails from all over the world regarding this discovery are on the internet web site at http://www.corazon.com

Your life, the lives of those who fly with you, and all the passengers on early model Boeing 747s are at risk to this door opening outward and upward, tearing off in the slipstream exposing a large gash in the nose which tears off.

The door openings at altitude mimic a bomb. It is not a bomb. The world will be a bit less dangerous once the causes are determined to be mechanical and not evil.

Have you ever had a car door, or hood, or trunk open unexpectedly? I have; it’s not unusual. If you have, then please give thought to possible airplane door opening and the severe consequences.

Please be responsive to this informed citizen.

Mr. Clinton, leader from follower, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.
Sincerely, John Barry Smith

Mr. Leon Panetta, Chief of Staff, Clinton Administration
I feel like saying, Leon, Leon, Leon, as that was the way I thought of you when I voted for you as Congressman several times in Monterey.

Mr. Panetta, we met in 1980 in your second floor office on Alvarado where I personally thanked you for inquiring on my behalf on a personnel matter while I was stationed in Korea. The last time I saw you, you were walking alone across Toro Park during Earth Day in 1992, just before your selection as Budget Director. I remember thinking, what a job politics is shaking hands at a post hippie ecology get together. I was with a friend selling United Nations videos, not a hot seller. I live up on Country Club Drive in Carmel Valley and pass your family's hand painted sign, Villa Bella Donna, every day on the way to drop my daughter off at Tularcitos Pre-School.

I have come to alert you, sir, of danger to you, the President, and all passengers who fly in early model Boeing 747s. Yes, this is unorthodox, an email letter from a member of the public but then, I trust, as a former congressman, that you believe that occasionally a citizen may have something important to say. I do; here it is: The forward cargo doors of early model Boeing 747s are inadvertently opening in flight, tearing off door and skin, allowing the slipstream to enter the large gash which tears off the nose leading to total destruction and the deaths of all aboard. This has happened several times before and appeared to be explosions. The attached picture is of a Boeing 747 that almost had the nose come off.

Mr. Panetta, former representative of the people from former constituent, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800 or call me at 408 659 3552 or visit my web site at http://www.corazon.com. Sincerely,
Mr. Federico Peña, Secretary of Transportation,
Dear Mr. Secretary, I invite you to a visit to my web site at http://www.corazon.com. named after my wife, Corazon Luna Smith.
Mr. Peña, traveller to traveller, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.
Sincerely, John Barry Smith

Mr. David Hinson, Director, Federal Aviation Authority,
Dear Director, I am looking at my FAA pilot’s license, number 1787797, commercial pilot, airplane single engine land, instrument airplane, of which I am very, very proud. I also received a Part 135 certificate from your agency. I was also a US Navy Lieutenant Naval Flight Officer in RVAH -1, RA-5C Vigilantes. My ejection story and US Navy accident report are on my web site at http://www.corazon.com along with the official accident reports on UAL Flight 811 and Pan Am 103.
All of the four Boeing 747 crashes described were caused, in my opinion, by the inadvertent opening of the forward cargo door in flight. The web site provides documentation, reasoning, and opinion supporting that hypothesis.
At minimum, there now exists a mysterious early model Boeing 747 crash. Air Force One is an early model Boeing 747. There are several hundred early model Boeing 747s now flying. The location of the start of destruction for TWA Flight 800 and others is near the forward cargo hold. I ask that you seal the door shut to prevent explosives from being placed there or to prevent the door from accidentally opening.
The forward cargo door has two Airworthiness Directives against it and has killed nine persons already in UAL Flight 811.
A glance at the attached picture of a Boeing 747-121 with the
large gash in the right side of its nose may persuade you a nose could easily tear off in a 300 knot slipstream.

Mr. Hinson, naval officer to naval officer, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith

Mr. James Hall, Chairman, National Transportation Safety Board,

Dear Mr. Chairman, in 1992, the NTSB conducted a very complete and well explained accident report on the crash of UAL Flight 811 in which a cargo door came open in flight and nine passengers where sucked out of their seats to their deaths. Use the key of 811 to unlock 800.

The thrust of the crash investigation should then focus on what causes the forward cargo door to open inadvertently. The NTSB stated electrical short to the door control system in UAL 811. For others, an explosive device could do it, or random electrical signals in the avionics bay might do it. There are eleven rational causes for accidental door openings listed on the web site at http://www.corazon.com. The cause of the door openings is unknown and must be discovered.

Mr. Hall, passenger to passenger, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith

Mr. Robert Francis, Vice Chairman, National Transportation Safety Board

Dear Mr. Vice Chairman, IÔve seen you on TV and believe you are a compassionate man above all. I appeal to you to prevent the future deaths of innocent passengers in early model Boeing 747s whose forward cargo door may inadvertently open outward and upward, tearing off with skin into the slipstream, exposing a large gash in the side of nose which then tears all the way off.
Please compare evidence collected in the explained cargo door crash of UAL 811 to those of Air India Flight 182, Pan Am 103, and currently, TWA Flight 800.

The specific similarities will be: 1: Short loud sound on CVR. 2. Abrupt power cut. 3. Fodded number three engine. 4. Radar blips during destruction. 5. Never recovered bodies sitting in similar seats above and just aft of the cargo door. 6. Same type of aircraft, Boeing 747 series 100 or 200 with high flight time. 7. Destruction sequence starts forward of the wing. Sun angle lighting may confirm spinning loose cargo door near New York in July at 8:30 PM at 13,500 feet would be reflected as streak. Other similarities in four crashes include: nose tears off, explosive decompression mimics bomb, crew talking on radios when event happens, night takeoff, and pressurization changes to hull at catastrophic event.

The forward cargo door has opened inadvertently many times, usually on the ground. It has opened several times in the air with only minor or moderate damage. Airworthiness Directives were issued after those events. It has opened in flight leading to total destruction three times, in my opinion, which is supported by documentation on my web site at http://www.corazon.com. A glance at the attached picture of a Boeing 747-121 with the large gash in the right side of its nose may persuade you a nose could easily tear off in a 300 knot slipstream.

Mr. Francis, survivor consoler from jet crash survivor, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith

Mr. Ron Schleede, Investigator, National Transportation Safety Board.

Dear Mr. Investigator, you have seen the hole on UAL Flight 811. Could that hole become larger in the slipstream and tear the whole nose off? I think so.
You investigated UAL Flight 811. That model of plane was a Boeing 747-121. That Boeing 747-121 crash, off Honolulu in February 1989, left conclusive evidence that was very similar to another Boeing 747 crash years earlier which killed 329 people off the Irish coast in 1985. That plane was a Boeing 747-237B. A Boeing 747-122 also crashed with similar evidence trails left. And yet another Boeing 747-131 also crashed with similar evidence trails left. Three destroyed and one that killed only nine and returned to land and tell its story which was inadvertent opening of the forward cargo door in flight.

Facts, facts, facts. There are 105 pages of facts on my web site. If you were to go on the internet to the World Wide Web and go to Universal Resource Locator, URL address http://www.corazon.com you will fine 105 pages of documentation, support, argument, and correspondence from all over the world regarding this matter, the inadvertent opening of the forward cargo door of early model 747s, one of which is Air Force One.

Regarding the four Boeing 747 crashes, Air India Flight 182, Boeing 747-237B; Pan Am Flight 103, Boeing 747-121A; UAL Flight 811, Boeing 747-122; and TWA Flight 800, Boeing 747-131:
Fact: All four crashes were early model Boeing 747s.
Fact: All four crashes had deaths.
Fact: All four crashes had a short loud sound before destruction.
Fact: All four crashes had abrupt power cut.
Fact: All four crashes had start of destruction start near forward cargo hold.
Fact: All four crashes had apparent explosions in forward cargo hold area.
Fact: All four crashes had explosive decompression.
Fact: Three crashes had nose snap off.
Fact: Three crashes had radar blips during destruction, possibly all four.
Fact: Three crashes had nine or more missing bodies never recovered, possibly all four.
Fact: Three crashes had number three engine ingesting foreign object damage, possibly all four.
Fact: Two crashes had mysterious blip before destruction door on radar, possibly all four.
Fact: Two crashes had crew talking on radio when catastrophic event occurred, possibly all four.
Fact: One crash had visual clue, possibly all four.
All of the above clues fit the puzzle that is solved by the inadvertent opening of the forward cargo door of early model high flight time Boeing 747s inflight.
Mr. Schleede, pilot to pilot, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.
Sincerely, John Barry Smith

Ms. Janet Reno, Attorney General,
Dear Ms. Attorney General, your late mother would have loved this cargo door story. It has everything: mystery, money, politics, death, red herrings, explosions, prime suspects, and of course, tragedy.
Prevention is not as glamorous but more powerful than curing. Please prevent more deaths in early model Boeing 747s rather than heal the injured after the crash.
Ms. Reno, former State Attorney from a former Preventive Medicine hearing conservationist, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.
Sincerely, John Barry Smith

Mr. Louis Freeh, Director, Federal Bureau of Investigation,
Dear Mr. Director, the solution to the mystery of these plane crashes is a common mechanical fault. Although the previous investigations came to different conclusions, there is no cover up,
there is no plot, there is no conspiracy; it is just honest people describing reality from their own best interest point of view, and they are wrong. We've all done it, not seeing the object we don't want to see, not hearing what we don't want to hear, and not believing what we don't want to believe.

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Mr. James Kallstrom, New York Field Office, Federal Bureau of Investigation.

Dear Mr. Agent, there was an explosion in TWA Flight 800. It was called explosive decompression. It happened when the forward cargo door opened in flight exposing the higher pressure air in the cargo compartment to the lower outside air pressure. The decompression mimicked a bomb. The deceleration following the nose tearing off in the slipstream caused many items to smash into bulkheads, mimicking a bomb. The fuel from the disintegrating wing vaporized and exploded, mimicking a bomb.

The cargo door has a criminal profile that begs to be investigated. It has killed nine passengers already under similar circumstances and has two Airworthiness Directives against it. It is the prime suspect in TWA Flight 800. Please examine attached photo of damaged Boeing 747 for clues to determine how a nose of a 747 could tear off in a split second, as has happened several times already and may happen again.

Mr. Kallstrom, professional sleuth from amateur sleuth, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith
CC: Boeing Company
    US Air Force
    TWA

From: barry@corazon.com
Date: September 6, 1996 3:46:46 PM PDT
To: WebmasterFAA@mail.hq.faa.gov
Subject: Airplane crash cause and danger

WEBMASTERS: Please forward this email to appropriate staff to reach addressee as you see fit. Please ensure picture of Boeing 747 is attached with .jpg viewer if necessary. Thank you, John Barry Smith barry@corazon.com

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Dear Mr. Chief of Staff, Leon Panetta
Dear Mr. Secretary of Transportation, Federico Peña
Dear Mr. Director, Federal Aviation Authority, David Hinson
Dear Mr. Chairman, National Transportation Safety Board, James Hall
Dear Mr. Vice Chairman, National Transportation Safety Board, Robert Francis
Dear Mr. Investigator, National Transportation Safety Board, Ron Schleede
Dear Ms. Attorney General, Department of Justice, Janet Reno
Dear Mr. Director, Federal Bureau of Investigation, Louis Freeh
Dear Mr. Agent, New York Field Office, Federal Bureau of Investigation, James Kallstrom

Mr. Bill Clinton, President of the United States of America
Dear Mr. President,
Hello, Sir. I have important news to give. Your life is in
immediate danger, although slight, hopefully slight, when you fly on Air Force One, a Boeing 747-200B. This type aircraft has a history of inadvertent forward cargo door openings in flight. Hindsight and the internet have enabled me to link several crashes of early model Boeing 747s to a common cause, the inadvertent opening of the forward cargo door in flight. Documentation, pictures, comments, and emails from all over the world regarding this discovery are on the internet web site at http://www.corazon.com

Your life, the lives of those who fly with you, and all the passengers on early model Boeing 747s are at risk to this door opening outward and upward, tearing off in the slipstream exposing a large gash in the nose which tears off. The door openings at altitude mimic a bomb. It is not a bomb. The world will be a bit less dangerous once the causes are determined to be mechanical and not evil.

Have you ever had a car door, or hood, or trunk open unexpectedly? I have; it’s not unusual. If you have, then please give thought to possible airplane door opening and the severe consequences.

Please be responsive to this informed citizen.

Mr. Clinton, leader from follower, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.

Sincerely, John Barry Smith

Mr. Leon Panetta, Chief of Staff, Clinton Administration

I feel like saying, Leon, Leon, Leon, Leon, as that was the way I thought of you when I voted for you as Congressman several times in Monterey.

Mr. Panetta, we met in 1980 in your second floor office on Alvarado where I personally thanked you for inquiring on my behalf on a personnel matter while I was stationed in Korea. The last time I saw you, you were walking alone across Toro Park
during Earth Day in 1992, just before your selection as Budget Director. I remember thinking, what a job politics is shaking hands at a post hippie ecology get together. I was with a friend selling United Nations videos, not a hot seller. I live up on Country Club Drive in Carmel Valley and pass your family’s hand painted sign, Villa Bella Donna, every day on the way to drop my daughter off at Tularcitos Pre-School.

I have come to alert you, sir, of danger to you, the President, and all passengers who fly in early model Boeing 747s. Yes, this is unorthodox, an email letter from a member of the public but then, I trust, as a former congressman, that you believe that occasionally a citizen may have something important to say. I do; here it is: The forward cargo doors of early model Boeing 747s are inadvertently opening in flight, tearing off door and skin, allowing the slipstream to enter the large gash which tears off the nose leading to total destruction and the deaths of all aboard. This has happened several times before and appeared to be explosions. The attached picture is of a Boeing 747 that almost had the nose come off.

Mr. Panetta, former representative of the people from former constituent, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800 or call me at 408 659 3552 or visit my web site at http://www.corazon.com. Sincerely, John Barry Smith

Mr. Federico Peña, Secretary of Transportation,

Dear Mr. Secretary, I invite you to a visit to my web site at http://www.corazon.com. named after my wife, Corazon Luna Smith.

Mr. Peña, traveller to traveller, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith
Mr. David Hinson, Director, Federal Aviation Authority,

Dear Director, I am looking at my FAA pilot's license, number 1787797, commercial pilot, airplane single engine land, instrument airplane, of which I am very, very proud. I also received a Part 135 certificate from your agency. I was also a US Navy Lieutenant Naval Flight Officer in RVAH -1, RA-5C Vigilantes. My ejection story and US Navy accident report are on my web site at http://www.corazon.com along with the official accident reports on UAL Flight 811 and Pan Am 103.

All of the four Boeing 747 crashes described were caused, in my opinion, by the inadvertent opening of the forward cargo door in flight. The web site provides documentation, reasoning, and opinion supporting that hypothesis.

At minimum, there now exists a mysterious early model Boeing 747 crash. Air Force One is an early model Boeing 747. There are several hundred early model Boeing 747s now flying. The location of the start of destruction for TWA Flight 800 and others is near the forward cargo hold. I ask that you seal the door shut to prevent explosives from being placed there or to prevent the door from accidentally opening.

The forward cargo door has two Airworthiness Directives against it and has killed nine persons already in UAL Flight 811. A glance at the attached picture of a Boeing 747-121 with the large gash in the right side of its nose may persuade you a nose could easily tear off in a 300 knot slipstream.

Mr. Hinson, naval officer to naval officer, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith

Mr. James Hall, Chairman, National Transportation Safety Board,

Dear Mr. Chairman, in 1992, the NTSB conducted a very complete and well explained accident report on the crash of UAL
Flight 811 in which a cargo door came open in flight and nine passengers where sucked out of their seats to their deaths. Use the key of 811 to unlock 800.

The thrust of the crash investigation should then focus on what causes the forward cargo door to open inadvertently. The NTSB stated electrical short to the door control system in UAL 811. For others, an explosive device could do it, or random electrical signals in the avionics bay might do it. There are eleven rational causes for accidental door openings listed on the web site at http://www.corazon.com. The cause of the door openings is unknown and must be discovered.

Mr. Hall, passenger to passenger, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.

Sincerely, John Barry Smith

Mr. Robert Francis, Vice Chairman, National Transportation Safety Board

Dear Mr. Vice Chairman, IÕve seen you on TV and believe you are a compassionate man above all. I appeal to you to prevent the future deaths of innocent passengers in early model Boeing 747s whose forward cargo door may inadvertently open outward and upward, tearing off with skin into the slipstream, exposing a large gash in the side of nose which then tears all the way off. Please compare evidence collected in the explained cargo door crash of UAL 811 to those of Air India Flight 182, Pan Am 103, and currently, TWA Flight 800.

The specific similarities will be: 1: Short loud sound on CVR. 2. Abrupt power cut. 3. Fodded number three engine. 4. Radar blips during destruction. 5. Never recovered bodies sitting in similar seats above and just aft of the cargo door. 6. Same type of aircraft, Boeing 747 series 100 or 200 with high flight time. 7. Destruction sequence starts forward of the wing. Sun angle lighting may confirm spinning loose cargo door near New York.
in July at 8:30 PM at 13,500 feet would be reflected as streak. Other similarities in four crashes include: nose tears off, explosive decompression mimics bomb, crew talking on radios when event happens, night takeoff, and pressurization changes to hull at catastrophic event.

The forward cargo door has opened inadvertently many times, usually on the ground. It has opened several times in the air with only minor or moderate damage. Airworthiness Directives were issued after those events. It has opened in flight leading to total destruction three times, in my opinion, which is supported by documentation on my web site at http://www.corazon.com. A glance at the attached picture of a Boeing 747-121 with the large gash in the right side of its nose may persuade you a nose could easily tear off in a 300 knot slipstream.

Mr. Francis, survivor consoler from jet crash survivor, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith

Mr. Ron Schleede, Investigator, National Transportation Safety Board.

Dear Mr. Investigator, you have seen the hole on UAL Flight 811. Could that hole become larger in the slipstream and tear the whole nose off? I think so.

You investigated UAL Flight 811. That model of plane was a Boeing 747-121. That Boeing 747-121 crash, off Honolulu in February 1989, left conclusive evidence that was very similar to another Boeing 747 crash years earlier which killed 329 people off the Irish coast in 1985. That plane was a Boeing 747-237B.

A Boeing 747-122 also crashed with similar evidence trails left. And yet another Boeing 747-131 also crashed with similar evidence trails left. Three destroyed and one that killed only nine and returned to land and tell its story which was inadvertent opening of the forward cargo door in flight.
Facts, facts, facts. There are 105 pages of facts on my web site. If you were to go on the internet to the World Wide Web and go to Universal Resource Locator, URL address http://www.corazon.com you will find 105 pages of documentation, support, argument, and correspondence from all over the world regarding this matter, the inadvertent opening of the forward cargo door of early model 747s, one of which is Air Force One.

Regarding the four Boeing 747 crashes, Air India Flight 182, Boeing 747-237B; Pan Am Flight 103, Boeing 747-121A; UAL Flight 811, Boeing 747-122; and TWA Flight 800, Boeing 747-131:

Fact: All four crashes were early model Boeing 747s.
Fact: All four crashes had deaths.
Fact: All four crashes had a short loud sound before destruction.
Fact: All four crashes had abrupt power cut.
Fact: All four crashes had start of destruction start near forward cargo hold.
Fact: All four crashes had apparent explosions in forward cargo hold area.
Fact: All four crashes had explosive decompression.
Fact: Three crashes had nose snap off.
Fact: Three crashes had radar blips during destruction, possibly all four.
Fact: Three crashes had nine or more missing bodies never recovered, possibly all four.
Fact: Three crashes had number three engine ingesting foreign object damage, possibly all four.
Fact: Two crashes had mysterious blip before destruction door on radar, possibly all four.
Fact: Two crashes had crew talking on radio when catastrophic event occurred, possibly all four.
Fact: One crash had visual clue, possibly all four.

All of the above clues fit the puzzle that is solved by the
inadvertent opening of the forward cargo door of early model high flight time Boeing 747s inflight.

Mr. Schleede, pilot to pilot, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.
Sincerely, John Barry Smith

Ms. Janet Reno, Attorney General,

Dear Ms. Attorney General, your late mother would have loved this cargo door story. It has everything: mystery, money, politics, death, red herrings, explosions, prime suspects, and of course, tragedy.

Prevention is not as glamorous but more powerful than curing. Please prevent more deaths in early model Boeing 747s rather than heal the injured after the crash.

Ms. Reno, former State Attorney from a former Preventive Medicine hearing conservationist, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.
Sincerely, John Barry Smith

Mr. Louis Freeh, Director, Federal Bureau of Investigation,

Dear Mr. Director, the solution to the mystery of these plane crashes is a common mechanical fault. Although the previous investigations came to different conclusions, there is no cover up, there is no plot, there is no conspiracy; it is just honest people describing reality from their own best interest point of view, and they are wrong. We've all done it, not seeing the object we don't want to see, not hearing what we don't want to hear, and not believing what we don't want to believe.

Fidelity, Bravery, Integrity, and there is no qualifier in front of ÔInvestigationÔ, and this email is unencrypted and sent in the clear, and man to man, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800.

My Social Security Number is 562-58-2308. Sincerely, John Barry Smith
Mr. James Kallstrom, New York Field Office, Federal Bureau of Investigation.

Dear Mr. Agent, there was an explosion in TWA Flight 800. It was called explosive decompression. It happened when the forward cargo door opened in flight exposing the higher pressure air in the cargo compartment to the lower outside air pressure. The decompression mimicked a bomb. The deceleration following the nose tearing off in the slipstream caused many items to smash into bulkheads, mimicking a bomb. The fuel from the disintegrating wing vaporized and exploded, mimicking a bomb.

The cargo door has a criminal profile that begs to be investigated. It has killed nine passengers already under similar circumstances and has two Airworthiness Directives against it. It is the prime suspect in TWA Flight 800. Please examine attached photo of damaged Boeing 747 for clues to determine how a nose of a 747 could tear off in a split second, as has happened several times already and may happen again.

Mr. Kallstrom, professional sleuth from amateur sleuth, I ask that you check out the forward cargo door as the cause of the crash of TWA Flight 800. Sincerely, John Barry Smith

CC: Boeing Company

US Air Force

TWA

From: barry@corazon.com
Date: September 3, 1996 9:24:33 AM PDT
To: WebmasterFAA@mail.hq.faa.gov, cnn.feedback@cnn.com, newyork@fbi.gov, safety@twa.com, neft@async.hq.af.mil, president@whitehouse.gov, boewxx01@ccmail.ca.boeing.com, webmaster@ntsb.gov
Subject: More Fiction Stories part 2 "So Now You Will Die..."

You Won't Believe Me So Now You Will Die:
Curse to Follow

Fiction by John Barry Smith,
based upon true stories and personal experiences.
1 Sep 96

Part Two

As this was going on, you were peacefully thinking about airplane movies having crashes and someone usually lives and that someone would be you. That's what you were thinking one half second ago, and that's what you were thinking as the door popped open and pressure changes started happening.
The now nine foot by thirteen foot hole in the right side of the nose of the early model Boeing 747 allowed the three hundred and thirty miles per hours air pressure into the slashed open cargo compartment. The heavy volume of fast moving air pressed against the bent and fractured floor beams. The fuselage skin on the other side of the nose blew out. The beams broke.
The entire nose forward of the wing came off. The power cables and information cables were severed at the nerve center behind the nose wheel. The nose fell down disintegrating as it went and formed its own debris trail very close to the event because it left before the wings and tail and the rest of fuselage.
As the nose fell, the flight crew inside was pushing buttons and
calling for help but all the power had been instantly cut as the nose separated from the rest of the airplane.
Now you were aware something was going on because your eardrums exploded. The normal air pressure in the middle ear cavity behind the eardrum pushed out into the now low pressure of your ear canals which were open to the now low pressure of the passenger compartment. It felt as if your brain exploded. It hadn't, that should come later. What happened to you would be called, at the pathologist's report, baro-trauma, or bilateral tympanic membrane rupture.
The now headless aircraft, which had been going three hundred and thirty miles per hour, was no longer aerodynamic and slowed to one hundred miles per hour in a few seconds. Full soda cans flew forward and impacted in the seat backs making strange holes. You were pressed into the seat in front of you in a whiplash. Many of the people around you died by breaking their necks. But you were in the rear of the plane and tightly belted so did not die, just stunned.
The aircraft carcass descended and picked up speed again. The fuselage started to disintegrate, the wings started to disintegrate, and the tail started to disintegrate. Forty thousand gallons of fuel was vaporized and surrounded the falling debris. It was about to be ignited by the hot exhaust of one of the remaining three engines still running at full power but spooling down from disrupted airflow and fuel supply.
Inside the disintegrating fuselage cabin the rush of air mixed with the screams of the remaining living passengers. One of those was you and another was the loud guy.
All you could think of was reaching under your seat and taking out your carry on bag because you knew you had a parachute there. You had never sky dived but a friend did and had asked you to buy a harness and parachute for him and bring it back. He had already paid you for the just packed and ready to go
parachute. It was red and white and blue and real pretty. You reached down, pulled out your carry on bag, pulled out the chute, unstrapped the seat belt, put on attached harness and chute, and started to get up to open the escape hatch to jump out. The noise and pain were deafening and excruciating. The loud guy saw you and grabbed hold of your leg and wouldn't let go. "Take me with you," he screamed. Yeah, right, you thought, I've never jumped out of a plane before, my parachute has never been tested before, I don't know how much weight the chute can handle, I'm scared and in pain, there's a smell of gas in the air, dead bodies are everywhere, and you want me to take you with me, risking my life even more than it is now. And I don't even like you, you son of bitch, this is probably all your fault. If you hadn't talked about airplane crashes in early Boeing 747s giving similar accident evidence when the cargo door opens up in flight, this never would have happened. So you hit the loud guy in the face with your elbow; he fell back, you looked at his face and he was mouthing words which looked like, "I give you a curse, you are cursed, I curse you." Ha, you thought, that's all I need, like I'm not cursed now. You reached an emergency exit and just as you were about to open it, the whole side of the fuselage peeled away and everyone near you, including the loud guy, floated out into dusk lit space. On the ground the radar operators noticed a sudden strange blip that flew away and that all of a sudden many primary, skin paint radar blips appeared where your plane was supposed to be and the secondary radar transponder replies had stopped. They called the crew but got no response. So they called air sea rescue and gave the location of last position before communications and radar contact were lost. You and the loud guy fell together through the sky amongst all the debris and fuel vapor. You looked over and dimly saw, in the
waning sunlight, two halves of a door weaving back and forth like frisbees. The door halves came toward you and just as they approached, they veered and came together in the middle of the loud guy. You could see his head on the top half of his body look down and then look up at you. He strangely grinned and mouthed some words. They looked like: "The cam lock sectors are in the unlocked position but the locks are in the locked position. I was right, it was the inadvertent opening of the forward cargo door inflight that causes crashes of early model Boeing 747s giving similar destruction evidence. And it happened to us!"

With that the loud guy and door separated into two pieces and floated away and floated away, finally.

You pulled the ripcord and the drogue chute opened up and pulled the main chute out to inflate in the rushing air.

Just then one of the three hot jet engines ignited the fuel vapor and the entire remaining fuselage and wing and tail erupted into a huge fireball seen for miles around.

But you were mostly above the fireball. That is, the chute was above the fireball, you weren't. The burning fuel vapor expanded and just reached you as you had slowed your descent with the open parachute. The fire burnt all your clothes off, and melted the polyester material in your shirts, socks, pants, and underwear into your skin, like a permanent tattoo.

But the main chute was intact. Then minute pieces of debris blew in your eyes and partially blinded you. Other pieces of debris were spinning around like razor blades and a few pieces flew by and cut several of the lines connecting you to the parachute. Your velocity increased because of the decreased lift provided by the chute.

Everything was under you now. The nose had since landed and formed its own debris trail. The rest of the aircraft was falling into the water forming its own debris trail. The flight data recorders had fallen into the water and were transmitting a
homing signal for the searchers and investigators to find. The engines had landed, some with foreign object damage and debris still inside the burn chambers. The radar blips were fading from the ground radar screens. The fire had gone out. Many parts of passenger bodies were floating on the water after they had hit and exploded like a water balloon thrown from a rooftop ten thousand feet high onto a hot driveway.

It was just you coming down, injured, in pain, disfigured, in a damaged parachute too fast to survive. But, as luck would have it, as you predicted, someone usually survives in airplane crash movies and you figured it would be you. Just under you was an island with a big volcano on it. The volcano was so high that snow would fall and remain all year long. A tall tree stood over a very deep snowbank which angled downward towards the sea. You couldn't see much because you were blinded, but you felt your still rapidly descending body hit the branches of the tree which slowed you down, although breaking your back, and then you felt yourself land into the soft deep snow which slowed you down, although breaking your neck, and then you felt yourself sliding and sliding and sliding down the hill, slowing all the time until you came to a stop.

You looked up. You couldn't move, in severe pain, deaf and blind, but you were alive. Ha, you thought, I fooled you. You can't kill me. You did wonder though, what was the curse that the loud guy had given you. You passed out. A local scientific team had seen you, found you, called for helicopter rescue, and sent you to a hospital where you went into surgery and coma for six weeks.

During the six weeks this is what happened. The search was immediately started to retrieve the flight data recorders. Radar tapes were reviewed. A strange radar blip before the destruction started was reviewed over and over again and
dismissed as an anomaly. The streak was dismissed as eyewitness exaggeration. The radar blips recorded during the complete destruction were tracked to the sea and the search area was defined. Searchers found debris and floating bodies. The FBI was called in to investigate because Boeing 747s just don't fall out of the sky. The FBI assigned five hundred agents to the investigation. They started investigating all passengers who had flown on the destroyed aircraft and all passengers who had flown on the plane the flight before. Many suspicious persons were discovered and issued subpoenas to appear before a judge to answer questions and present records or be held in contempt of court and go to jail. The FBI asked the Treasury Department to assign agents of the Alcohol Tobacco, and Firearms to assist them in the investigation because they didn't have enough agents. The NTSB was in charge of the investigation. The few investigators available became garbage collectors for the debris which was then analyzed by the FBI which stated that they knew a bomb blew the airplane out of the sky and they would just have to find the proof and would, sooner or later. The FBI quietly released all interesting information that supported a bomb theory every day to the press while denying they were the source leaving the impression that the NTSB was of the unofficial opinion that it was a bomb but didn't want to go on record just yet.

The flight data recorders were found. The cockpit voice recorder ended with a short loud sound, or thump, or bang, which baffled the investigators. The data recorders ended abruptly which indicated a sudden power cut to the data recorders which baffled the investigators. The investigators said that a mechanical defect which would cut the power supply that quickly was a remote possibility but that it is not ruled out. No possible defects were offered as candidates.

Some crazy guy started emailing the NTSB to investigate the
possible opening of the forward cargo door in flight, just like UAL flight 811, which had a cargo door open and tear off in flight, killing nine people and leaving much evidence before returning and landing safely. Compare Flight 811 data to the recent crash, the crazy guy said. And Pan Am 103, and Air India 182. He was reassured by the NTSB investigator that everything was all right.

Engine number three was brought up to the surface with foreign object damage inside it.

Two massive debris trails were laid out and more debris retrieved. The FBI took control of the two pieces of the forward cargo door and sent it to the FBI laboratory in Washington DC for evidence of bomb residue. The lab tech moved the latches and locks and cams around from their found position to examine all the crevices for explosive residue. None was found.

The recovered body count grew daily but never got below ten with many of the missing assigned to the magic seats from row eight to twenty eight.

The floor beams above the cargo hold were recovered and put aside.

Paper work discovered that two Airworthiness Directives were against the forward cargo door on early 747s. One was called "To Insure That Inadvertent Opening of the Lower Cargo Door Will Not Occur Flight," an event termed not acceptable by the FAA. A possible cargo door opening was not ruled in or out or ever mentioned as a potential cause of crash.

The Boeing representative who was assisting the NTSB investigation reassured investigators that the Boeing 747 is a strong airplane and would not have any mechanical defects and therefore it would be a waste of time to look for one and the time is better spent looking for a one time only type event cause such as a leaking fuel tank explosion which fault could be placed on the airline which had not managed to place a representative on
the investigation team. The investigation team was led by a very cautious, sensitive man who spent many hours consoling the grieving families of the dead passengers. He made it a priority to recover the bodies ahead of clue filled debris. He was surrounded by engineers, investigators, and aviation employees who had a very intense personal interest in the determination of the cause of the crash. Their lives, livelihoods, families, careers, promotions, retirement, self esteem, and identity were all riding on the outcome of the investigation. They were very obliging in assisting the NTSB and worked long hours presenting the truth as they saw it. The FBI continued its minute examination of every piece and fragment of the wreckage looking for microscopic traces of explosive. Some invisible molecules were found on very tiny pieces. A meeting was held to determine if the FBI should supersede the NTSB as leader of the investigation. The decision was made to wait a while longer. Without official authority the FBI continued to issue subpoenas, tail foreign nationals, monitor phone calls, intercept mail, and prod informers for information. The same crazy guy with a web site who says forward cargo door did it all goes on the radio and talks about it. Some newspaper reporters call but lose interest when it is discovered the guy also says the forward cargo door brought down another Boeing 747 which everybody in the world knows was a bomb, not a cargo door. He must be crazy. He even said another bomb blown up plane years ago was a cargo door. Three 747s blown up by bombs and he thinks it's a cargo door opening. "We'll be in touch, see you later," they said, ever so polite. You remain in a coma, oblivious to it all. The world waits for your recovery to shed some light on the mystery. Your eardrums heal. Your eyes regain some vision. You start to shake in your hospital bed. Your eyelids quiver. Your fingers twitch. Every move is carried live on TV under the "developing story" caption.
However, more weeks go by and not much happens. The daily press briefing is discontinued from lack of interest. The crash is old news supplanted by newer airplane crashes. The press loses interest in crash cause since the exciting bomb or missile idea fades leaving boring mechanical problem as possibility. It looks like the US is not going to go to war to get even with someone by killing a lot of strangers. The media attention moves on.
The body count ends with ten unrecovered bodies from the shark filled water. Most of the debris is brought to the surface. It looks like the cause will be unknown until a probable cause is issued a year or so later by the government when most interest is lost. The aircraft manufacturer breathes a sigh of relief, their airplanes will still be built and sold. The airline breathes a sigh of relief, their airplanes will not be grounded. The insurers breathe a sigh of relief, claims take years to settle, especially with an unknown cause. The engine manufacturers breathe a sigh of relief, their engines are OK. The government breathes a sigh of relief, the administration is not embarrassed by lack of oversight and employment is kept high by making the planes and flying the passengers around. The passengers scratch their heads and say, well, you got to trust someone, and if you can't trust the government, who can you trust?
The crazy guy with the web site sits typing all day long, scanning photos all day long, responding to email all day long, and uploading pages to his web site all day long. Web site hit count goes down and down as interest is lost in old news. No one calls, no one emails, friends get tired of hearing about the stupid cargo door thing, family roll their eyes and look at each, he's off again, try to change the subject, wife says, as she has said for six years, I don't want to hear about that anymore.
His four year old daughter brings accident report book to web site guy, opens it up to picture with hole in side of nose and says, hole, then she picks and points to picture of pieces on ground and
says, pieces, then she points to reconstructed fuselage sequence
and says, airplane, then she points to forward cargo door and
says, door. Web site guys thinks if a four year old can understand
concept of door opening up in flight exposing large hole in nose
which tears off which causes plane to crash into pieces, then
there is hope that others will understand, the doors will be fixed,
planes fly again and life goes on.
Rejuvenated with energy and hope, he shuts down web site and
plays computer game with daughter thinking, this is what's real
and important, not some strangers far away who will hurl out of
their seats into the night to their deaths. Hell, probably some of
them are escaping bank robbers and deserve to die. He and
dughter play video game, forgetting all about stupid forward
cargo door opening in flight thing.
You start to come out of coma. The doctors allow you to be
interviewed. The FBI is chosen to interview first with others
watching on closed circuit TV. You are badly burned, mostly deaf
and blind and a quadriplegic. You communicate to others by
moving a pencil clamped between your teeth and slowly tapping
out your answers, letter by letter, on a computer keyboard which
flashes your answers around the world on the internet.
First, the FBI welcomes you and assures you everything is all
right and the little IRS problems, discrepancies really, that were
discovered when investigating your life have been, well, will be,
taken care of. And they just have a few questions about the cause
of your terrible accident.
What do you remember seeing? they shout loudly so that you can
hear.
You hazily recall a sharp visual image and peck out, "Flying
pieces of metal, moving back and forth."
Ah, says the FBI. What did they look like?
"They moved together, like they had a life of their own," you
tapped, thinking back to the two halves of the door floating and
coming together in the midsection of that loud idiot. 
"It was terrible," you typed, unprompted, "they hurt him, oh, they hurt him, and then they went away."
Hmmmm, said the FBI inside the hospital room.
Hmmmm, said the manufacturer representatives.
 Hmmmm, said the insurers.
 Hmmmm, said the many involved government agencies.
 Hmmmm, said the TV reporters.
 How did it happen, they asked the FBI to ask. The FBI asked.
 "Everything was normal, I heard a great noise and felt a great pain, and the plane went down. It was as if something had hit the plane and cut it in two," you typed.
 Hmmmm, went everybody.
 Thank you, said the FBI, we'll get back to you on that, here's our card; if you think off anything else, just give us a call.
 You went to sleep as the administered drug took effect.
 More days passed. You rested. The web site guy had a new interest, putting in a brick walkway next to his driveway.
 Everyone agreed that was a good interest, so real, so satisfying, so fulfilling, so non-weird. His wife and friends started talking to him again.
 The manufacturer and airlines and insurers and government representatives were very busy, however. One day they all got together in a oiled wood paneled room and asked what can we live with regarding this plane crash, flight so and so, the exact number was fading in their memories actually. The amount of money riding on the cause of the crash was very clear to them. It was 2.1 billion dollars.
 They reviewed the evidence. They had radar blips of a plane bursting in mid-air. Electrical power was cut suddenly. There was no real evidence of a bomb and that had been done before anyway, twice. The weather was fine. The pilots were cool. And they had an eyewitness account and some found notes in a
passenger's purse. The eyewitness testimony indicated a mid-air collision with a thinking, controlled object. The tattered note evidence indicated flying saucers.

It was agreed that the only plausible explanation, based upon available evidence, that would be acceptable to the innocent manufacturers of engine and airframe, to the innocent airline, and to the innocent government agencies was the cause of the crash to be a mid-air collision with an unidentified flying object or objects that departed the scene.

The fact that the UFO was not seen on radar was explained that it was a stealth UFO. The fact that no metal not common to the crashed airplane was found was explained as aliens have high technology metals which don't leave traces when they hit ordinary human made aluminum. The choice of one or more objects was added so as to appear not too certain of the event but to give an impression of mature latitude.

Everyone agreed this was fine solution. The manufacturer and airline could not be held to blame for a mid-air with an invisible flying saucer, it could happen to anyone. The insurer was elated because now the liability was limited to a small amount per passenger instead of a huge amount for negligence. The TV and other lesser media such as newspapers and magazines loved the idea knowing ratings would soar as the fake pictures and reasoned conjectures flooded into the talk shows. The government was very satisfied because now it could ask for and receive unlimited extra funding for research into alien defense mechanisms, hiring more agents, buying more machines, and being able to cloak much more activity and spending as Top Secret, Need to Know Only, and not many people needed to know, that's for sure. In fact, the fewer people that know, the better, was the motto of the heads of the government agencies as they submitted their confidential revised funding requests.

The accident report was released. It ignored all aspects of a
mechanical malfunction and emphasized the sudden power loss, the strength of the airplane, the written evidence, and the conversation of the only eyewitness. It came to the conclusion that the probable cause of your crash was a mid-air collision in the forward cargo hold area with an unidentified flying object/objects that departed the scene. As an appendix, a recent scientific discovery of life on Mars was added, just for information's sake.

You came out of the coma again. Your head was clear. You researched your accident and several others. You remembered the conversation of the loud guy talking about similar accidents to early model Boeing 747s giving similar evidence which now matched your accident. You remembered the whine of the door motor and the decompression. You remembered the door halves coming together and the cam latches being confirmed as being open by the loud guy. Now you knew what caused the huge plane to crash and what caused all the others to crash and kill all those people. You wanted to stop the killing, to stop the crashes, to fix the doors and to tell the world what had happened and how to fix it. You knew it could happen again.

You started typing on your computer into the internet after finding the original, now abandoned, crash web site about doors. You started the site back up again and typed, "It was the opening of the forward cargo door in flight that caused my plane to crash. I felt it. The opening in flight of the forward cargo door is causing the crashes of early model Boeing 747s. It is all documented, common sense, reasonable and likely. The problem can be fixed forever."

You were ignored; you were not believed; you were scorned; you were rebuffed; you were rejected.

You called a physician known to assist troubled people out of existence. After the deadly injections, you typed to the world, "It's true, I am cursed. I know the truth. Goodbye."
You had previously written a code virus to be placed in personal computers to automatically appear on every anniversary of your crash date.
The crash anniversary arrived. The virus took effect. The message displayed to the world: "You won't believe me so now you will die."
The End
#Comment: When the next 747 crashes...Key word here is fiction.
#Contents
barry@corazon.com

From: barry@corazon.com
Date: September 3, 1996 9:24:11 AM PDT
To: WebmasterFAA@mail.hq.faa.gov, newyork@fbi.gov, cnn.feedback@cnn.com, safety@twa.com, president@whitehouse.gov, nefft@async.hq.af.mil, boewxx01@ccmail.ca.boeing.com, webmaster@ntsb.gov
Subject: More Fiction Stories part 1 "You Won't Believe Me..."

You Won't Believe Me So Now You Will Die:
Curse to Follow

Fiction by John Barry Smith,
based upon true stories and personal experiences.
1 Sep 96
This is the web site for the fatal crash of the next early model Boeing 747 to fall from the sky in pieces. The date is anytime after 1 September 1996 so the actual numbers will have to be filled in by you. I'll just make some helpful guesses, OK?
The Crash:
Airline: Random, fill in actual.
Type Aircraft: Boeing 747-100 series or Boeing 747-200 series
Flight Number: Random, fill in actual.
Date: Random, fill in actual date after 1 Sep 96
Time: Night takeoff
Flight Mode: Climbing
Altitude: Random, fill in actual.
Speed: About 330 miles per hour or 300 knots calibrated airspeed.
Fatals: All on board, maybe one survivor.
Passenger List: Place your name here as well as anyone else likely to be travelling with you.
From: Random, fill in where you took off.
To: Random, fill in where you thought you were going to land.
Where: Over ocean
Radar Information: Radar blips just as destruction starts and during breakup.
Data Recorder: Abrupt power cut.
Voice Recorder: Short loud sound then silence.
Engine Info: Engine number three foreign object damage.
Wreckage Trails: Two, one for the nose and the other for the rest of the plane.
Damage starts where: In the forward cargo hold area just forward of the wing.
Official Cause: Terrorist bomb, or fuel tank explosion, or friendly fired missile, or... you'll have to help me out here because all I can think for crash cause is a reasonable, common sense, mechanical explanation that has happened before, happened now, and will happen again. But you don't want to hear that explanation. You will not listen. You will not understand. You won't believe me and now you will die.
Details of crash: Well, here I'll just have to tell it to you like a story, like I'm telling it to you personally, like it's totally about you, OK? I think so. Here we go.
All passengers, including you, were eager to get on board and get settled into their seats so they stood at the entrance of the boarding ramp when the flight number was called. The attendant took their tickets and they moved on board and found their assigned seats. Some sat in the magic seats which are in rows eight to twenty eight. Sometimes when passengers sit there they disappear and are never seen again, even though many people spend many hours looking for them.
The airplane had over fifty thousand hours flight time amongst several airlines flying in all conditions in all parts of the world for twenty five years. It was was maintained to United States Federal Aviation Regulations standards. These 747s will last forever, you thought.
You picked a seat selection in the rear because you heard that was the safest. When a plane crashes and has survivors, they usually are from the rear, that's the theory, you thought, as you stuffed your carry on bag under your seat.
You got settled in for the six hour flight from where you are now to where you are going. A one hour climb, a four hour cruise at thirty thousand plus feet of altitude, then a one hour descent to landing and cheated death again, you chuckled to yourself.
The first part of the flight was to pretend you were in a car on the freeway. OK, buckle up the seat belt, put your seat in its full upright position and look out the window at all the pretty sights. You read the crash card in the pocket in the seat back in front of you and looked at the escape hatches nearby. You wondered what happens if some crazy person walks over and unlocks that little escape door. Does it open easy or hard and then what? Oh well, forget about it, no use worrying about stuff you can't control.
The three person flight crew of the Boeing 747 had finished the preflight walk around, looking carefully at the outside of the aircraft for hydraulic leaks, oil leaks, bent metal, open hatches, or anything else they didn't expect to find. They discovered nothing
The baggage handlers had finished their job and had loaded all the passenger's baggage, full of spare underwear and shoes, into the three cargo holds. The two aft cargo doors and the forward cargo door were all closed electrically. The complex system of lock sectors, cam latches, pull back hooks and door stops had functioned correctly. There was wear, of course, on the cam and locking pins. And the door control cable bundle was frayed, of course, from the many openings and closing of the door. If the door has to be opened at the last minute for some extra baggage, then it can be opened mechanically by back driving the sectors with a ratchet wrench. This sometimes damages the cam sectors so they appear to be locked but they are not.

On your flight, the door was not opened at the last minute and back driven mechanically. The frayed wire bundle did not rub against the metal fuselage. The wear and tear on the metal was not excessive. On your flight the door closed normally.

The early Boeing 747 fired up its number 1 engine, (all the way on the left,) then 2, then 3, then 4, (all the way on the right). The large plane lumbered out to the end of the runway.

Takeoff clearance was given and the pilot pushed the throttles all the way forward. There was not another fully loaded Boeing 747 on the runway in front of you and you did not collide with it, as happened before in the number one worst aviation crash ever.

You took off smoothly.

The plane started to climb. A loaded Boeing 747 gains altitude slowly. You reached 300 knots calibrated airspeed, stabilized, and started the long climb to cruising altitude.

Now it was time to pretend you were in a cafe chatting with friends by having some peanuts and a complimentary beverage but it would be some time before the steward got to your seats in the rear. The climb continued uneventfully.

You thought ahead to when you would pretend you were in a
movie theater and watch the movie. And then you looked forward to later when you would pretend to be your bed at home in your bedroom by leaning back in your seat with a pillow behind your head and trying to go to sleep. Already the group in back of you was pretending they were in the living room back home by talking loudly and laughing at stories. One woman's voice mentioned she is saving her receipt for purchased china at the duty free store to avoid taxes, just in case she is hassled. The receipt says something about buying saucers.

Ground radar was tracking you two ways: One was by the ground radar energy beam reflecting off your large metal airframe and returning to the radar set. Depending on how long that returned beam took, a distance was determined. The other way was by sending a radar beam to trigger a box which sent back another beam to the radar set. Again, by timing and decoding the signals a distance, an altitude, an airspeed, and heading could all be determined so that the ground personnel could direct your plane safely and keep it from colliding with others.

The flight crew was in communication with the ground controllers who were issuing orders on what heading to fly, what altitude to maintain until a certain time, and what codes to put in the box to be triggered by the ground radar.

The Captain came on the speaker and spoke with that reassuring, everything is normal, everything is gonna be all right, sit back, enjoy the flight voice, and he was so glad you could join us here with this wonderful airline in this wonderful airplane on this wonderful day. You could just see him with that touch of gray in his hair, that impeccable uniform, and those steely eyes with a glint of friendliness, if you just got to know him.

During the climb you half listened to the loud conversation in back of you. One voice grated. This guy, obviously an idiot with
an annoying voice, was complaining how he thought this flight was going to be on a different airplane but they substituted this early model Boeing 747 at the last moment because of unexpected passenger loads.

You thought, that's right, Jack, airlines have to make money too, you know, and if this plane makes more money than the other one, then this is the plane to fly in; no profit, no flying at all. Wake up, dummy, and join the real world.

The guy in back wouldn't shut up as he went on about a series of similar crashes that were attributed to bombs, or fire, or something, but he knew, and nobody else knew, that the causes were really a forward cargo door popping open, being torn off in the wind exposing a large hole in the nose, the nose tearing off, and the plane crashing, killing everyone, on airplanes similar to this one.

Then why are you flying, you idiot, you thought, and why are you the only idiot to know about it. The guy answered as if reading your thoughts, his wife had a credit card that gave a mile for every dollar she charged and enough miles had accumulated for a free flight somewhere. He said he thought a dollar meant a mile which meant a mile, but a mile meant a tenth of a mile and he hated to be lied to right off the bat by the people into whose hands he was putting his life.

What the hell is that guy talking about, you thought. Where are earplugs when you need them. And wasn't it against the law to talk about blowing up airplanes?

The guy went on, I refused to let her or my daughter fly in these dangerous planes so I took the flight, just because I love flying and have been flying for years. It's my life.

You mean you have one, news to me, you giggled to your self. Yeah, nobody believes me, the loud guy said to the others which you hoped were pretending to be sleepy and closing their eyes so that maybe he would shut up. Yeah, even though I've written to
the President about his airplane, Air Force One, which is an early 747, the FBI, who wants bomb information and not mechanical details, the NTSB, the FAA, the news people, and, of course, my friends who got spooked about the President and the FBI and stopped talking to me along with the government agencies who ignored me.

Get a clue, idiot, you thought, does being ignored tell you anything, like right now when nobody is replying to you.

Well, life is tough out there and you just have to take your chances with an act of God once in a lifetime, wrong place at the wrong time event, said one new female voice.

Oh, no, don't encourage him, you thought.

The loud idiot said that finally he figured that since nobody agreed with him over the years, that maybe he was wrong and what the hell, the risk was small anyway, and if you can't trust your pilot, your manufacturer and your government, who can you trust.

Exactly right, you idiot, now shut up. You thought again about putting some earplugs in because the last thing you wanted to think about, as you listened to the reassuring steady whine of the huge four jet engines carrying you three hundred and thirty miles an hour through the night air, was airplane crashes. Give me a break, you thought, I've got enough to worry about without thinking about things I have no control over. Maybe I'll order a drink and pretend I'm at my favorite bar with my buddies watching football. You pushed the overhead button to get the attention of the steward but realized that the steward had two hundred people to give beverages to before he got to you so you just lay back and took a deep breath and relaxed. And the button didn't make the light come on anyway, it was broken, but no problem. It was trivial.

But it made you think, how many pieces was this plane made of? How many didn't work? If the story were true about a structural
defect in Boeing 747s, you thought, why did the manufacturer not do something about it? Why did not the government transportation agencies investigate it and find out the real cause? Why did not the TV and radio and newspapers write about it? It must be bull, some nut with a strange story just to get attention. But...but...but..you thought back to the crashes and remembered thinking, they can't all be bombs, and in your experience, the simplest, ordinary, cause of an event is usually the correct explanation, not the weird ones that make good movies.

So you thought about airplane movies, they did always have a crash in them someplace, didn't they? But usually someone lived and you always expected that someone would be you, didn't you? The plane lumbered on, gaining altitude as the fuel burned off, the speed stayed the same, and the excess thrust was converted to lift.

There was no bomb aboard. There were no explosives stored in the baggage compartment. No one was on a boat aiming a missile at you. There were no fires in the lavatory about to be started by a smoker. The engines were running perfectly. The crew was not asleep or drunk. The ground control personnel had normal working equipment with good power backup as they watched you on radar and talked to you on high powered radio transmitters. There was no crazy hijacker on board. There were no mountains ahead higher than you were. You were not lost.

The flight controls were responding correctly to pilot inputs. There were no corroded metal panels about to part. Everything was working normally; everything looked normal, everything sounded normal. The pilot keyed the mike to tell the ground that everything was normal.

But of course, everything was not normal. For some reason, and I don't know the reason, and if I don't know the reason, then I know you don't know the reason because I'm telling this story, the forward lower lobe cargo door motor was powered up and
started to whine. The motor moved the door locks and cams to the open position. Why? Who knows? It could have been one of lots of reasons: faulty electrical short, defective lock mechanism, door not shut properly, wear and tear, maybe an incorrect open signal sent to door control system by interacting avionics transmitters located behind nose wheel; who knows? Who cares? Well, you care because as the door cracked open in the fast moving air flow the higher pressure air inside the cargo compartment pushed the door open quickly into the low pressure outside air. The right side cargo door instantly flew up and out on its upper piano hinges, hit the fuselage in front of the wing, broke in two and the lower half flew off into space reflecting ground radar beams as it went. It also reflected the sun which was barely seen above the horizon at your altitude. The sunlight reflected off the spinning shiny metal door and appeared as a streak to viewers on the ground far away as it fell. The upper half of the forward cargo door remained attached to the hinges and tore off a large piece of fuselage skin above the door and flew off into space reflecting ground radar beams as it went into space. These pieces later landed closest to the door opening event because they left first and fell first. The door being cracked open and being torn away happened so fast that the huge hole opened up in the nose before anybody realized it. The high pressure air in the now open cargo compartment rushed out in an explosive force to equalize with the low outside pressure air. This rushing noise was loud and was heard as a loud sound, or bang, or thump on the cockpit voice recorder. Baggage from the cargo compartment was pushed outside into the engine intake airstream which was being sucked into the huge 40000 pound thrust engine number three, the inboard engine on the starboard side. The hi-bypass jet engine sucked in the plastic, metal, and wood baggage. The foreign objects hit the high speed revolving turbine blades and were cut
up and passed through to the burner section which cremated the small items. The metal objects blunted the leading edge of the turbine blades which rubbed against the intake and started a disintegration process inside the engine which led to excessive vibration which would shortly lead the engine to detach from the pylon and airframe and land separately from the other engines. The floor beams buckled downward as the high pressure air in the now open passenger compartment pushed the beams down into the now low pressure cargo compartment. The large hole above the cargo hold and passenger compartment allowed carry on baggage, metal carts, and humans to be pushed out into the fast moving airstream and to be sucked into the number three engine which was vibrating badly but still powerful enough to ingest foreign objects and mulch them up, burn them up, and spit them out. At least ten passengers in the magic seats in rows eight to twenty eight were pushed from their seats into the airstream to be sucked into the intakes and were ground up, mashed, and burnt to small particles which were exhausted into the thin air to drift away on the winds.

As this was going on, you were peacefully thinking about airplane movies having crashes and someone usually lives and that someone would be you. That's what you were thinking one half second ago, and that's what you were thinking as the door popped open and pressure changes started happening.

Continued in Part Two.

From: barry@corazon.com
Date: September 2, 1996 10:36:11 AM PDT
To: WebmasterFAA@mail.hq.faa.gov
Subject: Fiction story about TWA 800

Fiction story about plane crash investigation. Please forward.

#
There was once a plane crash. It was terrible. Many children, boys, girls, men and women died terribly by being burnt, smashed, cut, and suffocated. Their families and friends cried when they found out. Everyone was sad and upset. It was a mystery why the plane crashed. Everyone said, "Find out why the plane crashed." So they did. Here's how they found out how the plane crashed. The government established an agency composed of experts to investigate the circumstances and events leading to, during, and after the crash. The government agency, called the National Transportation Safety Board, or the NTSB, appointed a person to oversee the Board. He was called the Appointee. He believed that his Administration oversaw the safest aviation transportation system in the world. And he was right. The Appointee went to the scene of the crash. It was a mess; bodies and pieces of plane were everywhere. The NTSB took charge and organized teams to recover the pieces of the bodies and the plane. The pieces of bodies went in one direction and the pieces of plane to another where it was put back together. The bodies were not put back together, or they were, I'm not sure about that. The NTSB had an investigator, called the Investigator, but needed more help; like most government agencies they were underfunded and understaffed. No government agency ever has enough funds or staff, that's why they are called government agencies. The Investigator believed that he investigated aircraft accidents fairly and comprehensively. And he was right. The NTSB Appointee asked the company who made the airplane if they would send someone over to help discover why his
airplane crashed and killed all these people. The airplane maker said, sure, here he is, you can call him the manufacturer's representative; we can call him the Maker. The Maker went to the crash site to help the NTSB. He believed his airplane to be the strongest, safest airplane in the world. And he was right. Everybody had ideas why the plane crashed. The most exciting ones were the most talked about, of course. What is the most exciting one you can think of? Boom? Yes! A bomb goes boom in a boom box is an exciting idea. But, it's been done before, so this time, bomb go boom in a boom box was not accepted right away. But maybe an exciting rocket powered missile could have hit the airplane? Maybe! So the Government agency involved with missile attacks by foreigners, the Federal Bureau of Bomb Investigation, was brought into the mystery. The FBBI assigned an agent, the Agent, who believed that he conducted investigations that were complete and based on fact. And he was right.

He initially wanted to find a bomb but if he couldn't get that, he would settle for a missile; so they started examining every piece of the airplane for explosive residue. Residue is something very small, invisible trace usually, which is found on something very small, a fragment actually. Explosive residue can be found around a child's cap gun or a nuclear explosion so if the residue is found, the conclusion can be very flexible and be made to fit whoever makes the discovery. So everyone worked very hard to find explosive residue. And they found some! But there was nothing around the residue that looked like an explosion had hit it so the residue stood alone waiting.

The NTSB Appointee, his Investigator, the Maker, and the FBBI Agent were all at the hangar where the pieces of the plane were being put back together one day. They stood around. They each had a cup of coffee in a cup with their agency logo on it which matched their windbreakers. They were sharp.
"How about them 'Niners," one of them said, "think they got a chance 'gainst Dallas this year?"
"No," the Agent replied.
"How's the investigation going?" asked the Investigator.
"Wait a minute, that's my question," said the Appointee.
"Well, I can ask that question, too," said the Agent.
"Yeah, me too," said the Maker.
"OK, OK, everybody can share and ask the question, how's the investigation going?" said the Appointee.
"What investigation," said the agent, and they all laughed. They got along awfully nice together.
"Well, the plane came apart in the air. The nose separated first and fell forming a debris trail. The rest of the airplane fell and exploded later forming its own debris trail," said the Maker.
"We haven't found any conclusive evidence of a bomb or missile or any hostile action against the plane," said the Agent.
"We reviewed the paper history of the plane and discovered it is an early model Boeing 747 and has over fifty thousand hours of flight time with several airlines flying all over the world in all types of conditions. There are also two Airworthiness Directives against the only item in front of the wing near where the destruction occurred on the right side which caused the nose to come off: the forward cargo door," said the Investigator.
An Airworthiness Directive is an order to the airline from the Federal Aviation Authority that a very dangerous condition exists and if the instructions in the Airworthiness Directive are not followed exactly, the aircraft is not permitted to fly. The forward cargo door had two Airworthiness Directives based upon previous events in which passengers were killed because of the door malfunctioning and opening in flight.
"The people are trusting us to find out what's wrong. They are continuing to fly in this type aircraft. I have consoled the victim's families. We will give daily press briefings and keep the public
fully informed of all our discoveries regardless how trivial we think they may be now. I've asked for help from the public, has anyone received any help?" asked the Appointee.  
"Yes, I have," said the Investigator.  
"What was the help," asked the Appointee.  
"An informed member of the public, who has vast experience in many aspects of aviation, suggested I visit his web site which has a hundred pages of documented evidence linking three crashes of similar type aircraft to this crash. The linking evidence is solid. He said to compare this crash to another which is similar and had a solution. The conclusion is that the inadvertent opening of the forward cargo door is tearing off leaving a big hole which causes the whole nose to come off. I reviewed the pages and they are legitimate extracts from government reports. The member of the public said he was granting our request for help and suggested we rule out the cargo door right away," the Investigator concluded.  
"Well, that was very nice of the public," said the agent, "what a nice guy."  
"That's very interesting," said the Maker, "let me check out that theory, where is the cargo door?"  
"Over there," said the Agent who had previously checked it for explosive residue and found none even though a large explosion was suspected in the vicinity. The Maker walked over to the pieces of the door.  
"What's the address of the web site," asked the Appointee, "I'd like to peruse the pages."  
"http://www.corazon.com" said the Investigator, "and his email address is barry@corazon.com."  
The Appointee went over to a nearby computer, went on the internet, booted up a web browser, put in URL address, and started reading the pages.  
The Investigator asked the Agent, "Can you get us copies of the
other accident reports although they belong to foreign countries."
"Can do easy, GI," said the agent and immediately picked out the
small cellular phone from his coat and made a call. The logo of
his agency was on the back of the phone and matched his coffee
cup and windbreaker. He was sharp.
The Agent called some other agents who called some people who
obtained the files and faxed them to the Agent in the hangar.
"Yeah, getting confidential files from a foreign government
quickly, piece of cake," the Agent mumbled under his breath.
"Hey this is great," said the Investigator, as the faxes came
across. "Look at the evidence of voice recorder, radar
information, destruction sequence, engine evidence, body
pathology, and aircraft reconstruction, it all matches! And the one
.crash that we definitely know was a cargo door has matching
evidence to the mostly mysterious ones."
"Who said the one sure cause was a cargo door?" asked the
Agent.
"Me," said the Investigator, "I did that crash and it was the door
opening in flight, we found the door, it was unlocked, all the
evidence is correct."
"Hey this is great! This is very interesting," said the Appointee
while reading the one hundred pages of the crash web site. "All
the evidence matches. There is a link of cargo door opening to all
these crashes. We should check this out."
Just then a loud shout went up over by the cargo door
reconstruction area. The Appointee, the Agent, and the
Investigator all looked over at the Maker who was jumping up
and down shouting, "Come over here, come over here, I've found
it, I've found it!"
Now, everybody reading this story, relax, don't panic, everything
is going to be all right. This is just a story and not real life. We'll
take a little break here to rest our brains.
Look around, you're still safe, you understand most of what your
reading, and it's easy to just read words. To review: A terrible thing happened. The government is going to find out what happened so that it does not happen again. This is how they do it. Everything is organized before the terrible thing happens so that the truth will come out quickly and you can quit worrying. The four concerned parties were the Maker, the Investigator, the Agent, and the Appointee. The people who actually flew in the airplane and died in the airplane, the Pilot and the Passenger, were not concerned, not represented, and thus were not included. They would probably get too emotional, anyway.
"Over here, over here," shouted the Maker, "I've found it!"
The Appointee, the Agent, and the Investigator rushed over to the Maker who was kneeling next to the forward cargo door pieces. "Look at this," said the Maker, pointing to the cam locks, the cam sectors, the locking pins, the door control wire bundle and the edges of the broken door. "Yes it's all here," said the Maker, "here is the locked lock sectors, the unlocked cam sectors, the worn metal cams and locking pins, the frayed wire bundle, and the broken pieces of door."
"What's it mean?" asked the Agent.
"It means that the door looked locked but wasn't fully latched. The metal is worn from constant use. The frayed wire bundle sent a erroneous signal to the door to open. The door opened up and outward into the slipstream and broke in half right here," said the Maker, pointing to the broken door halves.
"You know, I was right all along," continued the Maker, "my first airplane of this type did not have a door like this, only later was it added at the airlines insistence. And then later we changed the door so that it opens inward and upward so that if the door opens accidentally in flight the inside pressure will keep it closed and it will not tear off a large piece of nose skin which leads to the whole nose tearing off and crashing the airplane. See, we learn from our mistakes," finished the Maker, contentedly.
"Ah," said the Investigator, "this new crashed door matches the old crashed doors which match the known cause of door opening crash. It definitely is the door opening which caused the crash," finished the Investigator, contentedly.

"And look," said the Agent, "the floor beams are bent and fractured in the same way as a door opening event and not the opposite way as in an explosive event. It definitely was not a bomb but a door opening which caused this crash," said the Agent, contentedly.

They had found out the cause of their crash. They had done their job. They had earned their pay. They had fulfilled their years of education, striving, and experience. By teamwork, preparation and patience, they had unraveled a mystery. They all reached into their coat pockets for their cellular phones to make the calls to their bosses.

The Maker called his home office and spoke to the Chief Executive Officer. The Maker explained the door mechanical problem and how to fix it. The CEO told the Maker he would talk with the Board of Directors and get back to him. The Maker hung up satisfied with a job well done.

The Agent had called his Director and explained the discovery of the door problem. The Director had told the Agent he would talk with the Attorney General and get back to him. The Agent hung up satisfied with a job well done.

The Investigator called his family and told them of the door discovery. His family said they would talk with his buddies and would get back to him. The Investigator hung up satisfied with a job well done.

The Appointee called the Secretary and told him of the door problem discovery. The Secretary said he would talk to the President and get back to him. The Appointee hung up satisfied with a job well done.

"Well, what caused the door to open," asked the Appointee.
"Good question," said everybody. "We'll get to that later," said the Maker, as they all waited for the phones to ring with the news from their bosses about congratulations, raises, promotions, assignments, and interviews. The phone rang. It was for the Maker. He opened the cellular flap and listened to his boss. The phone rang. It was for the Agent. He opened the cellular flap and listened to his boss. The phone rang. It was for the Investigator. He opened the cellular flap and listened to his boss. The phone rang. It was for the Appointee. He opened the cellular flap and listened to his boss. After a few minutes of listening, the Maker, the Agent, the Investigator, and the Appointee folded the cellular flaps closed and put their phones back inside their jackets. They were silent. They went to a table and had a cup of coffee. "How about them 'Niners, think they got a change against Dallas this year?" asked the Agent. "No," said the Maker. "I think I may have been a bit hasty in my conclusion about the cause of the crash." "I might have jumped the gun, too," said the Investigator. "I may have rushed to a conclusion, also," said the Agent. "I could have been brash," said the Appointee. "Let's reconsider." "Yes, let's reconsider," they all agreed. And they did. "I'll start," said the Maker, "my Chief Executive Officer reported from the Board of Directors who said that I may have been a bit hasty about the cause of the crash. Now that the cause of the crash might be determined to be a faulty forward cargo door, these events will take place as soon as it is official. Seven billion dollars of orders for this model aircraft will be cancelled, two billion dollars in liability claims will be paid by the company, new orders for our other aircraft will be slow in arriving, if ever; the repair costs for the faulty doors on all the aircraft will cost
one billion dollars, our quality reputation will disappear, our stock price will disappear costing us billions in company value, and ten thousand employees will be laid off with no pension or health plan, including me. My boss asked me if I understood very clearly what he had told me, especially about the laid off with no pension part. I said I did," concluded the somber Maker. After a moment's reflection he added, "I definitely was a bit hasty about the cause of this accident. I'm reconsidering the accident cause right now."

"I'm next," said the Investigator. "My wife told me that I might have jumped the gun on the accident cause. When she called all my buddies and told them the cause of the accident was a door, they said that they were involved in the previous accidents which were said to be bombs but are now proven to be incorrect. Their reputations are shot, they have lost their credibility as accident investigators, they will not be able to get a job, their self esteem is gone, and they have said for me never to ever again contact them in any way. My wife is very concerned about my position now that I would be the enemy of all my coworkers. She fears for her security and for our daughter who may now not be able to afford dentistry and will have all the other kids laughing at her funny mouth. She might have to go to her parent's house with our daughter. She asked did I understand what she had said, especially the part about her going to her parent's house with our daughter. I said I did," concluded the somber Investigator. After a moment's reflection he added, "I definitely jumped the gun on the accident cause. I'm reconsidering right now."

"My turn," said the Agent. "My Director informed the Attorney General who said that I may have rushed to a conclusion on the accident cause. He said that now that the cause was a mechanical problem caused by us and not a bomb from foreign enemies the new request for additional funds for new agents will not be approved. Because our current agent staffing guide is based upon
previous bombing incidents on airplanes that now appear not to have happened, our current staff will be reduced. Since we made errors in announcements of explosive finds, the public has lost confidence in our judgment and all our surreptitious activities such as monitoring mail and communications through court orders will be curtailed because of lack of court approval. With the general lessening of fear from foreign terrorists our recent inroads into overseas areas with local liaison offices, we will be told to leave and return to the United States and leave the overseas investigations to the locals or the CIA. Because we bungled this bombing investigation we will not be able to expand our investigative efforts into other areas, such as bankruptcies, and will be restricted to domestic crime. Since our budget will be slashed, our mission curtailed, and our employees laid off, I am to be assigned to a place I don't want to go to, for longer than I can stand, doing a job I hate. The Director asked me if I understood what he said, especially about the new assignment part. I said I did," concluded the somber Agent. After a moment's reflection he added, "I definitely rushed to a conclusion on the accident cause. I'm reconsidering right now."

"I guess I'm last," said the Appointee. "My Secretary called the President who said I could have been brash about the accident cause. The President said that now that the cause might be a mechanical problem which has gone on for years undetected instead of foreign terrorists, many changes will occur. When the manufacturer loses orders he lays off employees who are upset and vote against him. When the manufacturer lays off employees they don't pay their bills and go bankrupt and the entire economy of a large area of the country is adversely affected with people who will not vote for him. The billions of dollars coming into the country from overseas for airplanes will not be coming in and the national debt rises upsetting all the people who will not vote for him. The billions of dollars for airplanes will now go to a foreign
country making them stronger. The cause being undetected for so long has allowed other planes to crash and kill people upsetting the victim's families and friends who will not vote for him. The reputation of the country resides in the quality of its products and the number one product of America has now shown to be defective, allowing the world to laugh at us. In addition, he will now have to apologize to a foreign leader for erroneously blaming him for bombing and destroying an aircraft resulting in sanctions against his country resulting in hardship for millions of his innocent citizens. The blame for the delay in detecting the cause, the blame for allowing the defective door to be certified as OK, the lack of oversight in enforcing the Airworthiness Directives, the revelations of sloppy paperwork and maintenance records will ensure that his administration will not be returned to power in the upcoming election. The President said that if he goes down everyone goes down. I will be replaced as Appointee and will never be appointed to anything higher than pre-school yard monitor for the rest of my life. The Secretary asked me if I understood everything he said, especially about the schoolyard monitor part. I said I did," concluded the somber Appointee. After a moment's reflection he added, "I definitely was brash on the accident cause. I'm reconsidering right now." So they reconsidered. They did not consider their own well being; they were above selfish self interest. They thought about their company, about their friends, about their mission, and about their country. Their personal safety, the security of their families, their aspirations about their careers, and the respect of their fellows did not enter into their considerations one bit. They cared about a higher truth. They thought about loyalty to company, mission, friends, and country. They thought about right and wrong. They were not traitors. They were not thieves. They were not bad people. They realized they had to re-evaluate the cause of the crash. They needed to look closer at the evidence. They
needed to consider some new conclusions based upon the closer look at the evidence. So they did.

They looked at the radar evidence of blips just before the two aircraft disintegrated. Hey, could be an anomaly, they all agreed. They looked at the one half second loud sound then silence from the four aircraft. Hey, listening closer to this short sound makes it clear that this sound is different from all the rest of the short loud sounds. They are all different short loud sounds, they all agreed.

They looked at the FODDED engine number three of the three aircraft. Hey, this foreign object junk could be anything, including the lining of the intake. The FOD could be anything, they all agreed.

They looked at the missing bodies in the same seats in the three aircraft. Hey, could be sharks or wolves that made them disappear, they all agreed.

They looked at the sudden power cut on the four aircraft. Hey, power cuts off all the time; plug comes out, power station goes out, circuit breaker pops, could be anything. The sudden power cut could be anything, they all agreed.

They looked at the tearing off of the nose on the four aircraft. Hey, could be a bomb. That's right, they all agreed, it could be bombs which tore the nose off all the four aircraft.

They looked at the same type of early model, high flight time Boeing 747 of the four aircraft. Hey, coincidence, they all agreed.

They looked at the streak seen by eyewitnesses. Hey, drunk partygoers see all sorts of stuff, they all laughed, as they agreed to disregard eyewitness evidence.

They decided to ignore cargo door latch cams, lock sectors, pull in hooks, and frayed wire bundles, as well as bent and fractured floor beams, as being too complicated, too difficult to understand and prone to misinterpretation.

The Airworthiness Directives against the door were to be
mentioned with no comment. The photographs of the reconstructed fuselage showing the destruction sequence were changed to drawings by an artist who closely followed instructions on what to represent. They reviewed the evidence. They came to the conclusion that the previous conclusion was hasty, brash, and rushed. It could have looked like an inadvertent opening of the forward cargo door was the probable cause of the crash, but then again it could look like it wasn't. It all depended on how you looked at it. It was only natural to look at it from the company's best interest, the agency's best interest, the family's best interest, and the country's best interest, if they had a choice. And they did have a choice. They came to the sober, well thought out, conservatively reasoned explanation for the crash was unknown. Their consciences were clear. They had closely examined the evidence and interpreted it in the best possible light for the best interests of their company, their friends, their mission, and their country. They were patriots. They called their bosses on the phones with the new conclusion. They listened, they beamed, they hung up. "Well," said the Maker, "orders for new planes are pouring in. Our company is more prosperous than ever now that the cause of the crash is not the company's fault. I've just been promoted, given a raise, and given a new assignment I've been wanting for years. My Chief Executive Officer wants to personally pat me on the back," the Maker concluded happily. "Well," said the Investigator, "my friends have all invited me other to their house for football and a party. I don't have to bring any beer either. My wife said she got a baby sitter for our daughter and she's home right now waiting for me wearing her special outfit. She wants to personally pat me," the Investigator conclude happily. "Well," said the Agent, "my director said that since the terrorist
danger is still out there, all around, our mission of catching our enemies will proceed as planned, overseas and elsewhere. Also, budgets won't be cut and staff won't be reduced. He personally wants to shake my hand and wants me as his right hand man in the home office," the Agent concluded happily.

"Well," said the Appointee, "the President said he is getting much positive feedback from polls claiming the great confidence the people have in their leader who protects them from foreign enemies and domestic problems. The unemployment rate remains low, his campaign contributions continue to pour in, the society continues to travel and do business, confidence in his administration and its supervision of the regulatory agencies is high, his opponents have no issues to attack him with, he gets to be belligerent to non-nuclear countries and appear strong, and he just wants to see me personally and give me a great big hug. He also asked me to pick a job, any job, that my heart desires in the whole government, and it's mine, just like that," concluded the Appointee happily.

"How about them 'Niners," one of them said, "think they got a chance against Dallas this year?"

"Hell, yes," they all shouted, and went home, happy, guiltless, and content.

And that's how smart, honest, educated people can come to the wrong conclusion about an aircraft accident cause.

#Comment: Best interest rules.
#Contents

barry@corazon.com

From: barry@corazon.com
Date: August 11, 1996 10:07:28 AM PDT
To: WebmasterFAA@mail.hq.faa.gov
Subject: The President's Life is in Danger
There is an immediate, although slight, danger to the life of the President of the United States caused by the inadvertent opening of the lower forward cargo door in the Boeing 747-200 aircraft in which he flies. The door may open in flight exposing a large hole in the nose of Air Force One leading to the sudden destruction of the aircraft and death to all aboard, including the President. My name is John Barry Smith, Major, US Army, Retired, address and SSN on request, phone number 408 659 3552, back up phone number 408 659 7564, email barry@corazon.com internet website at http://www.corazon.com/barryhome.html
Forward cargo doors are coming off Boeing 747s in flight. The doors must be locked shut until further notice. This alert notice is being sent to the White House, NTSB, FBI, US Air Force, FAA, news television, the local newspaper, and interested friends. John Barry Smith