From: Howard Coffey  
<"travel@windwardtravel.com"@monmouth.com>  
Date: January 19, 1997 2:36:46 PM PST  
To: barry@corazon.com  
Subject: 747

Barry,

I found you homepage. Do you have any pictures of a jet aircraft with the American Airline colors and logo for a page I am working on. I will duplicate and make a moving gif out of it. Please email me if you can help. Ps I was the first to visit your page and will be glad to link to our site.

Howard C

From: barry@corazon.com  
Date: January 19, 1997 6:50:05 PM PST  
To: travel@windwardtravel.com  
Subject: No AA

Do you have any pictures of a jet aircraft with the American Airline colors and logo for a page I am working on. I don't think so, only what's there but the search engines should direct you to exactly what you want. There lots of pictures out there. If I see a AA airplane I'll send it to you. Barry.

From: Christian Tendick <dc8super63@earthlink.net>
Date: January 20, 1997 10:32:20 PM PST
To: "'barry@corazon.com'" <barry@corazon.com>
Subject: unidentified sound

I am an Aerospace Engineer who came across your website full of baseless nonsense which demonstrates your complete lack of technical understanding of how aircraft are designed, built, and operated. In light of the fact that you are an experienced audiologist, I wonder if you might be able to identify the enclosed sound. Please don't continue to perpetuate this garbage you call objective comparison and leave it to the people who know what in the hell they are talking about. In other words you are a completely ignorant fool with some sort of vendetta. So lay off you FUCKING IDIOT!!!!!!!!!!

Sincerely,

A Very Intelligent and Informed Engineer in the Finest Aerospace Industry in the World.

Content-Type: audio/wav; name="unidentified.wav"

Attachment converted: Master:unidentified.wav (????/----) (00017113)

This message has the following attachments:
   file://localhost/Users/barry/Library/Mail/Attachments/.DS_Store

From: barry@corazon.com
Hey, 'Very Intelligent and Informed Engineer in the Finest Aerospace Industry in the World.' I flew in a stretch DC-8 one time, yeah, that was the 'magic carpet' ride from Clark AFB PI to Travis AFB, CA. Oh, man, the plane was filled with the air group pilots and navigators off the USS Enterprise, CVA(N)-65 and we had just completed four line periods flying against the best air defenses the world had ever known. There were less returning than had originally left, including two guys in our squadron, RVAH-1, who somehow got themselves shot down and captured by the North Vietnamese on May 8th, 1968. They stayed there until April 11th, 1973. I flew back on the stretch DC-8, which was a little scary actually. The fuselage was so long it would yaw back and forth when viewed from the rear. And then of course we did not get nose gear down and locked light so Travis got out the crash trucks and we gingerly landed after orbiting for a while. The gear held, we all cheered and we were back in the USA! The USA, yes, land of freedom to write flaming non substantial childish emotional nonsense to someone who has put thousands of hours of well researched and document supported observation, analysis, and conclusion available to all.

Mr. Oh, I guess you didn't leave your name, I will continue to fight for your right to make a fool of yourself and your profession of aerospace engineer by encouraging you to continue to write to me. As soon as you say something intelligent and relevant to the accidental deaths, mysterious deaths, of airline passengers, designed by intelligent and informed aerospace engineers, then I will post it on the site, as a valuable addition to solving the mystery, as I have posted all the bomb guys, and the missile guys, and the center tank fire guys, and me, the cargo door guy.
You write as if we are not in the middle of an active mystery in which innocent men women and children died in supposedly safe airplane.

It may be that you realize the plane is at fault which means the designers are at fault, which means you are at fault and you are desperately saying to yourself, no, no, it can't be and anyone who says so is a "a completely ignorant fool with some sort of vendetta. So lay off you FUCKING IDIOT!!!!!!!!!!"

Whoa, I must have struck paydirt of truth with that outburst. Mr. 'I don't want to leave my name because I am so ashamed,' you have emboldened me, you have strengthened my resolve, I shall continue this effort to get the doors fixed.

If you work for Boeing, then check with John Hamilton of your Commercial Planes Safety Division, he knows what's going on. Naw, you don't work for Boeing, those guys have class.

You must work for MACDAC, or MD, or change the name of the DC-10, maybe the public will forget about the three terribly designed cargo door crashes that killed 300 or so people.

So, in that case, Mr. Aerospace Engineer, contact Mr. Steve Lund of the Safety Division of Commerical Planes of MD.

We are both upset at planes crashing when they shouldn't. We are both upset at needless death.

You do what you can to fix the problem, and I do what I can to fix the problem. We are not enemies, we can be allies.

From an engineer point of view, the big question to answer is, if the door goes and tears off the large piece of fuselage skin, as it did in UAL 811, could the complete nose be torn off in a few seconds in another B747, older and more worn? If the answer is no, impossible, then the cargo door theory is dead in the water, as they say in ship talk. If the answer is yes, or maybe, then the cargo door theory is alive and is worthy of further attention.

I am interested in your facts and closely devived conclusions, your irate flames just make me reach for my...keyboard.
John Barry Smith
PS I was hoping, as it was downloaded, the .wav file was the sudden loud sound on the CVRs of the four cargo door crashed airplanes, you did know they all had the same sudden loud sound before destruction, didn't you.
But then I read your email, realized the .wav must be some sort of fart sound or something, could not risk a virus, so deleted the file unlistened to.
I need the assistance of an aerospace engineer, can you help?

From: Inger Ane Sletten <bathie@hotmail.com>
Date: January 22, 1997 2:59:12 PM PST
To: barry@corazon.com
Subject: Error in statement about Estonia.
Reply-To: tmhiim@online.no

I'm a 25 year old computer student from Stavanger, Norway. I've been reading through some of your pages. I've found one error on the page with the URL http://www.corazon.com/mysterywhy.html at claim number 9.
The correct information on this subject is that the front door (for loading/unloading vehicles) was torn off. This as a result that the captain of the boat kept a too high speed during a gale. This led to the waves hitting the ferry ripping of the front door and the ferry then beeing flooded. The case was solved. And it is now decided to seal the ferry in concrete on the seabed.
Miss Inger Ane Sletten, thank you very much for your email in regard to ferry door torn off.
This actual accident I am not very familiar with and only mentioned it to fill in the thought that doors open when they shouldn't on all sorts of vehicles, including ferries.
An interesting thing happened...wonderful people from Europe and Scandanavia, such as yourself, have emailed me with corrections.
Anyway, there must be something going on with that accident that is not satisfactory to continue the interest years later. Is it really fully explained?
And to enclose that ferry in concrete on the seabed even adds suspicions. Is it shame? I know the Space Shuttle Challenger is entombed in a missile silo at Cape Kennedy and not in a museum where it belongs. Shame. Bad as pride.
9. Ferry door that opened when it shouldn't.
An Estonian ferry between Tallin and Helsinki had underwater cargo door open, sank ferry, high loss of life. Cause not determined.
Ms Sletten, let us assume you are referring to the above crash, I shall change the cause to be pilot error, going too fast in gale. Do you have more details? Date, deaths, place, nationalities? Before I make the correction, could you confirm it is the same accident?
There should be a web site devoted to that accident. As a computer student you could do that. The interest in that ferry
On an Estonian ferry an underwater cargo door opened by accident a few years ago. As I remember, around 100 people died on the trip between Tallin and Helsinki. Both the door opening and inadequate passenger rescuing were responsible for an unusually high number of fatalities. It was one of the most terrible ship accidents in Europe since WWII. It happened in the exiting time as the communism vanished in the former Soviet Union; a lot of happy Finns, Estonians and Russians were on that ferry. The details of horror are left to your imagination.

Another (similar) accident happened on a ferry between continents Europe and England. Less casualties (though still numerous), and as I remember, the cargo door was at fault again. (I am not sure however.)

In both cases mechanical/maintenance/organisational problems were found and blamed — unlike the planes, the ships don't go down in flames if the cargo door opens. The blaming, firing and jailing the
"responsibles"
(???) did not waken alive who perished on the ferries.

another email:
Hello!

Tank you for a very intresting site!

I«d like to make a small correction though, on the page that tells about
doors that shouldn«t have opened, it says that an estonian ferry trafficing Tallin an Helsinki sank. That is not entirely correct it was
mainly a swedish ferry trafficing Tallin an Stockholm that sank on the
27th of september 1994 killing over 800 people, most of them swedish,
which makes it one of the worst disasters in the western world ever.

From: 07131251685-0001@t-online.de (Charly)
Date: January 24, 1997 8:40:31 PM PST
To: barry@corazon.com
Cc: barry@corazon.com
Subject: Pan Am 103 - Dec. 21. 1988

We have the real proof of the bombing of Pan Am 103.
We have kontaktet the US Inteligence Sevices above the real proofs -
they whas not intrestet!
We want to give you this informations. Please kontakt special Agent
Charly under the IMail addres 07131251685-0001@t-online.de
This Agent have investigatet over 8 jears only on this event - he have the real proofs. a good friend

From: David Fredsall <h10b@snet.net>
Date: January 25, 1997 1:34:44 PM PST
To: barry@corazon.com
Subject: why don'y they admit the problem?
Reply-To: h10b@snet.net

Berry: I find your conclusions about the crashes of these 747's compelling.
But I wonder, if Boeing has known since 1979 that they had a problem with the cargo doors on these planes one would think that the fix has been done to those needing it by now. Your theory makes it plain that it hasn't been done to all the affected 747s. Why wouldn't they? If they have, how come the "fix" dosn't fix the problem?
How come there seems to be so much secrecy around the investagation of TWA 800?
We know from a leak inside the investigation that PETN was found on the debris and some of the bodies? PETN points to explosives. The FBI dosn't disbute the finding of PETN, but the official explanation of how it came
to be there is pretty weak to me but what do I know.  
All I do know for sure is that the one thing all governments have in  
common is that they lie repeatedly.  
A cargo door design flaw don't seem to me to be something the government gains much by covering up. In fact these days bringing a  
large corporation grief seems to be one of the main functions of government.  
But then as Dennis Miller says, "I could be wrong".  
D Fredsall h10b@snet.net

From: barry@corazon.com  
Date: January 25, 1997 3:28:27 PM PST  
To: h10b@snet.net  
Subject: Don't know

There is no conspiracy, no coverup, no plot to hide the cargo door cause.  
A door fix will happen when they know why the door opens when it shouldn't.  
I don't know why the secrecy around TWA 800.  
John Barry Smith

From: barry@corazon.com  
Date: January 26, 1997 7:08:55 PM PST  
To: margolye@gte.net  
Subject: Pleased to meet you.

Madam Miriam Margolyes;  
Pleased to meet you.
John Barry Smith at your service.

From: barry@corazon.com  
Date: January 26, 1997 9:55:58 PM PST  
To: bathie@hotmail.com  
Subject: more info on Estonia crash

The Norwegian guy is 100% correct. I was involved in the feasibility study on behalf of Rockwater who did the engineering work for construction of the sacophagus of Estonia. A pig of a job due to the great thickness of the very soft sediment which means that piles have to be unbelievable long to penetrate to reasonably stiff material. The Captain of Estonia was an arsehole who should never have been going so fast in heavy weather in a ship which has the visor type of bow-door. The lifting forces on a visor when the vessel pitches down into a steep sea are colossal. 
Above was from email correspondent regarding the crash you talked about. John Barry Smith

From: Patricia Woods & Frank Rotering  
<Woods.Rotering@osg.net>  
Date: January 27, 1997 1:53:46 PM PST  
To: barry@corazon.com  
Subject: Cargo doors - very interesting; some questions

Mr Smith:
I'm a computer consultant living in northern B.C., Canada. I travel frequently on business and follow airline accidents closely. I was drawn to your cargo door Web page through the TWA 800 Memorial home page, publicized recently on CNN.com. Sincere thanks for your excellent efforts. I believe there are gaps in your analysis, and your tone tends towards the dogmatic, but you've unquestionably performed a valuable service.

After carefully reading your materials and many of the email comments, I'm left with the following questions:

- Several apparently informed critics state that the pressure difference for TWA 800 at 13,500 ft. was inadequate to cause explosive decompression. This is a substantive point, made by several people independently, which to my knowledge you have not addressed. In the document chasm.html you yourself state that decompression occurs only "if the plane is high enough," but you neglect to mention how high this might be.

- Still with decompression and air flow: My current understanding of your position is that when the cargo door first comes off, there is decompression which forces air (and baggage) out of the plane. Once the air
pressure is equalized the air flow reverses. Air now enters the plane at about 300 knots and tears it apart. Is this correct?

o In the document 800summary.html you say the following: "Boeing 747-131 series high flight time aircraft are prone to cargo door malfunctions. Doors pop open in climb or just after." Of course this is what you're trying to prove, so citing it as fact is suspect. What is your source for these statements?

o I am puzzled by what appears to be an ambivalent attitude to a conspiracy/plot/coverup in regard to cargo doors. You state in several places that none of this exists, that the investigators have simply missed the obvious explanation. But you also seem to imply the opposite, especially in your open letter to Boeing engineers. Please clarify.

A minor point: Try to avoid technical terms. At first I had no idea what "fodded engines" were, and even now I don't know how high FL 310 is (which makes it difficult to compare with altitudes expressed in feet). Other puzzlers: "fifth engine in pod" and KCAS.
Again, my appreciation for your efforts.

Frank Rotering  
Terrace, B.C., Canada

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**From:** barry@corazon.com  
**Date:** January 27, 1997 5:58:43 PM PST  
**To:** Woods.Rotering@osg.net  
**Subject:** Good Questions

Several apparently informed critics state that the pressure difference for TWA 800 at 13,500 ft. was inadequate to cause explosive decompression.

The explosive decompression can be very mild, just enough push to get door into slipstream where it is lifted up and away. The destructive force is not the balloon popping or explosive decompression, but the 300 knot wind entering damaged and weakened nose. The same thing would happen at sea level. Air now enters the plane at about 300 knots and tears it apart. Is this correct?

Yes.

"Boeing 747-131 series high flight time aircraft are prone to cargo door malfunctions. Doors pop open in climb or just after." Of course this is what you're trying to prove, so citing it as fact is suspect. What is your source for these statements?
Accident reports which show cargo door problems on 747s such as UAL preflight, Pan Am 125, and UAL 811 which are agreed upon as cargo door causes. There are literally hundreds of gripes written up on maintenance sheets with malfunctioning doors which are then fixed and signed off. UAL 811 alone has a dozen or so malfunctions with door before it finally blew off.

I am puzzled by what appears to be an ambivalent attitude to a conspiracy/plot/coverup in regard to cargo doors. You state in several places that none of this exists, that the investigators have simply missed the obvious explanation. But you also seem to imply the opposite, especially in your open letter to Boeing engineers. Please clarify.

Yeah, ambivalent. There is no conspiracy, no coverup, no plot, I still believe. I do believe that everyone concerned believes it is in their self interest that it not be a cargo door so just naturally do not pursue the issue. It is not a conspiracy when women all wear their hem lines within an inch or so of the knee, or other agreed upon action that had no individual communication. Conspiracy is a hard word. Pearl Harbor was a conspiracy, but DDay wasn't? If they do it, it's bad and a conspiracy and if we do it, it's good and good planning.

So, are Boeing, government, airlines all hiding the cargo door cause? No, they really don't believe a door could cause such damage and why try hard to investigate when if it is true, heads and reputations, and jobs, and paychecks all change for the worse? Better leave cause to be bomb or fire, one time event and not our fault kind of cause, not the oh my god, I screwed up and people died kind of cause.

A minor point: Try to avoid technical terms. At first I had no idea what
"foddled engines" were, and even now I don't know how high FL 310 is (which makes it difficult to compare with altitudes expressed in feet).

Other puzzlers: "fifth engine in pod" and KCAS.

Yeah, I should have a glossary, KCAS knots calibrated air speed, FOD foreign object damage, damaged engine hanging on wing of 747 in pod to be returned for repair. Flight levels start at 18000 feet, such as FL 190 is 19000 feet, FL 310 is 31000 feet.

Thanks for interest and comments, destructive force is 300 knot wind entering big hole in nose, that's the killer. Just like a hurricane but ten times more powerful. John Barry Smith

From: Patricia Woods & Frank Rotering
<Woods.Rotering@osg.net>
Date: January 27, 1997 8:19:25 PM PST
To: barry@corazon.com
Subject: Re: Good Questions

Thanks for the quick reply. Best of luck!

- Frank Rotering

At 05:57 PM 1/27/97 -0800, you wrote:

Several apparently informed critics state that the pressure difference for TWA 800 at 13,500 ft. was inadequate to cause explosive decompression.
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force is not
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entering damaged and weakened nose. The same thing would
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especially in your open letter to Boeing engineers. Please clarify.

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A minor point: Try to avoid technical terms. At first I had no idea what "fodded engines" were, and even now I don't know how high FL 310 is (which makes it difficult to compare with altitudes expressed in feet).
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FOD foreign object damage, damaged engine hanging on wing of 747 in pod to be returned for repair. Flight levels start at 18000 feet, such as FL 190 is 19000 feet, FL 310 is 31000 feet.
Thanks for interest and comments, destructive force is 300 knot wind entering big hole in nose, that's the killer. Just like a hurricane but ten times more powerful. John Barry Smith

Nature Abhors a Vacuum.
Questions, yes, questions.
Email: barry@corazon.com
Page: http://www.corazon.com/

From: "Neal Goldner" <Neal2800@msn.com>
Date: January 27, 1997 9:37:56 PM PST
To: barry@corazon.com
Subject: Wrong.

You are so wrong. Just the fact the United flight survived to land in Hawaii will tell you just how well made this plane (Boeing 747) is. Boeing makes the best planes in the world..flying is still safer than walking across the street. Your speculation about cargo doors is just that, and no matter what you claim as credentials, you know nothing about commercial aviation.
You are obviously the product of want-to-sue Lawyers who would love to close Boeing, put probably one million hard working Americans (Boeing and all sub-contractors) out of business and let the jets be made overseas-- while you take the free lawsuit booty and spend it on fancy foreign cars and put it in Swiss banks  Stop bullshitting yourself and everyone else.

From: barry@corazon.com
Date: January 27, 1997 10:57:40 PM PST
To: Stephen@SPBUCK.softnet.co.uk
Subject: www.corazon.com

All,

Has anybody got any information about the Lockerbie disaster or knows a web page where there might be some?
Thanks....Steve
www.corazon.com
John Barry Smith

From: Heath Clark Learning Centre <olic@ndirect.co.uk>
Date: January 31, 1997 4:32:56 PM PST
To: barry@corazon.com
Subject: Pan Am Flight 103 BTEC National Diploma In Public Services Investigative Assignment

Dear Sir,
My colleague and I are students at Croydon College, London, England and require information concerning Pan Am Flight 103. We would be grateful if you could supply any relevant information and additional issues raised. We would also be very appreciative if you could supply any names of persons or organisations that would be willing to assist.
Yours Sincerely,
Robert Piner and Mark Beaumont

From: "Jean E. La Traverse" <jlatrave@total.net>
Date: January 31, 1997 9:00:39 AM PST
To: barry@corazon.com
Subject: Feedback

Barry,

Your article and comments on the TWA Flight 800 crash are
interesting in nature, but the way the article is written leaves alot to be desired.

Sentence structure, improper pontuation and improved paragraphing would make it easier to read.

Regards,

---

From: nessie@bellatlantic.net
Date: February 1, 1997 2:40:49 PM PST
To: barry@corazon.com
Subject: twa800

if you don't mind me asking, what are your qualifications to a make a judgement that twa800 went down the way you said it did. if this is the case we're all in trouble.

---

From: hugh malone <hugh.malone@northstar.alaska.net>
Date: February 1, 1997 6:03:09 PM PST
To: barry@corazon.com
Subject: door to oblivion

I do not see the door theory mentioned in any of the articles that you listed...is it so far out that NTSB folks dismiss it out of hand? if so, why?
*if* the door failed, no doubt the plane would be in jeopardy. surely, the NTSB and FAA (and Boeing) have engineers who can
analyse
this...
so...how come no "official" mention?

From: barry@corazon.com
Date: February 2, 1997 12:11:25 PM PST
To: hugh.malone@northstar.alaska.net
Subject: good question

so...how come no "official" mention?
Don't know, you ask 'em. Email the NTSB senator, etc. They
give little credence to lone guy on the web, even if it does makes
sense and is documented. They may listen to you. John Barry
Smith.

From: barry@corazon.com
Date: February 2, 1997 12:13:40 PM PST
To: nessie@bellatlantic.net
Subject: qualifications

I read, I'm a pilot, I was in a crash. I research and make
conclusions. Cargo door cause crashes when it opens in flight.
We are in less trouble with door than bomb or center tank fire.
Door can be fixed, bombers and static electricity can't. John
Barry Smith
if you don't mind me asking, what are your qualifications to a
make a
judgement that twa800 went down the way you said it did. if this
is the
case we're all in trouble.
Thank you for your time and email.
I appreciate specific proof reading corrections and change them to the correct way.
On your email I note:
1. alot should be 'a lot'
2. ponctuation should be 'punctuation.'
3. paragraph is a noun and should not be turned into a verb.
But thanks for thought; good grammar and spelling are important, I agree. John Barry Smith

Barry,

Your article and comments on the TWA Flight 800 crash are interesting in nature, but the way the article is written leaves alot to be desired.

Sentence structure, improper ponctuation and improved paragraphing would make it easier to read.

Regards,

How serious are you?
Robert Piner and Mark Beaumont, how serious are you? Are you open minded?
If you read my web site and ask relevant questions I will try to answer. Many mysteries remain about the crash of PA 103, AI 183, TWA 800 and even UAL 811, all cargo door 747 crashes.
Below is email I have just sent to Nick Fielding of Mail on Sunday. Nick was interested very early on about TWA 800 and cargo doors. Sincerely, John Barry Smith
The most recent news is that the guy who pushed bomb for 103 has now been discredited as chief of the explosives section of the FBI lab.
Email start:
Nick, time for Pan Am 103 reopening, Why? Well, bomb on 103 was based on findings of evidence of high explosives. That finding now has little weight when it was disclosed that the same findings on TWA 800 were benign because of dog sniffing test or heart medicine or troops uniform residue.
In addition, the FBI person who concocted the whole bomb story, Tom Thurman, has now been removed and transferred from his job as chief explosives unit of the FBI labs for mismanagement, and lax control over evidence.
The bomb story falls apart under scrutiny. The AAIB report has flaws, contradiction, and omissions. The explosive experts are untrustworthy. There is a a reasonable, alternative, supported by real evidence explanation for the crash, inadvertent opening of the forward cargo door. The same theory that made sense to you months ago and probably still does. It explains the streak and radar blip of TWA 800 and the radar blip of PA 103, all unexplained by other theories.
PA 103 will not die because it has not been satisfactorily explained so far. You can do it.
John Barry Smith
Transferred FBI Officials Had Roles in High-Profile Cases

Move of Supervisor, Unit Chiefs Follows Report Criticizing Lab

By Pierre Thomas
Washington Post Staff Writer
Wednesday, January 29 1997; Page A02
The Washington Post

A senior FBI official who helped supervise the crime scenes after the bombings of the Oklahoma City federal building and New York's World Trade Center was among those removed from their positions following an unusual Justice Department report that criticizes the work of the bureau's laboratory.

The transfer of supervisory agent David Williams and two other FBI officials "who had major responsibilities in explosives investigations" renewed long-standing questions about the integrity of the FBI lab and could set off a round of legal challenges to bureau forensic findings in high-profile prosecutions.

Williams, Tom Thurman, unit chief of the explosives division, and Roger Martz, unit chief of the chemistry and toxicology division, were transferred while the FBI evaluates a report by the Justice Department's inspector general about their work in a number of criminal investigations. According to an official familiar with the report, the three were transferred because of questions
concerning "sloppiness and mismanagement." The report criticizes some basic procedures at the FBI lab and highlights some two dozen cases in which there were problems with possibly contaminated evidence and other FBI laboratory procedures.

The unreleased report does not allege that evidence was manipulated to benefit prosecutors, officials said. It was not clear whether the inspector general found problems with the Oklahoma City or World Trade Center investigations. Phone calls to the offices of the three officials were not returned.

Justice Department officials maintained yesterday that the allegations should have no adverse effect on pending criminal cases and said FBI lab work did not impair any suspect's right to a fair trial. However, a number of senior law enforcement officials said privately that the report's findings were troubling. The FBI yesterday issued a six-page press release detailing Director Louis J. Freeh's efforts to improve the laboratory, including steps initiated before the Justice inquiry.

Department criminal lawyers have reviewed the inspector general's findings and have sought to address any issues that could affect pending cases and those on appeal, sources said. Williams, for example, likely will not be called as an expert witness in the Oklahoma City bombing trials of Timothy J. McVeigh and Terry L. Nichols, sources said.

Federal prosecutions, particularly bombing cases such as Oklahoma City, rely heavily on scientific analysis and
forensic evidence to convince juries of the government's case. If the credibility of FBI forensics becomes a major issue, such cases could be jeopardized.

Stephen Jones, the attorney for McVeigh, said he is well aware of the Justice probe and is prepared to put the FBI laboratory on trial.

"I think they are engaged in forensic prostitution, especially the bomb analysis unit and perhaps others," Jones said. "The FBI laboratory work will be subjected to close examination during the trial." Jones said he had been given significant access to FBI working papers and lab protocols and that it had proven "beneficial to the defense."

Meanwhile, the FBI leadership spent part of yesterday fending off questions from a key congressional oversight figure concerning its recent paid suspension of forensic scientist Frederic Whitehurst, who prompted the Justice investigation with complaints about procedures at the laboratory. In a meeting with Sen. Charles E. Grassley (R-Iowa), who chairs the Judiciary subcommittee on administrative oversight and the courts, the FBI maintained that Whitehurst's suspension was not retaliatory.

The FBI lab conducts more than 600,000 examinations a year for local, state, federal and international law enforcement agencies.

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. The report also recommends that the lab undergo strict accreditation procedures and that scientists be placed in charge of the laboratory rather than law enforcement personnel.

FBI officials yesterday were quick to point out that Freeh has sought to get the bureau accredited by the American Society of Crime Laboratory Directors, has obtained funding for a new laboratory and has implemented initiatives aimed at improving the bureau's forensic program, including:

Formation of a quality assurance unit to ensure sound laboratory practices.

$30 million to modernize laboratory equipment.

Creation of evidence response teams to expand the number of personnel trained and equipped to handle crime-scene evidence.
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.

Based on the new research discovery that traces of explosive residue on aircraft fragments can be benign, the investigation into Pan Am 103 should be reopened on that information alone. If the traces are not from a bomb, then no bomb evidence. A small piece of plastic may give timer evidence, but no bomb evidence.

There is no such thing as a stealth bomb which leaves no residue and makes no sound unless explosive decompression is accepted which makes a loud sound, causes loose items to crash into each other, leaves no residue, and is not a bomb.

After all is said and done, it could have been a small blast which forced the door open, however, based on other accidents where the door opening led to destruction, the likely cause of the door opening is not a small blast in the forward cargo compartment but an electrical short which caused the door open motor to turn on, forcing the door to open past the cam locks, just like it did previously in three other instances of inadvertent cargo door openings.

OK, what about the wonderful spy story with foreign governments, CIA, coverups, bombs, timers, pants bought in Malta, etc, hey, great
story, make a great movie, but not true; just entertaining fiction. That story has so many holes in it that it is incoherent. The tellers disagree among themselves every time they tell it. The exaggeration of the warning, the non explosion on the way from Frankfurt to London, the bad luck of flight course deviation, the exaggeration of the too small blast into reverberating around air conditioning ducts would all be funny, if not so serious consequences occurred later on. Pan Am 103 looked like AI 182, and so it should, the cause is the same. But the wrong conclusion of AI 182 led to the wrong conclusion of PA 103 which almost led to the wrong conclusion of TWA 800 as all being bombs.

Comment: How can so many experts be wrong? You'll have to ask the experts. There is no conspiracy, no coverup and no plot. Administrative errors are made and administrative errors get corrected. There was a small blast, but not a bomb. There was an explosion, explosive decompression, which makes a loud sound and mimics a bomb in consequences. Wishful thinking, blaming others, and avoiding responsibility leads to errors of fact. The explanation may end up with sequence in dispute: door opened then small blast, or small blast then door opened. PA 103 door with cam lock evidence resides in hangar in UK. AI 182 door at bottom of sea. TWA 800 door in hangar in USA.
Well, I guess in this case, he who laughs last, laughs best!!

Keep the peace ...

Jean

barry@corazon.com wrote:
Thank you for you time and email.
I appreciate specific proof reading corrections and change them to the correct way.
On your email I note:
1. alot should be 'a lot'
2. ponctuation should be 'punctuation.'
3. paragraph is a noun and should not be turned into a verb.
But thanks for thought; good grammar and spelling are important, I agree. John Barry Smith

Barry,

Your article and comments on the TWA Flight 800 crash are interesting in nature, but the way the article is written leaves alot to be desired. Sentence structure, improper ponctuation and improved paragraphing would make it easier to read.

Regards,

Nature Abhors a Vacuum.
Questions, yes, questions.
Email: barry@corazon.com
Page: http://www.corazon.com/

From: Kelly Roberts <krjesus@sic.cc.il.us>
Date: February 4, 1997 11:55:14 PM PST
To: barry@corazon.com
Subject: black box
Reply-To: sic.cc.il.us@sic.cc.il.us

Do you have any photos of the black box??????
could you e mail me and tell me if you do?
I am doing an informative speech on them and need a visual aid.
this speech is for competition.
thank you
Jamie Bernard
bernie@sic.cc.il.us

From: olic@saturn.ndirect.co.uk
Date: February 5, 1997 4:46:22 AM PST
To: barry@corazon.com
Subject: Re: How serious are you?

Dear Barry,

Thank you for replying to our E-mail so promptly. Yes, we are as serious as anyone can be, and are open minded to any ideas and theories you may have.

If any of the following questions are too difficult or impossible to answer please don't worry.

Questions:

Firstly could you please list any mysteries that remain about the crash of PA 103 and your theories on them.

Why would structural failure result in the loss of the entire nose?

Is there a design fault in the Boeing 747's cargo hold therefore
endangering structural integrity?

Have Boeing reinforced the cam locks etc on the new 747-400's since the disasters?

Why was evidence of high explosives used in the accident report, when no bomb traces or pieces were found?

Are there any reasons for Tom Thurman starting the story of a bomb?

As Tom Thurman was removed from the explosives division for sloppiness etc do you think this could have affected this investigation?

Could blaming the Libyans Al-Megrahi and Lamen Fhimah been an attempt by Governments to cover up an accident with the Diplomatic Pouches?

Why was there a flight course deviation?

What are your own theories about what happened to flight 103?

Do you have an E-mail address for Nick Fielding.

What is your connection with the disaster?

Do you have a copy of the Black Box, CVR recordings, AAIB report and Justice report?

Yours Faithfully
Do you have an E-mail address for Nick Fielding.  
msnews@mailonsunday.co.uk  He's a good guy and knows about planes.  
Have Boeing reinforced the cam locks etc on the new 747-400's since the disasters?  
Don't know but all already built 747s have been ordered to retrofit to stronger lock sectors. Cam locks left alone.  
Do you have a copy of the Black Box, CVR recordings, AAIB report and  
Justice report?  
No black box, no CVR recordings, AAIB report is on web site with info about those items and no justice report. I would love to have the Justice report, can you get it for me? Can you read the text of the scanned in pages of the AAIB report on my web site?  
What is your connection with the disaster? None. Except I know what crashed it and it wasn't a bomb. Plus I was born in England. And I flew in a Pan Am 747 in July 1970 which may have been 103. And I was in a fiery night jet fatal plane crash. But no airline, lawyer, police, manufacturer, or government connection. Amateur internet sleuth, like you guys.  
What are your own theories about what happened to flight 103? Inadventent opening of the forward cargo door in flight.  
Why was there a flight course deviation?  
Don't know.
Could blaming the Libyans Al-Megrahi and Lamen Fhimah been an attempt by Governments to cover up an accident with the Diplomatic Pouches?
No cover up, no conspiracy, no plot. By anyone, good or bad. As Tom Thurman was removed from the explosives division for sloppiness etc do you think this could have affected this investigation?
Absolutely, need to find out how much he was involved and everything he touched is now suspect.
Are there any reasons for Tom Thurman starting the story of a bomb?
Have to ask him, could be glory.
Why was evidence of high explosives used in the accident report, when no bomb traces or pieces were found?
Good question, I ask myself the same question. The traces of explosives that were found are now known to be possibly benign as dog sniffing test or heart medicine or troop uniform residue.
Is there a design fault in the Boeing 747's cargo hold therefore endangering structural integrity?
The only design fault is cutting a big hole in a pressurized hull, Comet, 1954 was weakness in fuselage around windows, DC 10 was cargo door. Submarines sink when doors/valves fail.
Why would structural failure result in the loss of the entire nose? Big wind in big hole inside weakened nose goes poof! Whole page devoted to very question, I call it the chasm of disbelief of door goes, nose goes? Second big question, 103 not a bomb? Whole page on that too.
Firstly could you please list any mysteries that remain about the crash of PA 103 and your theories on them.
Only one, what caused door to pop open.
Yes, we are as serious as anyone can be, and are open minded to any ideas and
theories you may have. Well, serious implies willing to do research. Research means reading. Reading means clicking on my thousand page website for data on 747s, airlines, cargo doors, and lots of other stuff. I should have it covered on web site and if not, tell me and I'll include it.

Good luck, come back with more questions, or better yet, some well reasoned conclusions, you may have solved the mystery.

John Barry Smith

From: LEN <mrlenk@earthlink.net>
Date: February 5, 1997 11:55:54 AM PST
To: barry@corazon.com
Subject: 747 noise
Reply-To: mrlenk@earthlink.net

Do you have any info on 747 noise levels and what the future superjumbos might sound like in comparison? Also what are the runway requirements at sea level for existing and planned models. We are the El Toro Airport Info site at http://www.eltoroairport.org.

From: Steve Buckley <Stephen@SPBUCK.softnet.co.uk>
Date: February 5, 1997 12:05:20 PM PST
To: barry@corazon.com
Subject: Re: www.corazon.com
Reply-To: Stephen@SPBUCK.softnet.co.uk

barry@corazon.com wrote:
All,

Has anybody got any information about the Lockerbie disaster or knows a web page where there might be some?

Thanks....Steve
www.corazon.com
John Barry Smith

Thanks for the help John, the info was much appreciated...Steve

From: barry@corazon.com
Date: February 5, 1997 3:42:49 PM PST
To: mrlenk@earthlink.net
Subject: noise

Do you have any info on 747 noise levels and what the future superjumbos might sound like in comparison? Also what are the runway requirements at sea level for existing and planned models. Sorry, no. John Barry Smith

From: LDenningjr@aol.com
Date: February 8, 1997 8:31:59 AM PST
To: barry@corazon.com
Subject: B747

Why are some of your referenced pages unreadable?
From: barry@corazon.com  
Date: February 8, 1997 9:04:20 AM PST  
To: LDenningjr@aol.com  
Subject: don't know

Why are some of your referenced pages unreadable?
Don't know, heard this before from another .aol person. I read them fine and so do many others around the world. My monitor is a Viewsonic 17PS with .25 dot pitch and 4 meg VRAM. I scanned in the NTSB pages with HP 4C scanner, a 30 bit color scanner. It is upsetting to hear that the pages are unreadable because they are my reference and the source of my truth/conclusions and it took me weeks of scanning to get them uploaded to the site. Nothing I can do about it. Plus they take a long time to download. Thanks for telling me. Try a friend's computer to see if it is your system or mine. John Barry Smith

From: Ken <kgm0001@jove.acs.unt.edu>  
Date: December 12, 1996 8:12:31 AM PST  
To: sci-aeronautics-airliners@uunet.uu.net  
To: barry@corazon.com  
Subject: Re: Cargo door theory TWA 800 and others

Just thought the group might like to know a couple of other possibilities that may have brought down Flight 800 besides a meteorite or a missile (I still think this is a distinct possibility):

1) An overheated brake on a main wheel (below the center fuel tank) in which the fuseplugs failed to deflate the tire causing an
explosion. However, the tires should have been filled with nitrogen instead of air, lessening the damage. (see Mexicana B-727 out of Mexico City in ___?)

2) An explosive device strategically-placed in a main wheel well next to the center fuel tank. (more likely than 1)

Ken Madden (http://www.unt.edu/~kgm0001/)

barry@corazon.com wrote:

An inadvertently opened forward cargo door caused the destruction of TWA 800, Pan Am 103, Air India 182 and almost UAL 811. Full documentation and support for cargo door theory is on web site www.corazon.com

John Barry
Smith barrry@corazon.com

From: Johnson <darjohns@suffolk.lib.ny.us>
Date: February 14, 1997 2:20:20 PM PST
To: barry@corazon.com
Subject: Kabot photo

Would you happen to have the Linda Kabot TWA photo (missile)? I could not find it. Would you e-mail it to me? Please?
From: barry@corazon.com  
Date: February 14, 1997 2:56:48 PM PST  
To: darjohns@suffolk.lib.ny.us  
Subject: kabot  

I got this off the web from Ian Goddard's missile site. I have no corroborative info. John Barry Smith

From: Gary Clarke <gary@acp-syme.com.au>  
Date: February 14, 1997 3:38:43 PM PST  
To: barry@corazon.com  
Subject: Your Web Site  
Reply-To: gary@acp-syme.com.au  

Thank-you for a very interesting web site.

I have had a fascination for the 747 for many years and have had a commercial pilot's licence since 1988.

I too, as you pointed out, was willing to believe that a missile was
responsible for bringing down TWA 800. Maybe I should stop watching the X-files.

I will continue to monitor your site for further developments, hopefully, someone will take the cargo door issue more seriously.

Kind regards

Gary Clarke

From: barry@corazon.com
Date: February 14, 1997 11:21:58 PM PST
To: gary@acp-syme.com.au
Subject: Thanks

someone will take the cargo door issue more seriously.
Thanks. When really desperate, I say, wait 'til the next one. That was what I said in 1990, 1992, and 1995 and now 1997. It's scary that even with more obvious similar crashes the cause will continue to be determined by just looking at the one crash and not using hindsight and research to join them together. It's like a national intelligence test, solve the airplane crash mystery, and the nation is failing. And I may be wrong also with cargo door. But it must be thoroughly investigated and ruled in or out. To ignore the obvious is dangerous foolishness. John Barry Smith

From: "Charles S. Goodman" <skipgood@texas.net>
Date: February 18, 1997 10:31:08 AM PST
To: barry@corazon.com
Subject: cargo door website
Reply-To: skipgood@texas.net

Enjoyed your website. Introduces many interesting questions. Will be looking forward to seeing more.
Skip

From: barry@corazon.com
Date: February 18, 1997 12:29:43 PM PST
To: skipgood@texas.net
Subject: thanks

Introduces many interesting questions. Like what? Will be looking forward to seeing more. Things look dim for official confirmation of cargo door cause. Am waiting until the next one to pop and plane to crash. TWA 800 is on auto pilot to center tank explosion, contrary to facts. So sad. Thanks for email.
John Barry Smith

From: bracken@neca.com
Date: February 12, 1997 2:51:36 PM PST
To: barry@corazon.com
Subject: PANAM flight 103 -forensics

Dear Barry

I was wondering if you could please send me some information on the
forensics involved in the investigation into PANAM flight 103. My E-mail address is (bracken@neca.com) I am doing a research paper and I was looking to you to help me with some information because I've been having trouble finding some specifics on the exact forensic details used in the investigation. Thank you for the much needed help.

Thanks,
Andrew Hunt, Woodstock Academy

From: barry@corazon.com
Date: February 19, 1997 9:38:02 PM PST
To: bracken@neca.com
Subject: forensics

send me some information on the forensics involved in the investigation into PANAM flight 103. Well, the only stuff I have in in the AAIB report which you can download from my website. The actual other stuff I understand is in a Justice Report in Britain, which I would love to have also. If you can get it tell me how and I will do the same. John Barry Smith

From: Joakim Andersson <jocke.megalloy@swipnet.se>
Date: February 22, 1997 11:33:04 PM PST
To: barry@corazon.com
Subject: Re:About Japan airlines flight 123

Hello I am sending from sweden. I know you are an expert in cargo doors, but I wonder if you have any information about flight 123 Japan airlines which killed 520 people in the mountains of Japan. If you have some information send it all. I will be very pleased if you send the information as quickly as possible.
From Joakim Andersson

From: barry@corazon.com
Date: February 22, 1997 2:00:18 PM PST
To: jocke.megalloy@swipnet.se
Subject: Flight 123

flight 123 Japan Airlines
which killed 520 people in the mountains of Japan
Not much, I'm afraid. It was a Boeing 747 that previously had a hard landing and damaged the rear pressure bulkhead. Boeing engineers went to Japan to fix it. The plane flew for a while OK but one day the rear pressure bulkhead, which did not have enough rivets to hold it in place, ruptured and the explosive decompression tore off the vertical stabilizer. The plane was virtually uncontrollable but the pilots flew it around mountainous Japan for 45 minutes before it finally crashed killing 520 with one survivor. People put notes in their pockets to loved ones. The President of JAL resigned. That's all I know. John Barry Smith

From: DEE2HEYHEY@aol.com
Hello, my name is Jason, and I am very interested in what you have to say about the B747. I am in the process of writing a research paper for a class on air crash investigation. I would like to write on this subject, could you help by giving me some of the references that you used to research for this sight? It would be very helpful. Thanks Jason

On my site is a page called Bibliography and lists all my references. The theme for an air crash investigation is the collation of data from other accidents to determine a pattern, if there is one. Then determine the most likely cause. Good Luck.
John Barry Smith

http://www.geocities.com/Area51/Vault/1177/INDEX.HTM
ReTWA 800 and EM weapons..

From: thomas golden <tommarg@erols.com>  
Date: February 27, 1997 12:58:51 PM PST  
To: barry@corazon.com  
Subject: some info please  
Reply-To: tommarg@erols.com

Barry,

Great website you have put together, I have spent two nights looking over the sats. Your point is well taken on the theory of the front cargo doors blowing out. My personal theory is, that the planes get serviced all over the world when they need it. I can just see it now in my minds eye, some guy with a turban on and a 2lb. hammer making an adjustment on the door in some third world country because it didn't close tight. I work as a truck driver and we have a lot of terminals ,there is only a couple that I would let change a lite bulb let alone my brakes.All mechanics are not created equal is my point. I am about to take my first airplane trip in my life on a 747 to Ireland via Aer Lingus, I would appreciate any words of encouragement about this airlines or air travel
in general. Would you fly this airlines.......... Keep up the good work.

Thanks
TOM

From: barry@corazon.com
Date: February 27, 1997 1:15:18 PM PST
To: tommarg@erols.com
Subject: safety is relative

I am about to take my first airplane trip in my life on a 747 to Ireland via Aer Lingus, I would appreciate any words of encouragement about this airlines or air travel in general. Would you fly this airlines.......... Keep up the good work.
Well, safety is relative. Driving to the airport is more risky than the flight. The very slight danger is to high time 747s. If Aer Lingus has newer planes, the problem may not be there. Also most overseas flights are done on 767 777 or Airbus.
My personal choice would be to fly in a new Airbus or 777. The relative safety is such that you could fly on high time 747s your whole life and never be in as much risk as car traffic. That's reality. The mental fear is falling and people will go to extraordinary lenghts to avoid that horror.
So, enjoy your first flight, you will be on a reputable carrier with a good safety record with a professional crew. It will be enjoyable as much as being cramped up with stangers for 6 hours can be. I would exercise as much as possible in you seat, do not let your blood pool in your legs. The physical danger is higher if
you sit in a new uncomfortable position for six hours. Try to get comfortable and move your muscles.
Really, the statistical worry is not the door popping but a blood clot in your leg. But you know that as a truck driver, a very physically demanding job that not many appreciate.
Thanks for comments, John Barry Smith

From: barry@corazon.com
Date: February 27, 1997 4:18:08 PM PST
To: dk@ntos.tandem.com
Subject: flight safety

So none of the common passenger aircraft are free of this "design feature"?
None that I know of.
Is there any type of common passenger aircraft that has never had an accident that could be attributed to a cargo door opening in flight?
777 and Concorde never had accident, 767 757 L 1011, Airbus never had cargo door caused crash.
Calibrated relative to what?
Relative to the indicated airspeed which is the air pressure of the air molecules on a sensing device. The calibrated speed is only a few knots different from the indicated and is based on placement of the sensing device on the plane.
What I don't understand is the connection between having an extra engine that doesn't contribute thrust and the door popping open.
The connection is that the door popped open at a certain time and speed. The speed was different from the other three cargo door crashes at 300 knots because 182 was supposed to be at 290 because of a speed limitation caused by the pod. It crept up to 296 and door went. Why did speed influence door opening? I
don't know. I don't know how or why or when door unlatches, the evidence just shows it does.

You also said "fifth engine in pod" but if the aircraft was a DC-10 it only had 3 engines so this would have been a fourth engine, right? Or was it a B-747?

Right, if DC-10 are authorized to carry fourth engine in pod. 182 was a 747 and the pod is just a big baggage carry all. It could hold anything.

Now, flight safety. Flying is dangerous, just sometimes it is less dangerous than other times. If you want to influence your safety, check the weather at your origin and destination. If storms predicted, cancel. If good weather, go ahead, you've got to trust someone sometime.

This cargo door thing is a very small percentage problem. I discovered it not invented it. If I were in charge I'd lock all the doors and spend the extra money for pilot training.

Have a nice flight. John Barry Smith
To: curt@nicom.com
Subject: 182 door found?

Mr. Curt W. Newport, I received an email today from the Canadian aviation authority Securitas who stated the Air India Flight 182 door was found. Is that true? Do you know anything else about the door that you can remember?
This is what they said, is it true?
Thank you for your report expressing concern about the opening of cargo doors on B-747 aircraft. During any aircraft crash, investigators examine every piece of evidence, in order to determine cause. In the case of the Air India flight, the cargo door was in fact retrieved from the bottom of the ocean by the investigators. The latches were still in place, and there was no evidence on the edges of the door to indicate in-flight opening of that door.
I am most interested in this statement and appreciate your earlier comments about the terrific deep sea recovery efforts you made. If you don't know for sure, do you think they could have gotten it by going back for it? And why did not the recovery team recover it then? Lots of questions are raised by the above Securitas statement. May I have your opinion please?
Sincerely, John Barry Smith.

From: 96045453 <SHAMUS.JAMI.GORDON@saultc.on.ca>
Date: February 27, 1997 6:31:46 PM PST
To: barry@corazon.com
Subject: twa 800
Some interesting reading barry! I can only wonder why the ntsb has not released such findings to the press/public. It certainly holds weight as a viable cause of the crash. My apologies if the answer to my question is within your page, I am in a hurry and unable to scan the entire page.

Shamus Gordon

From: barry@corazon.com
Date: February 27, 1997 6:55:43 PM PST
To: SHAMUS.JAMI.GORDON@saultc.on.ca
Subject: comments

Thanks for email.
I can only wonder why the ntsb has not released such findings to the press/public.
Me too, you can email them and ask them, government NTSB and press. Be my guest. At least it should be investigated to rule in or rule out. Either way, but not to ignore it. John Barry Smith

From: Skip Goodman <skipgood@texas.net>
Date: February 27, 1997 6:51:12 PM PST
To: "barry@corazon.com" <barry@corazon.com>
Subject: RE: thanks

Barry,
Just got back to my computer.
You build a good case for examining the door on each of the
accidents mentioned. It is very interesting because nobody saw this relationship before. It is one thing to miss evidence but it is entirely something else to ignore it. I sense that your theory is being ignored.

Skip

----------
From: barry@corazon.com
Sent: Tuesday, February 18, 1997 2:28 PM
To: skipgood@texas.net
Subject: thanks

Introduces many interesting questions.
Like what?
Will be
looking forward to seeing more.
Things look dim for official confirmation of cargo door cause.
Am waiting until the next one to pop and plane to crash. TWA 800 is on auto pilot to center tank explosion, contrary to facts. So sad.
Thanks for email.
John Barry Smith

Pressure equalizes eventually,
Everything is Finite.
Email: barry@corazon.com
Page: http://www.corazon.com/
From: barry@corazon.com
Date: February 28, 1997 10:21:53 AM PST
To: dk@ntos.tandem.com
Subject: a new accident investigator

Well, you are using the net and your curiosity to do what I did, research, find similarities and make conclusions.

- quite a few "uncommanded pitch excursions"
  reported on Airbus aircraft;

Yeah, how about that, it turns out the fly by wire computer system makes mistakes and is also slow to give the pilot what he wants.

- quite a few engine incidents reported on B-767's,
  which I found quite surprising considering this is a relatively new design;

Yeah, how about that, it turns out the engines are suspect and it is critical because it is cleared for two engine ETOPS flight over water.

Also, do you know if the NTSB has considered the in-flight cargo door opening explanation for TWA 800?

Yeah, gave cursory dismissal of idea with no thorough analysis or investigation. I have not given up. And there are two other cargo door crashes, PA 103 and AI 182 and of course the next one.

So it goes. John Barry Smith

From: barry@corazon.com
Was PA 103 investigated by the NTSB?
The AAIB Aircraft Accident Investigation Board, British, it's on
web site, all pages scanned in and available. John Barry Smith
Answer is both, computer and mechanical, and back up both.

Has anyone ever considered the possibility that the plane was hit
by a
meteorite?
At the time of this crash we (the Earth) were in an area of our
orbit that
contained numerous meteors.
Just a thought, stranger things have happened.  

Yes, considered and ruled out because of lack of corroborative
evidence in wreckage or radar. But always possibility and makes
a good movie, just like spaceship debris. John Barry Smith
interesting... but...I dont think so...
twa 13,000 feet, cabin differential probably about 1.5 psi ... pan am 31,000 feet with a cabin differential of 8.6 psi and united at 23000 feet with a differential of about 4 psi.... so you really think the door on twa at 1.5 psi blew out with the same force as united at 4 spi.... while united still landed safely.... and twa tore to pieces...

I admit that only today 3/5/97 have I discovered your..lengthy ,, never ending discussion on the 747 cgo door. Throughout all that maze of information ,, let me get it it straight.. you say..that the 747 forward cargo door is faulty .. and has opened on Pan Am 103.... United 811...Twa 800.. and Air India..
whatever that nbr
was........RIGHT..?
Your diary of 8/11/96 states in part "a cargo door opening
inflight
inadvertently is a better explanation and the evidence supports
that
conclusion"
WE ALL know that the door on 811 opened and was INFECT
found and
UNLATCHED...So... it wasn't locked. the pressure inside built
up and the
pressure outside went down and .... bang the door swung open
and ripped off
etc.. etc..
NOW... Didn't I read somewhere in YOUR information that the
door f form 103
was LATCHED.... Didn't I read somewhere in YOUR information
that the door
drom AIr India
was LATCHED........SO......I don't see a connection of your claim
of a faulty
doors
... I do see that the UNLATCHED door ripped off and THE
LATCHED doors
were BLOWN off......so... what's your POINT?

From: barry@corazon.com
Date: March 5, 1997 8:09:55 AM PST
To: Nav74@aol.com
Subject: Point

WE ALL know that the door on 811 opened and was INFECT
found and UNLATCHED...So... it wasn't locked. the pressure inside built up and the pressure outside went down and .... bang the door swung open and ripped off etc.. etc..

NOW... Didn't I read somehow in YOUR information that the door f form 103 was LATCHED.
No, you didn't. Latch status unreported.

... Didn't I read somewhere in YOUR information that the door drom Air India was LATCHED.
No, you didn't, latch status unreported.

.......SO......I don't see a connection of your claim of a faulty door
... I do see that the UNLATCHED door ripped off and THE LATCHED doors were BLOWN off......so... what's your POINT?
The point is you did not do research before make conclusions.
so you really think the door on twa at 1.5 psi blew out with the same force as united at 4 spi.... while united still landed safely.... and twa tore to pieces...

No, I don't think that. Never said that.
The internal force on all planes was sufficient to open door just a few inches when cam sectors unlatched. After the two inch bulge the 300 knot slipstream tore door out, up, and away, taking skin with it, leaving nine foot by 15 foot hole into which the 300 knot wind blew in and the 300 knot wind on the front of the nose crumpled nose into the hole. Nose then comes off. The destructive force is not the explosive decompression, it is the 300
knots on the damaged nose inside and out.
The status of the forward cargo door cam latches is extremely
important and omitted on 182, 103, and 800. The aft cargo door,
same size, has cam latches reported as latched in 182, 103 and
800.
CAPITALS ARE HARD TO READ BECAUSE THEY PUT
EMOTION INTO THE CONTENT AND DISTRACT! Sort of
like exclamation points!!! But it's YOUR EMAIL and you get to
write what YOU want!!! Just like ME!!!
Thank you for your comments.
John Barry Smith

From: "Matthew D. Murphy" <murphyhome@wavefront.com>
Date: March 5, 1997 3:48:17 PM PST
To: barry@corazon.com
Subject: 747 Cargo Door
Reply-To: murphyhome@wavefront.com

Hi Barry,

I was just reading through you information about the Boeing
747
accidents which you thought were due to the cargo door
inadvertently
opening in flight.

I noticed allot of inaccuracies about the information you wrote
about. (1) The First one I noticed was that it is for the baggage
to
get sucked in to the intakes of the engines, it would have to fall out
of a locked container which all the luggage is put in. (2) The
cargo compartment does not have a ladder at the opening and the cargo door itself has not been modified to open inward and upward. (3) When the door is latched all the electrical power is removed from the lift actuators and pull in hook actuators. You said about the Pacific 103 incident that the doors was found in the latched condition omitted in a report. (4) Flight data recorders provide information from components called accelerometers and pots. and do not produce sounds which you said: Quote(I predict the flight data recorders will have similar sounds at time of destruction to the 103 and 811 tapes. I predict the breakup sequence of the airframe will be similar.)

If you have any further questions about what I have wrote, Please send me and e-mail and I will be more then happy to give you more information.

Matthew D. Murphy
Dear Sir: It is Wednesday, March 5, 1997. The "crash" occurred 9 months ago, and still no word from the government re: TWA Flight 800. And how quickly it seems to have faded from the news! If your theory is correct, early 747's have a flawed cargo door design, why wouldn't the government report this truth? What about the theory that it was shot down, either intentionally or unintentionally, by US military conducting military exercises in the area. Thank you for all of your research and for providing it to the public over the internet. We should all keep the pressure on! Sincerely, Islev@aol.com

From: barry@corazon.com
Date: March 5, 1997 5:08:09 PM PST
To: SLEV1@aol.com
Subject: TWA 800

why wouldn't the government report this truth? They don't know it and don't want to know it. What about the theory that it was shot down, either intentionally or unintentionally, by US military conducting military exercises in the area. Good story, no evidence. Thanks for email, John Barry Smith
From: CCG4054@ACS.TAMU.EDU
Date: March 5, 1997 10:09:26 PM PST
To: BARRY@CORAZON.com
Subject: requesting info

My name is Brandon Barker, I am currently enrolled in a technical writing class and am involved in a project that requires a proposal be written to solve a problem. The problem I need to solve is that of the cargo door. I need to submit a proposal stating the problem, some of the solutions, and how they could be implemented. I have read over the majority of your information and was quite impressed by your depth of knowledge on this subject. I am not very confident with the level of my expertise in this area and was hoping that you could possibly look over one of my drafts in order to assure that I get all of the facts straight and create the best proposal possible. If the proposal is good enough, I might submit it to a friend of mine that is a Reserved Officer in the Air Force as well as a pilot for Southwestern. He holds the record for the most flight time in an F-16 and was in charge of the Thunderbirds for an extended period of time. He is now one of the top pilots for
Southwestern and
could be helpful with more information in your studies. If you
could help me
in any way possible, I would be greatly appreciative. I can be
reached by
e-mail at ccg4054@acs.tamu.edu

From: barry@corazon.com
Date: March 5, 1997 10:34:22 PM PST
To: CCG4054@ACS.TAMU.EDU
Subject: proof read drafts.

was hopping that you
could possibly look over one of my drafts in ordoer to assure that
I get all of
the facts strait and create the best proposal possible.
Well, OK, but first you have to run your text through a spelling
checker. The above sentence fragment has three spelling errors.

I need to
submit a proposal stating the problem, some of the solutions, and
how they
could be implemented.
Good problem, I have been unsuccessful in seven months of
trying. Good luck.
So, I will be glad to proof read your proposal and offer advice.
Email it to me when you get it done. John Barry Smith

From: Brian Smith <bksmith@tiac.com>
Date: March 6, 1997 3:11:14 AM PST
To: barry@corazon.com
Subject: re: 747 cargo doors

Barry,  
Interesting hypothesis. Is this information factual or speculation? If factual, why hasn't it been publicized? Was the forward cargo door in question the culprit of the flight 800 crash? Certainly your analysis seems thorough enough. I'm intrigued that I haven't heard much about the cause of flight 800 crash lately. Is this some sort of hush-hush thing going on here or what? Please reply if you have time.

Regards,  
Brian Smith

From: barry@corazon.com  
Date: March 6, 1997 9:17:19 AM PST  
To: bksmith@tiac.com  
Subject: bsmith bsmith

Please reply if you have time.
How could I not have time for a fellow B. Smith?
Is this information factual or speculation?
Good question. Both, even the facts are in dispute and certainly the conclusions. I use the actual scanned pictures of official reports to document my sources, but they could be wrong too. It's up to you to decide.
If factual, why hasn't it been publicized?
It has in a limited way. On the radio, in newspapers and a magazine. There is not much demand for unpleasant truths in the
media.
Was the forward cargo door in question the culprit of the flight 800 crash?
In my humble opinion, yes.
Is this some sort of hush-hush thing going on here or what?
I don't think so, just avoidance of bad news.
Thanks for email, John Barry Smith

From: Frazy@aol.com
Date: March 10, 1997 1:31:02 PM PST
To: barry@corazon.com
Subject: Flight 800

Who are you? It is a compelling argument, I must say.

From: RbnHood@aol.com
Date: March 10, 1997 9:35:19 PM PST
To: barry@corazon.com
Subject: PAA103, UAL811, TWA800, etc

Regarding your web site about the 747-100s....

Your claim that PAA103 was *not* a bomb goes against reports (and prosecution) related to bomb evidence found in the wreckage.

I do not have the details at hand, but wasn't there overwhelming evidence of a bomb in a certain radio/tape deck in a certain piece of luggage? Didn't
the Air India investigation also yield evidence of sabotage/terrorism??

UAL811 and TWA800 were both hampered by having occurred over water. UAL811 was lucky that the USNavy found the door two years after the incident.

I find the idea of the defective door on TWA800 to be plausible, and have not heard too much about it from NTSB reports.... why not?

One other possible factor that I don't see mentioned on your site is a study of fuel temperatures vs. flashpoint for vapors vs. decreasing pressures. That is... the chance that the vapors in the fuel tank could have exploded with the assistance of a static spark increased with climb. The flashpoint for the fuel (temp that the fuel will burn/explode) decreases with decreasing air pressure, so that the fuel in the tank (which was warm due to the aircraft sitting at JFK for hours in the sun) could have exploded at a lower temp than previously considered.

I'll have to return and read more about it later... now it's bedtime!
From: barry@corazon.com
Date: March 10, 1997 10:14:38 PM PST
To: RbnHood@aol.com
Subject: Thanks for interest.

Your claim that PAA103 was *not* a bomb goes against reports (and prosecution) related to bomb evidence found in the wreckage. Yes, very observant of you. I do not have the details at hand, but wasn't there overwhelming evidence of a bomb in a certain radio/tape deck in a certain piece of luggage? Didn't the Air India investigation also yield evidence of sabotage/terrorism??

I do have the details at hand, and so do you on the web site, and there was ot overwhelming evidence of a bomb... Didn't the Air India investigation also yield evidence of sabotage/terrorism?? No. I find the idea of the defective door on TWA800 to be plausible, and have not heard too much about it from NTSB reports.... why not? Good question, go ask them DICKINA@ntsb.gov for Al Dickinson on TWA 800 team. There was fuel tank explosion after door went and plane disintegrated into fuel vapor and detached engine number 3 which ignited into fireball. Thanks for interst. John Barry Smith
Barry,

I found and was engrossed in your Web site about crash statistics Etc.
particularly how detailed your research has been.

However, I wondered whether you could provide me a page address where I
 can get some general statistics? The type of questions I have are ones
 such as:

How many domestic passenger planes since 1960 have crashed?
The various types of those that have crashed e.g. 17 * 747 8 *
DC10
Which airlines the crashed planes flew for?
The suspected cause of the crash?

Hope you can help and thanks in advance.

Andrew Kane

The following binary file has been uuencoded to ensure successful
transmission. Use UUDECODE to extract.
From: barry@corazon.com
Date: March 11, 1997 8:10:54 AM PST
To: akane@apricot.mee.com
Subject: raw data

http://www.primenet.com/~kebab/
and www.faa.gov and www.ntsb.gov have huge databases.
The above url has total data base, use to extract stats. John Barry
SIGNIFICANT AVIATION ACCIDENTS

Sioux City, Iowa - July 19, 1989

To hear the last seconds of this flight Click Here (128k WAV)

This database contains significant aviation accidents from 1908 through 1997. Accident are listed in reverse chronological order. Use your web browser's "find tool" to locate a specific date or incident. Date and time of accidents are local. Midair collisions list number aboard and fatalities for both aircraft.

For some unusual accidents see the following dates: 3/22/94, 1/25/90, 12/7/87, 2/9/82, 1/26/72, 7/5/70, 3/5/66, 11/23/62, 2/3/59, 11/1/55, 9/9/49, 10/24/47

Accidents involving famous people:

7/6/96 - US Secretary Ron Brown
12/31/85 - Singer Rick Nelson

12/31/77 - Evansville basketball team

5/28/71 - World War II hero and movie star Audie Murphy

11/14/70 - Marshall University football team

10/2/70 - Wichita State football team

2/5/63 - Singer Patsy Cline

9/18/61 - UN Secretary Dag Hammerskjold

2/15/61 - US figure skating team

2/3/59 - Singers Ritchie Valens, Buddy Holly and Big Bopper Richardson

1/17/42 - Actress Carole Lumbard

7/2/37 - Flyer Amelia Earhart

8/15/35 - Humorist Wil Rogers and Wiley Post

3/31/31 - Football coach Knute Rockne

DISCLAIMER: The data contained in this database is compiled from numerous sources that may be in conflict or error
and do not reflect the conclusions or opinions of any government agency, airline, aircraft manufacturer or organization. The creator or this web page is not responsible for inaccuracies or errors contained within this database and information should not be relied upon for anything other than general interest. However, suggestions, comments and corrections are welcome.

e-mail kebab@primenet.com

Last updated 3/9/97

11/30/1996  10:33
LOCATION: Medellin, Columbia
CARRIER: ACES - Aerolineas Centrales de Colombia
FLIGHT: 148
AIRCRAFT: de Havilland Canada DHC-6-300 Twin Otter
REGISTRY: HK-2602
ABOARD: 15  FATAL: 14  GROUND:
DETAILS: Crashed into mountain shortly after takeoff. Aircraft stalled while trying to clear mountain.

11/28/1996  11:54
LOCATION: Abakan, Siberia, Russia
CARRIER: Russian Air Force
FLIGHT:
AIRCRAFT: Ilyushin 76MD
REGISTRY: RA-76804
ABOARD: 23  FATAL: 23  GROUND:
DETAILS: Crashed shortly after takeoff.

11/23/1996
LOCATION: Comoros Islands, Madagascar
CARRIER: Ethiopian Airways
FLIGHT:
AIRCRAFT: B-767-200ER
REGISTRY: ET-AIZ
ABOARD: 175  FATAL: 125  GROUND:
DETAILS: Hijacked. While the crew was in a struggle with the hijackers and attempting to land, the aircraft ran out of fuel and ditched in the ocean.
11/19/1996  17:05
LOCATION: Quincy, LA
CARRIER: United Express (Great Lakes Airlines) / Private
FLIGHT: 5925
AIRCRAFT: Beech 1900 / Beechcraft King Air 200
REGISTRY:
N87GL/N1127D
ABOARD: 14  FATAL: 14  GROUND: 0
DETAILS: Collided on runway and burned.

11/12/1996  18:40
LOCATION: About 60 miles W of New Delhi
CARRIER: Saudi Airways / Kazakhstan Airlines
FLIGHT: 763/1907
AIRCRAFT: B-747-168B / Ilyushin Il-76
REGISTRY: HZAIH/UN-76435
ABOARD: 349  FATAL: 349  GROUND: 0
DETAILS: Midair collision. The 747 had just taken off and the Il-76 was descending.

11/07/1996  17:00
LOCATION: Lagos, Nigeria
CARRIER: Aviation Development Corporation
FLIGHT: 5N-BBF
AIRCRAFT: B-727-231
REGISTRY: 5N-BBF
ABOARD: 143  FATAL: 143  GROUND: 0
DETAILS: Crashed mid-way along its scheduled route.
11/01/1996  8:10
LOCATION: Near Tikal, Guatemala
CARRIER: Transported Areos Profesionales - TAPSA
FLIGHT:
  AIRCRAFT: Embraer 110P1 Bandeirante   REGISTRY: TG-TPA
  ABOARD: 14  FATAL: 14  GROUND: 1
 DETAILS: Crashed into a mountain in poor weather conditions.

10/31/1996  08:30
LOCATION: Sao Paolo, Brazil
CARRIER: TAM   FLIGHT:
  AIRCRAFT: Fokker F-100   REGISTRY: PT-MRK
  ABOARD: 98  FATAL: 98  GROUND: 3
 DETAILS: Crashed shortly after takeoff into a residential area.

10/22/1996
LOCATION: Manta, Ecuador
CARRIER: Million Air   FLIGHT:
  AIRCRAFT: B-707-323C   REGISTRY: N751MA
  ABOARD: 22  FATAL: 22  GROUND: 1
 DETAILS:
10/02/1996  c 01:00
LOCATION: Pasamayo, Peru
CARRIER: Aeroperu    FLIGHT: 603
AIRCRAFT: B-757-200    REGISTRY: N52AW
ABOARD: 70    FATAL: 70    GROUND:
DETAILS: Crashed shortly after takeoff into the ocean.
Pieces of duct tape were
found covering sensors, placed there by maintenance
personnel during aircraft
maintenance.

08/29/1996  c 11:00
LOCATION: Spitsbergen, Norway
CARRIER: Vnokovo Airlines    FLIGHT:
AIRCRAFT: Tupolev 154M    REGISTRY: RA-85621
ABOARD: 141    FATAL: 141    GROUND:
DETAILS: Crashed short of the runway while attempting to
land.

07/17/1996  c 18:45
LOCATION: East Moriches, NY
CARRIER: Trans World Airlines    FLIGHT: 800
AIRCRAFT: B-747-131    REGISTRY: N93119
ABOARD: 230    FATAL: 230    GROUND:
DETAILS: Exploded in-flight at FL 130.

07/06/1996
LOCATION: Pensacola, FL
CARRIER: Delta Air Lines   FLIGHT: 1288
AIRCRAFT: MD-88   REGISTRY: N927DA
ABOARD: 147   FATAL: 2   GROUND:

06/13/1996   12:07
LOCATION: Fukuoka, Japan
CARRIER: Garuda Indonesia   FLIGHT: 865
AIRCRAFT: DC-10-30   REGISTRY: PK-GIE
ABOARD: 275   FATAL: 3   GROUND:
DETAILS: Overran runway after an aborted takeoff. Sheared fuel line, caught fire.

05/11/1996   c 14:15
LOCATION: Everglades, Miami, FL
CARRIER: ValuJet   FLIGHT: 592
AIRCRAFT: DC-9-32   REGISTRY: N904VJ
ABOARD: 110   FATAL: 110   GROUND:
DETAILS: In-flight fire caused by live oxygen canisters in the forward cargo hold.

04/03/1996
LOCATION: Near Dubrovnik, Croatia
CARRIER: US Military   FLIGHT:
AIRCRAFT: B-737-T43    REGISTRY: 73-1149
ABOARD: 35    FATAL: 35    GROUND:
DETAILS: Hit a hill while attempting to land. U.S. Secretary of Commerce, Ron Brown killed.

02/29/1996   c 20:15
LOCATION: Arequipa, Peru
CARRIER: Compania de Aviacion Faucett SA (Peru)
FLIGHT: 251
AIRCRAFT: B-737-222    REGISTRY: OB-1451
ABOARD: 123    FATAL: 123    GROUND:
DETAILS: Crashed into hillside while attempting to land.

Pilot was flying at an
altitude 1,000 ft. less than he was reporting.

02/06/1996   c 23:50
LOCATION: Near Puerto Plata, Dominican Rep.
CARRIER: Alas Nacionales (Dominican Republic)
FLIGHT: 301
AIRCRAFT: B-757-225    REGISTRY: TC-GEN
ABOARD: 189    FATAL: 189    GROUND:
DETAILS: Crashed into Atlantic Ocean after taking off.
Faulty air speed indicator.

01/08/1996   c 13:00
LOCATION: Kinshasa, Zaire
CARRIER: Africa Air       FLIGHT: 
AIRCRAFT: Antonov An-32     REGISTRY: RA-26222
ABOARD: 5      FATAL: 1      GROUND: 350
DETAILS: Crashed into marketplace after taking off. Overloaded.

12/20/1995
LOCATION: Kahengula, Angola
CARRIER: Trans Service Airlift       FLIGHT: 
AIRCRAFT: Lockheed L-188C Electra     REGISTRY: 9Q-CRR
ABOARD: 144      FATAL: 141      GROUND: 
DETAILS: Crashed shortly after takeoff. Overloaded.

12/20/1995      c 21:38
LOCATION: Near Buga, Valle del Cauca, Columbia
CARRIER: American Airlines       FLIGHT: 965
AIRCRAFT: B757-223     REGISTRY: N651A
ABOARD: 164      FATAL: 160      GROUND: 
DETAILS: Crashed into mountainous terrain while attempting to land. Navigational error.

12/13/1995      19:00
LOCATION: Villafranca, Italy
CARRIER: Romanian Banat Air       FLIGHT: 
AIRCRAFT:       REGISTRY: YR-AMR
ABOARD: 45  FATAL: 45  GROUND:
DETAILS: Crashed shortly after takeoff. Icing.

12/08/1995  c 04:20
LOCATION: Near Khabarovsk, Comm. of Independent States
CARRIER: Far East Aviation   FLIGHT: 3949
AIRCRAFT: Tupolev Tu-154B   REGISTRY: RA-85164
ABOARD: 98  FATAL: 98  GROUND:
DETAILS: Crashed into mountainous terrain while en route.
Fuel-feed selected
from wing tanks on one side only.

12/03/1995  c 22:50
LOCATION: Near Douala, Cameroon
CARRIER: Cameroon Airlines   FLIGHT: 3701
AIRCRAFT: B-737-2K9   REGISTRY: TJ-CBE
ABOARD: 78  FATAL: 72  GROUND:
DETAILS: Crashed short of runway during second attempt at landing. Possibly overloaded.

11/13/1995  08:55
LOCATION: Kaduna, Nigeria
CARRIER: Nigeria Airways   FLIGHT:
AIRCRAFT: B-737-2F9   REGISTRY: 5N-AUA
ABOARD: 137  FATAL: 9  GROUND:
DETAILS: Touched down halfway down runway, veered off runway where grass caught fire under aircraft.

09/15/1995
LOCATION: Tawau, Malaysia
CARRIER: Malaysian Airlines  FLIGHT:
AIRCRAFT: Fokker 50  REGISTRY: 9M-MGH
ABOARD: 53  FATAL: 34  GROUND:
DETAILS: Touched down short of runway. Crashed into shanty town while attempting a go-around.

09/09/1995
LOCATION: San Salvidore, Guatamala
CARRIER: AVIATECA  FLIGHT:
AIRCRAFT: B-737-200  REGISTRY:
ABOARD: 65  FATAL: 65  GROUND:
DETAILS: Crashed into mountain.

08/09/1995  c 20:20
LOCATION: Mt. Chichontepec, San Vincente, El Salvador
CARRIER: AVIATECA (Guatemala)  FLIGHT: 901
AIRCRAFT: B-737-2H6  REGISTRY: N125GU
ABOARD: 65  FATAL: 65  GROUND:
DETAILS: Crashed into mountain at night during heavy rain and thunderstorms.
Possible damage to the aircraft's DME due to lightning.

06/08/1995
LOCATION: Atlanta, Georgia
CARRIER: ValueJet  FLIGHT: 597
AIRCRAFT: DC-9-32  REGISTRY: N908VJ
ABOARD: 62  FATAL: 0  GROUND:
DETAILS: Engine disintegrated and caught fire during takeoff. Parts penetrated cabin and caused cabin fire. Fatigue in a compressor disc.

03/31/1995  c 09:10
LOCATION: Near Balotesti, Romania
CARRIER: Transporturile Aeriene Romane (Romania)
FLIGHT: 371
AIRCRAFT: A-310-324  REGISTRY: YR-LCC
ABOARD: 60  FATAL: 60  GROUND:
DETAILS: Crashed shortly after takeoff into a field during snowstorm.
    Malfunction of autothrottles.

03/17/1995
LOCATION: Barranquilla, Columbia
CARRIER: Intercontinental de Aviacion   FLIGHT:
AIRCRAFT: DC-9-15  REGISTRY: HK-3564X
ABOARD: 76  FATAL: 52  GROUND:
DETAILS: Crashed into marsh 37 miles from airport.
12/29/1994
LOCATION: Near Van, Turkey
CARRIER: THY Turkish Airlines FLIGHT: 
AIRCRAFT: B-737-400 REGISTRY: TC-JES
ABOARD: 76 FATAL: 55 GROUND:
DETAILS: Crashed into hill near airport after forth landing attempt.

12/24/1994
LOCATION: Algiers Airport, Algeria
CARRIER: Air France FLIGHT: 
AIRCRAFT: A-300B2-1C REGISTRY: F-GBEC
ABOARD: 280 FATAL: 7 GROUND:
DETAILS: Hijackers killed three passengers.

12/13/1994
LOCATION: Morrisville, NC
CARRIER: American Eagle FLIGHT: 3201
AIRCRAFT: British Aerospace Jetstream 32 REGISTRY: N918AE
ABOARD: 20 FATAL: 15 GROUND:
DETAILS: Crashed while attempting to land. Crews improper assumption that an engine failed.
12/11/1994
LOCATION: Pacific Ocean
CARRIER: Philippine Airlines    FLIGHT:
AIRCRAFT: B-747-200    REGISTRY:
ABOARD: 287    FATAL: 1    GROUND:
DETAILS: Explosive device detonated under a seat.

11/22/1994
LOCATION: Bridgeton, MO
CARRIER: Trans World Airlines / private    FLIGHT:
AIRCRAFT: DC-9-82 / Cessna 441    REGISTRY: N954U/
N411KM
ABOARD: 142    FATAL: 2    GROUND:
DETAILS: Ground collision. Cessna entered the runway on
which MD-82 had
started its takeoff roll.

10/31/1994  c 16:00
LOCATION: Roselawn, IN
CARRIER: American Eagle    FLIGHT: 4184
AIRCRAFT: ATR-72-212    REGISTRY: N401AM
ABOARD: 68    FATAL: 68    GROUND:
DETAILS: Experienced uncommanded roll and rapid
descent while in holding
pattern. Icing.
10/12/1994   c 22:50
LOCATION: Krakas Mountains, near Natanz, Iran
CARRIER: Iran Asseman    FLIGHT:
AIRCRAFT: Fokker F-28    REGISTRY: EP-PAV
ABOARD: 66    FATAL: 66    GROUND:
DETAILS: Flew into mountain after taking off.

09/08/1994   c 19:03
LOCATION: Near Aliquippa, PA
CARRIER: USAir    FLIGHT: 427
AIRCRAFT: B-737-300    REGISTRY: N513AU
ABOARD: 132    FATAL: 132    GROUND:
DETAILS: Nose-dived into wooded ravine. Uncommanded rudder deflection.

07/02/1994   18:43
LOCATION: Charlotte, NC
CARRIER: USAir    FLIGHT: 1016
AIRCRAFT: DC-9-30    REGISTRY: N954VJ
ABOARD: 57    FATAL: 37    GROUND:
DETAILS: Crashed into trees after missed approach during bad weather.
       Microburst induced windshear.

07/01/1994   c 08:30
LOCATION: Near Tidjika, Mauritania
CARRIER: Air Mauritanie    FLIGHT:
AIRCRAFT: Fokker F-28  
REGISTRY: 5T-CLF  
ABOARD: 93  
FATAL: 80  
GROUND:  
DETAILS: Crash landed on runway, breaking landing gear on second landing attempt during poor weather conditions.

06/30/1994  
LOCATION: Toulouse-Blagnac, France  
CARRIER: Airbus Industrie  
FLIGHT:  
AIRCRAFT: A330-321  
REGISTRY: F-WWKH  
ABOARD: 7  
FATAL: 7  
GROUND:  
DETAILS: Crashed after demonstrating a simulated engine failure on takeoff.

06/06/1994  c 08:20  
LOCATION: Near Xi'an, China  
CARRIER: China Northwest Airlines  
FLIGHT: 2303  
AIRCRAFT: Tupolev Tu-154M  
REGISTRY: B-2610  
ABOARD: 160  
FATAL: 160  
GROUND:  
DETAILS: Crash landed shortly after taking off.

04/26/1994  c 20:15  
LOCATION: Near Komaki, Aichi, Japan  
CARRIER: China Airlines (Taiwan)  
FLIGHT: 140  
AIRCRAFT: A300-B4-622R  
REGISTRY: B-1816  
ABOARD: 271  
FATAL: 264  
GROUND:  
DETAILS: Stalled and hit runway, tail first, while landing
after a go-around.
   Autopilot not turned off.

04/06/1994
LOCATION: Kigali, Rwanda
CARRIER: Rwanda Government   FLIGHT:
AIRCRAFT: Dassault Falcon 50   REGISTRY: 9XRNN
ABOARD: 10   FATAL: 10   GROUND:
DETAILS: Shot down by a missle. President of Rwanda killed.

04/06/1994
LOCATION: Pacific Ocean
CARRIER: China Eastern Airlines   FLIGHT:
AIRCRAFT: MD-11   REGISTRY:
ABOARD: FATAL: 2   GROUND:
DETAILS: Deployment of slats in flight.

03/22/1994   c 01:00
LOCATION: Near Mezhduretshensk, Russia
CARRIER: Russian International Airways   FLIGHT: 593
AIRCRAFT: A310-304   REGISTRY: F-OGQS
ABOARD: 75   FATAL: 75   GROUND:
DETAILS: Lost control and crashed after captain allowed his child to manipulate controls who disengaged autopilot.
03/02/1994
LOCATION: Flushing, NY
CARRIER: Continental Airlines    FLIGHT:
AIRCRAFT: MD-82    REGISTRY: N18835
ABOARD: 116    FATAL: 0    GROUND:
DETAILS: Overran runway after an aborted takeoff. Failure to turn on pilot/static heat system resulting in erroneous air speed indication.

01/03/1994    c 09:00
LOCATION: Near Irkutsk, Comm. of Independent States
CARRIER: Baikal Air    FLIGHT: 130
AIRCRAFT: Tupolev Tu-154M    REGISTRY: RA-85656
ABOARD: 124    FATAL: 124    GROUND: 1
DETAILS: Crashed following engine fire and loss of two remaining engines.
         Faulty air starter unit.

12/26/1993
LOCATION: Gyumri, Armenia, Russia
CARRIER: Kuban Airlines    FLIGHT:
AIRCRAFT: Antonov 26    REGISTRY: SSSR-26141
ABOARD: 36    FATAL: 35    GROUND:
DETAILS: Crashed while landing in inclement weather.
11/20/1993  c 23:30
LOCATION: Near Ohrid, Macedonia
CARRIER: Aviaimpex (Macedonia)  FLIGHT: 110
AIRCRAFT: Yakovlev Yak-42D  REGISTRY: RA-42390
ABOARD: 116  FATAL: 116  GROUND:
DETAILS: Crashed after aborted landing.

11/13/1993
LOCATION: Urumqui, China
CARRIER: China Northern Airlines  FLIGHT:
AIRCRAFT: MD-82  REGISTRY: B-2141
ABOARD: 102  FATAL: 12  GROUND:
DETAILS: Crashed short of runway while landing in dense fog hitting powerlines and a wall.

10/26/1993
LOCATION: Fuzhou, China
CARRIER: China Eastern Airlines  FLIGHT:
AIRCRAFT: MD-82  REGISTRY:
ABOARD: 80  FATAL: 2  GROUND:
DETAILS: Went off end of runway while landing into a swamp during rainstorm.

09/22/1993  c 18:30
LOCATION: Sukhumi, Georgia
CARRIER: Transair Georgia Airlines (Georgia)  FLIGHT:
AIRCRAFT: Tupolev Tu-154B  REGISTRY: SSSR-85163
ABOARD: 132  FATAL: 106  GROUND:
DETAILS: Aircraft hit by missile then crash landed on runway.

09/14/1993
LOCATION: Warsaw, Poland
CARRIER: Lufthansa  FLIGHT:
AIRCRAFT: A320-211  REGISTRY: D-AIPN
ABOARD: 70  FATAL: 2  GROUND:
DETAILS: Skidded off runway while landing. Windshear.

08/28/1993
LOCATION: Khorag,Tadzhikistan
CARRIER: Tadzhikistan National Airlines  FLIGHT:
AIRCRAFT: Yakovlev Yak-40  REGISTRY: SSSR-87995
ABOARD: 86  FATAL: 82  GROUND:
DETAILS: Overran runway and crashed during takeoff.
Overloaded.

08/18/1993  16:56
LOCATION: Leeward Point Airfield, Guantanamo Bay, Cuba
CARRIER: American International Airways  FLIGHT: 808
AIRCRAFT: DC-8-61  REGISTRY: N814CK
ABOARD: 3  FATAL: 0  GROUND:
DETAILS: Crashed while on approach, short of the runway.
Impaired judgment, decision making, and flying abilities of the captain and flight crew due to the effects of fatigue.

07/26/1993 15:40
LOCATION: Haenam, South Korea
CARRIER: Asiana Airlines (South Korea) FLIGHT: 733
AIRCRAFT: B-737-5L9 REGISTRY: HL-7229
ABOARD: 110 FATAL: 68 GROUND:
DETAILS: Hit mountain while on approach for third time.

07/01/1993
LOCATION: Sorong, Irian Jaya, Indonesia
CARRIER: Merpati Nusantara Airlines FLIGHT: 
AIRCRAFT: Fokker F-28 REGISTRY: PK-GFU
ABOARD: 43 FATAL: 41 GROUND:
DETAILS: Overran runway while attempting to land in rain.

05/19/1993 15:06
LOCATION: Near Medellin, Columbia
CARRIER: SAM (Columbia) FLIGHT: 501
AIRCRAFT: B-727-46 REGISTRY: HK-2422X
ABOARD: 132 FATAL: 132 GROUND:
DETAILS: Hit mountain while on approach.
04/26/1993
LOCATION: Aurangabad, India
CARRIER: Indian Airlines   FLIGHT:
AIRCRAFT: B-737-2A8   REGISTRY:
ABOARD: 118   FATAL: 56   GROUND:
DETAILS: Hit truck on runway while taking off and crashed into power lines.

04/06/1993   1:10
LOCATION: 950 n miles S of Shemya, Alaska
CARRIER: China Eastern Airlines   FLIGHT: 583
AIRCRAFT: MD-11   REGISTRY: B-2171
ABOARD: 255   FATAL: 2   GROUND:
DETAILS: Slats inadvertently deployed while at FL 330.
Progressed through several pitch oscillations. Lost 5,000 feet in altitude.
Inadequate design of the flap/slat actuation handle.

03/31/1993   c 12:25
LOCATION: Anchorage, AL
CARRIER: Japan Airlines   FLIGHT: 46E
AIRCRAFT: B-747-121   REGISTRY: N47EV
ABOARD: 5   FATAL: 0   GROUND:
DETAILS: The No.2 engine and pylon separated from the aircraft at 2,000 feet.
The plane landed safely. The engine separation was due to an encounter with
severe or possibly extreme turbulence. Presence of fatigue crack.

03/05/1993   c 12:00
LOCATION: Skopje, Macedonia, Serbia
CARRIER: Palair Macedonian   FLIGHT: 301
AIRCRAFT: Fokker F-100   REGISTRY: PH-KXL
ABOARD: 97   FATAL: 81   GROUND:
DETAILS: Shuttered violently, rolled and crashed after takeoff. Icing.

02/08/1993   c 10:15
LOCATION: Tehran, Iran
CARRIER: Iran Air / Air Force fighter   FLIGHT:
AIRCRAFT: Tupolev Tu-154M / Sukhoi Su-24
REGISTRY: EP-ITD
ABOARD: 132   FATAL: 132   GROUND:
DETAILS: Midair collision.

12/22/1992   c 10:00
LOCATION: Tripoli, Libya
CARRIER: Libya Arab Airlines and Libya Air Force
FLIGHT: 1103
AIRCRAFT: B-727-2L5 / MiG23   REGISTRY: 5A-DIA
ABOARD: 157   FATAL: 157   GROUND:
DETAILS: Midair collision.
12/21/1992  c 08:30  
LOCATION: Faro, Garve, Portugal  
CARRIER: Marinair Holland NV  
FLIGHT:  
AIRCRAFT: DC10-30CF  
REGISTRY: PH-MBN  
ABOARD: 340  
FATAL: 56  
GROUND:  
DETAILS: Crashed while attempting a second landing in inclement weather. Hit a wing tip, departed from the runway and fuel tank exploded.

11/24/1992  c 08:00  
LOCATION: Near Liutang, Guangxi, China  
CARRIER: China Southern Airlines  
FLIGHT: 3943  
AIRCRAFT: B-737-3Y0  
REGISTRY: B-2523  
ABOARD: 141  
FATAL: 141  
GROUND:  
DETAILS: Crashed and exploded 15 miles from airport. Malfunction of thrust lever.

10/04/1992  
LOCATION: Amsterdam, Netherlands  
CARRIER: El Al  
FLIGHT:  
AIRCRAFT: B-747-258F  
REGISTRY: 4X-AXG  
ABOARD: 5  
FATAL: 5  
GROUND: 47  
DETAILS: Lost an engine while in flight caused by corroded pins.
09/28/1992  c 14:30
LOCATION: Near Bhadagon, Kathmandu, Nepal
CARRIER: Pakistan International Airways  FLIGHT: 268
AIRCRAFT: A300B4-203  REGISTRY: AP-BCP
ABOARD: 167  FATAL: 167  GROUND:
DETAILS: Hit high ground while attempting to land.

08/27/1992  c 22:45
LOCATION: Near Ivanova, USSR
CARRIER: Aeroflot  FLIGHT: 2808
AIRCRAFT: Tupolev Tu-134A  REGISTRY: SSSR-65058
ABOARD: 84  FATAL: 84  GROUND:
DETAILS: Crashed 1.5 miles from airport during approach.

07/31/1992  c 15:00
LOCATION: Nanjing, Jiangsu, China
CARRIER: China General Aviation Corporation  FLIGHT: 7552
AIRCRAFT: Yakovlev Yak-42D  REGISTRY: B-2755
ABOARD: 126  FATAL: 109  GROUND:
DETAILS: Crashed during takeoff. Possible engine problem.

07/31/1992  c 12:30
LOCATION: Near Kathmandu, Nepal
CARRIER: Thai Airways International  FLIGHT: 311
AIRCRAFT: A310-304 REGISTRY: HS-TID
ABOARD: 113 FATAL: 113 GROUND:
DETAILS: Flew into terrain while attempting a second landing.

07/30/1992  17:41
LOCATION: John F. Kennedy Airport, Jamica, NY
CARRIER: Trans World Airlines    FLIGHT: 843
AIRCRAFT: Lockheed L-1011 REGISTRY: N11002
ABOARD: 292 FATAL: 0 GROUND:
DETAILS: Aircraft ran off the runway and caught fire during an aborted takeoff.
Defective stall warning system. Design flaw that allowed the defective stall warning system to go undetected.

07/20/1992
LOCATION: Tbilisi, USSR
CARRIER: Georgian Air    FLIGHT:
AIRCRAFT: Tupolev Tu-154B REGISTRY: SSSR-85222
ABOARD: 24 FATAL: 24 GROUND: 4
DETAILS: Crashed on takeoff into buildings. Overloaded.

06/08/1992  8:52
LOCATION: Anniston Metropolitan Airport, Anniston, Alabama
CARRIER: GP Express Airlines    FLIGHT: 861
AIRCRAFT: Beachcraft C99    REGISTRY: N118GP
ABOARD: 6    FATAL: 3    GROUND:
DETAILS: Crashed during an attempted landing. The flightcrew lost awareness of the aircraft's position.

06/06/1992
LOCATION: Tucuti, Panama
CARRIER: COPA Panama    FLIGHT:
AIRCRAFT: B-737-204    REGISTRY: HP-1205CMP
ABOARD: 47    FATAL: 47    GROUND:

04/26/1992
LOCATION: Saweh, Iran
CARRIER: Chartered    FLIGHT:
AIRCRAFT: Fokker F-27 Friendship 400M    REGISTRY: 5-8815
ABOARD: 39    FATAL: 39    GROUND:
DETAILS:

04/22/1992    c 15:50
LOCATION: Mt. Haleakala, HI
CARRIER: Scenic Air Tours    FLIGHT: 22
AIRCRAFT: Beech E18S    REGISTRY: N342E
ABOARD: 9   FATAL: 9   GROUND:
DETAILS: Hit mountain on the island of Maui. Flying under VFR after weather changed to IFR conditions.

03/22/1992   21:35
LOCATION: LaGuardia Airport, Flushing, NY
CARRIER: USAir    FLIGHT: 405
AIRCRAFT: Fokker F-28-4000    REGISTRY: N485US
ABOARD: 51   FATAL: 27   GROUND:
DETAILS: Crashed on takeoff at the end of the runway into Flushing Bay. Icing.

02/20/1992
LOCATION: En route from California to Argentina
CARRIER: Acrolineas Argentinas    FLIGHT:
AIRCRAFT: B-747    REGISTRY:
ABOARD:    FATAL: 1   GROUND:
DETAILS: Passenger died of food poisoning while en route.

02/09/1992
LOCATION: Kafountine, Senegal
CARRIER: Gambcrest    FLIGHT:
AIRCRAFT: Convair 640    REGISTRY: N862FW
ABOARD: 59   FATAL: 31   GROUND:
DETAILS: Crashed on approach. Mistook hotel lights for
runway lights.

01/20/1992   c 19:20
LOCATION: Mt. Saint-Odile, France
CARRIER: Air Inter (France)   FLIGHT: 148
AIRCRAFT: A320-111   REGISTRY: F-GGED
ABOARD: 96   FATAL: 87   GROUND:
DETAILS: Hit mountain while on approach. Incorrectly set flight management system.

12/29/1991
LOCATION: Wanli, Taiwan
CARRIER: Air China   FLIGHT:
AIRCRAFT: B747-2R7F   REGISTRY: B-198
ABOARD: 5   FATAL: 5   GROUND:
DETAILS: Crashed on takeoff after losing engine due to corroded pins.

12/27/1991
LOCATION: Stockholm, Sweden
CARRIER: SAS   FLIGHT:
AIRCRAFT: MD-81   REGISTRY:
ABOARD:   FATAL: 0   GROUND:
DETAILS: Failure of both engine. Landed safely in field.
11/07/1991
LOCATION: Makhackala, USSR
CARRIER: Aeroflot   FLIGHT:
AIRCRAFT: Yakovlev-40   REGISTRY: SSSR-87526
ABOARD: 51   FATAL: 51   GROUND:
DETAILS: Flew into mountain.

09/11/1991   10:04
LOCATION: Near Eagle Lake, TX
CARRIER: United Airlines   FLIGHT: 2574
AIRCRAFT: Embraer 120RT Brasilia   REGISTRY: N33701
ABOARD: 14   FATAL: 14   GROUND:
DETAILS: In-flight loss of the left horizontal stabilizer. Poor maintenance procedures.

08/16/1991
LOCATION: Imphal, India
CARRIER: Indian Airlines   FLIGHT:
AIRCRAFT: B-737-2A8   REGISTRY: VT-EFL
ABOARD: 69   FATAL: 69   GROUND:
DETAILS: Crashed into high ground during approach.

07/11/1991
LOCATION: Jeddah, Saudi Arabia
CARRIER: Nigerian Airways  FLIGHT:  
AIRCRAFT: DC-8-61  REGISTRY: C-GMXQ  
ABOARD: 261  FATAL: 261  GROUND:  
DETAILS: Loss of hydraulics and electrical systems after fire started in wheel well  
from an overheated tire due to underinflation.

07/09/1991  
LOCATION: Bellavista Airport, Peru  
CARRIER: Aerochasqui  FLIGHT:  
AIRCRAFT: CASA 212 Aviocar 200  REGISTRY: OB-1218  
ABOARD: 15  FATAL: 15  GROUND:  
DETAILS: Shot down by police when mistaken for drug smugglers.

05/26/1991  c 23:30  
LOCATION: Near Ban Nong Rong, Thailand  
CARRIER: Lauda Air Luftfahrt Aktiengesellschaft (Austria)  
FLIGHT:  
AIRCRAFT: B-767-3Z9ER  REGISTRY: OE-LAV  
ABOARD: 223  FATAL: 223  GROUND:  
DETAILS: Crashed into jungle after uncommanded deployment of thrust reverser  
during a climb.

03/23/1991
LOCATION: Navoi, Uzbekistan, USSR
CARRIER: Uzbek Civil Aviation Administration FLIGHT:
AIRCRAFT: Antonov An-24B REGISTRY: SSSR-46472
ABOARD: 63 FATAL: 34 GROUND:
DETAILS: Overran runway.

03/05/1991
LOCATION: La Puerta, Venezuela
CARRIER: Linea Aeropostal Venezolana FLIGHT:
AIRCRAFT: DC-9-32 REGISTRY: YV-23C
ABOARD: 43 FATAL: 43 GROUND:
DETAILS: Crashed into mountain during descent.

03/03/1991
LOCATION: Colorado Springs, CO
CARRIER: United Airlines FLIGHT:
AIRCRAFT: B-737-291 REGISTRY: N999UA
ABOARD: 25 FATAL: 25 GROUND:
DETAILS: Crashed during approach. Possible rudder jamming problem.

02/20/1991
LOCATION: Puerto Williams, Chile
CARRIER: Chile British Aerospace FLIGHT:
AIRCRAFT: BAE-146-200A REGISTRY: CC-CET
ABOARD: 72 FATAL: 21 GROUND:
DETAILS: Overran runway on approach and sank in ocean.
02/01/1991 18:07
LOCATION: LAX, Los Angeles, CA
CARRIER: USAir and Skywest Flight 5569
FLIGHT: 1493
AIRCRAFT: B-737-300 and Fairchild Metroliner
REGISTRY:
N388US/N683AV
ABOARD: 99  FATAL: 34  GROUND:
DETAILS: USAir landed on top of Metroliner after ATC cleared the USAir to land with the Metroliner still on the runway.

12/03/1990 13:45
LOCATION: Romulus, Detroit, MI
CARRIER: Northwest Airlines and Northwest Airlines
FLIGHT: 299/1482
AIRCRAFT: B-727-251 and DC-9-14
REGISTRY:
N278US/N3313L
ABOARD: 207  FATAL: 8  GROUND:
DETAILS: Ground collision in dense fog.

11/21/1990
LOCATION: Yakutsk-Magan, USSR
CARRIER: Aeroflot
FLIGHT:
AIRCRAFT: Ilyushin Il-62
REGISTRY: SSSR-86613
ABOARD: 176  FATAL: 176  GROUND:
DETAILS: Crashed during approach.

11/14/1990
LOCATION: Stadelberg, Switzerland
CARRIER: Alitalia  FLIGHT:
AIRCRAFT: DC-9-32  REGISTRY: I-ATJA
ABOARD: 46  FATAL: 46  GROUND:
DETAILS: Hit high ground during low approach. False VHF navigation indication.
Non-compliance with approved procedure.

10/03/1990
LOCATION: Cape Canaveral, FL
CARRIER: Eastern Air Lines  FLIGHT: 791
AIRCRAFT: DC-9-31  REGISTRY: N8923E
ABOARD: 97  FATAL: 1  GROUND:
DETAILS: Experienced severe turbulence after entering overhang of a thunderstorm.

10/02/1990  c 09:15
LOCATION: Guangzhou, China
CARRIER: Xiamen Airlines / China SW Airlines
FLIGHT: 8301/
AIRCRAFT: B-737-247 / B-757-21B  REGISTRY: B-2510/B-2812
ABOARD: 222  FATAL: 132  GROUND:
DETAILS: Ground collision during hijacking.

10/02/1990
LOCATION: Near Kuwait City, Kuwait
CARRIER: Iraqi Airways  FLIGHT:
AIRCRAFT: Ilyushin Il-76  REGISTRY:
ABOARD:  FATAL: 130  GROUND:
DETAILS: Shot down by Kuwaiti fighter shortly after takeoff with air-to-air missile.

05/11/1990
LOCATION: Manila, Phillipines
CARRIER: Phillipine Airlines  FLIGHT:
AIRCRAFT: B-737-3Y0  REGISTRY: EI-BZG
ABOARD: 119  FATAL: 8  GROUND:
DETAILS: Detonation of an explosive device while taxiing.

02/14/1990  c 13:00
LOCATION: Near Bangalore, India
CARRIER: Indian Airlines  FLIGHT: 605
AIRCRAFT: A320-231  REGISTRY: VT-EPN
ABOARD: 146  FATAL: 92  GROUND:
DETAILS: Crashed short of runway during approach. Flight director left in descent mode.
01/25/1990  21:34
LOCATION: Cove Neck, NY
CARRIER: AVIANCA   FLIGHT: 052
ABOARD: 158   FATAL: 73   GROUND:
DETAILS: Aircraft ran out of fuel and crashed while in an extended holding pattern. Failure of crew to properly communicate emergency situation.

12/26/1989
LOCATION: Pasco, WA
CARRIER: United Express   FLIGHT:
AIRCRAFT: British Aerospace BAE-3101   REGISTRY: N410UE
ABOARD: 6   FATAL: 6   GROUND:
DETAILS: Crashed during approach. Continued unstabilized ILS approach which led to a stall.

11/27/1989  c 07:20
LOCATION: Near Bogota, Columbia
CARRIER: AVIANCA   FLIGHT: 203
AIRCRAFT: B-727-21   REGISTRY: HK-1803
ABOARD: 107   FATAL: 107   GROUND: 3
DETAILS: Detonation of an explosive device in the passenger compartment under a
seat.

11/25/1989
LOCATION: Seoul, South Korea
CARRIER: Korean Airlines   FLIGHT:
AIRCRAFT: Fokker F-28   REGISTRY: HL-7255
ABOARD: 52   FATAL: 1   GROUND:
DETAILS: Crashed after takeoff after loss of left engine.

10/28/1989
LOCATION: Halawa Point, Molokai, Hawaii
CARRIER: Aloha Island Air   FLIGHT: 1712
AIRCRAFT: De Havilland Twin Otter, DHC-6-300
REGISTRY: N707PV
ABOARD: 20   FATAL: 20   GROUND:
DETAILS: Collided with terrain while en route.

10/26/1989
LOCATION: Hualein, China
CARRIER: China Airlines   FLIGHT:
AIRCRAFT: B-737-209   REGISTRY: B-180
ABOARD: 54   FATAL: 54   GROUND:
DETAILS: Hit mountain after takeoff.

10/21/1989   07:53
LOCATION: Near Tegucigalpa, Honduras  
CARRIER: TAN airlines (Honduras)  
FLIGHT: 414  
AIRCRAFT: B-727-224  
REGISTRY: N88705  
ABOARD: 158  
FATAL: 131  
GROUND:  
DETAILS: Landed short of runway in poor weather conditions.

10/18/1989  
LOCATION: Nasosny, USSR  
CARRIER: Aeroflot  
FLIGHT:  
AIRCRAFT: Ilyushin 76MD  
REGISTRY: SSSR-76569  
ABOARD: 57  
FATAL: 57  
GROUND:  
DETAILS:  

09/27/1989  
LOCATION: Grand Canyon National Park Airport, Tusayan, Arizona  
CARRIER: Grand Canyon Airlines  
FLIGHT: Canyon 5  
AIRCRAFT: De Havilland Twin Otter, DHC-6-300  
REGISTRY: N75PV  
ABOARD: 12  
FATAL: 10  
GROUND:  
DETAILS: Crashed after an attempted landing and go-around.

09/20/1989  
LOCATION: New York, Laguardia, NY  
CARRIER: USAir  
FLIGHT:  

AIRCRAFT: B-737-400  REGISTRY: N416US
ABOARD: 63  FATAL: 2  GROUND:
DETAILS: Aborted takeoff, overran runway, hit wooden approach lighting pier.
   Came to rest in shallow water.

09/19/1989  c 14:00
LOCATION: Near Bilma Niger
CARRIER: Union de Transportes Aeriens (France)
FLIGHT: 772
AIRCRAFT: DC-10-30  REGISTRY: N54629
ABOARD: 170  FATAL: 170  GROUND:
DETAILS: Detonation of an explosive device in the forward baggage compartment.

09/08/1989
LOCATION: Skagerrak, Denmark
CARRIER: Partnair  FLIGHT:
AIRCRAFT: Convair 580  REGISTRY: LN-PAA
ABOARD: 55  FATAL: 55  GROUND:
DETAILS: In-flight breakup. Crashed into ocean. Worn bolts.

09/03/1989  c 19:00
LOCATION: Near Havana, Cuba
CARRIER: Empresa Consolidada Cubana de Aviacion (Cuba)  FLIGHT:
AIRCRAFT: Ilyushin Il-62M   REGISTRY: CU-T1281
ABOARD: 126   FATAL: 126   GROUND: 45
DETAILS: Crashed shortly after takeoff during heavy rain.

09/03/1989
LOCATION: Near Sao Jose do Xingu, Brazil
CARRIER: VARIG   FLIGHT:
AIRCRAFT: B-737-241   REGISTRY: PP-VMK
ABOARD: 54   FATAL: 13   GROUND:
DETAILS: Ran out of fuel due to navigation error. Crashed in jungle. Captain, proccupied with listening to a soccer game flew in the wrong direction.

07/27/1989   c 07:00
LOCATION: Tripoli, Libya
CARRIER: Korean Air   FLIGHT: 803
AIRCRAFT: DC-10-30   REGISTRY: HL-7328
ABOARD: 199   FATAL: 74   GROUND: 6
DETAILS: Crashed short of runway while landing in fog.

07/19/1989   15:16
LOCATION: Sioux City, IA
CARRIER: United Airlines   FLIGHT: 232
AIRCRAFT: DC-10-10   REGISTRY: N1819U
ABOARD: 296   FATAL: 111   GROUND:
DETAILS: Disintegration of rear engine and total loss of
hydraulics. Crashed while attempting to land using only engine thrust for control.

06/07/1989  c 04:30
LOCATION: Near Paramaribo, Para, Surinam, South America
CARRIER: Surinam Airways    FLIGHT: 764
AIRCRAFT: DC-8-62    REGISTRY: N1809E
ABOARD: 179    FATAL: 178    GROUND:
DETAILS: Crashed during third landing attempt in fog.

03/21/1989
LOCATION: Guarulhos, Brazil
CARRIER: Transbrazil    FLIGHT:
AIRCRAFT: B-707-349C    REGISTRY: PT-TCS
ABOARD: 3    FATAL: 3    GROUND: 22
DETAILS: Crashed into houses during approach.

03/10/1989
LOCATION: Dryden, Ontario, Canada
CARRIER: Air Ontario    FLIGHT:
AIRCRAFT: Fokker F-28 Fellowship 1000    REGISTRY: C-FONF
ABOARD: 64    FATAL: 24    GROUND:
DETAILS: Crashed after takeoff during snowstorm. Icing.
03/09/1989
LOCATION: Dayton, OH
CARRIER: Piedmont Airlines  FLIGHT:
AIRCRAFT: B-737-201  REGISTRY: N217US
ABOARD: 82  FATAL: 1  GROUND:
DETAILS: Rapid decompression caused by excessively worn outflow valve in cabin pressurization system.

02/24/1989
LOCATION: Honolulu, HA
CARRIER: United Airlines  FLIGHT: 811
AIRCRAFT: B-747-122  REGISTRY: N4713U
ABOARD: 356  FATAL: 9  GROUND:

02/08/1989  13:08
LOCATION: Santa Maria, Azores, Portugal
CARRIER: Independent Air Inc.  FLIGHT:
AIRCRAFT: B-707-331B  REGISTRY: N723IT
ABOARD: 144  FATAL: 144  GROUND:
DETAILS: Hit mountain while attempting to land.

01/08/1989
LOCATION: Leicestershire, England  
CARRIER: British Midland   
FLIGHT: 
AIRCRAFT: B-737-200   
REGISTRY: G-OBME   
ABOARD: 126   
FATAL: 47   
GROUND: 
DETAILS: Crashed while attempting to land. Crew mistakenly shut down wrong engine after an engine problem.

12/21/1988  c 19:00  
LOCATION: Lockerbie, Scotland  
CARRIER: Pan American World Airways   
FLIGHT: 103   
AIRCRAFT: B747-121   
REGISTRY: N739PA   
ABOARD: 259   
FATAL: 259   
GROUND: 11   
DETAILS: Detonation of an explosive device in the forward cargo area.

10/25/1988  
LOCATION: Juliaca, Peru  
CARRIER: Aero Peru   
FLIGHT: 
AIRCRAFT: Fokker F-28 Friendship 1000   
REGISTRY: OB-R-1020   
ABOARD: 69   
FATAL: 12   
GROUND: 
DETAILS: Crashed shortly after takeoff

10/19/1988  c 07:00  
LOCATION: Near Ahmedabad, India  
CARRIER: Indian Airlines   
FLIGHT: 113
AIRCRAFT: B-737-2A8  REGISTRY: VT-EAH
ABOARD: 135  FATAL: 130  GROUND:
DETAILS: Hit electrical mast short of runway during approach.

09/15/1988  13:05
LOCATION: Bahar Dar, Ethiopia
CARRIER: Ethiopian Airlines  FLIGHT: 
AIRCRAFT: B-737-230  REGISTRY: ET-AJA
ABOARD: 104  FATAL: 35  GROUND:
DETAILS: Crashed while taking off. Bird ingestion (pigeons) in both engines.

08/31/1988
LOCATION: Dallas, TX
CARRIER: Delta Airlines  FLIGHT: 1141
AIRCRAFT: B-727-232  REGISTRY: N473DA
ABOARD: 108  FATAL: 14  GROUND:
DETAILS: Stalled and crashed during takeoff. Improperly set flaps and slats.

07/03/1988  c 10:30
LOCATION: Persian Gulf
CARRIER: Iran Air  FLIGHT: 655
ABOARD: 290  FATAL: 290  GROUND:
DETAILS: Shot down by US Navy vessel by a surface-to-air
missile

06/26/1988
LOCATION: Habsheim, France
CARRIER: Air France
FLIGHT:
AIRCRAFT: A320-111
REGISTRY: F-GFKC
ABOARD: 136  FATAL: 3
GROUND:
DETAILS: Struck trees during air show maneuver.

06/12/1988  09:23
LOCATION: Posadas, Argentina
CARRIER: Austral Lineas Areas
FLIGHT:
AIRCRAFT: DC-9-81, MD-81
REGISTRY: N1003G
ABOARD: 22  FATAL: 22
GROUND:
DETAILS: Crashed three miles short of runway in poor visibility.

05/24/1988
LOCATION: New Orleans, LA
CARRIER: TACA International Airlines
FLIGHT:
AIRCRAFT: B-737-3T0
REGISTRY: N65DA
ABOARD: 45  FATAL: 0
GROUND:
DETAILS: Flame-out of both engines after entering heavy rain and hail. Aircraft landed safely.
04/28/1988
LOCATION: Maui, HI  
CARRIER: Aloha Airlines   FLIGHT: 243  
AIRCRAFT: B-737-297   REGISTRY: N73711  
ABOARD: 95   FATAL: 1   GROUND:  
DETAILS: Separation of top of fuselage and explosive decompression. Metal fatigue. One passenger sucked out.

04/05/1988
LOCATION: Combi, Cyprus  
CARRIER: Kuwait Airways   FLIGHT:  
AIRCRAFT: B-747-200   REGISTRY:  
ABOARD:   FATAL: 2   GROUND:  
DETAILS: Hijacking. Two hostages killed on ground.

03/17/1988  13:17
LOCATION: Near Cucuta, Norte de Santander, Columbia  
CARRIER: AVIANCA   FLIGHT: 410  
AIRCRAFT: B-727-21   REGISTRY: HK-1716  
ABOARD: 139   FATAL: 139   GROUND:  
DETAILS: Struck mountain after takeoff in mist and haze. Crew tookoff under VFR under adverse weather conditions.

01/19/1988  19:15
LOCATION: Near Durango, CO
CARRIER: Continental Express   FLIGHT: 2286
AIRCRAFT: Swearingen SA.227AC Metro   REGISTRY: N86TC
ABOARD: 17   FATAL: 8   GROUND: DETAILS: Crashed while attempting to land in poor weather.

01/18/1988  c 22:15
LOCATION: Near Chungking, Sichuan, China
CARRIER: China Southwest Airlines   FLIGHT: 4146
AIRCRAFT: Ilyushin Il-18D   REGISTRY: B-222

01/04/1988
LOCATION: Seferihisar, Turkey
CARRIER: Condor Flugdienst   FLIGHT: 
AIRCRAFT: B-737-230   REGISTRY: 
ABOARD: 16   FATAL: 16   GROUND: DETAILS: Hit high ground during approach.

12/07/1987
LOCATION: San Luis Obispo, CA
CARRIER: Pacific Southwest Airlines   FLIGHT: 1771
AIRCRAFT: British Aerospace BAE-146-200
REGISTRY: N168US  
ABOARD: 43  FATAL: 43  GROUND:  
DETAILS: Fired airline employee shot both pilots. Went into steep dive and crashed.

11/29/1987  c 11:30  
LOCATION: Over Andaman Sea  
CARRIER: Korean Air  
FLIGHT: 858  
AIRCRAFT: B707-3B5C  
REGISTRY: HL-7406  
ABOARD: 115  FATAL: 115  GROUND:  
DETAILS: Detonation of an explosive device in the passenger compartment.

11/28/1987  c 04:00  
LOCATION: Over Indian Ocean  
CARRIER: South African Airways  
FLIGHT: 295  
AIRCRAFT: B-747-244B  
REGISTRY: ZS-SAS  
ABOARD: 159  FATAL: 159  GROUND:  
DETAILS: Fire in the main cargo area. Hazardous materials in the cargo hold.

11/15/1987  
LOCATION: Denver, CO  
CARRIER: Continental Airlines  
FLIGHT: 1713  
AIRCRAFT: DC-9-14  
REGISTRY: N626TX  
ABOARD: 82  FATAL: 28  GROUND:
DETAILS: Crashed on takeoff after a rapid rotation in a snowstorm. Icing.

08/31/1987 c 15:30
LOCATION: Off Ko Phuket, Thailand
CARRIER: Thai Airways   FLIGHT: 365
AIRCRAFT: B-737-2P5   REGISTRY: HS-TBC
ABOARD: 83   FATAL: 83   GROUND:
DETAILS: Crashed into ocean after crew's attention was diverted to concern over another aircraft.

08/16/1987 c 20:46
LOCATION: Romulus, MI
CARRIER: Northwest Airlines   FLIGHT: 255
AIRCRAFT: DC-9-82   REGISTRY: N312RC
ABOARD: 155   FATAL: 154   GROUND: 2
DETAILS: Stalled and crashed during takeoff. Slats and flaps not extended.

08/03/1987
LOCATION: Calama, Chile
CARRIER: Lan Chile   FLIGHT:
AIRCRAFT: B-737-2A1   REGISTRY: CC-CHJ
ABOARD: 33   FATAL: 2   GROUND:
DETAILS: Landing gear failed during landing, aircraft broke in two, caught fire.
07/24/1987
LOCATION: En route Rome - Paris
CARRIER: Air Afrique    FLIGHT:
AIRCRAFT: DC-10    REGISTRY:
ABOARD: 148    FATAL: 0    GROUND: 1
DETAILS: Hijacking. Hijacker killed.

05/09/1987  11:12
LOCATION: Warsaw, Poland
CARRIER: Polskie Linie Lotnicze (Poland)    FLIGHT:
AIRCRAFT: Ilyushin Il-62M    REGISTRY: SP-LBG
ABOARD: 183    FATAL: 183    GROUND:
DETAILS: Engine failure leading to damage to elevator and electrical system.
Crashed into forest.

04/04/1987
LOCATION: Medan-Polonia, Indonesia
CARRIER: Garuda Indonesia Airways    FLIGHT:
AIRCRAFT: DC-9-32    REGISTRY: PK-GNQ
ABOARD: 45    FATAL: 23    GROUND:
DETAILS: Crashed on approach during heavy rain after hitting antenna.
12/25/1986
LOCATION: Ay, Saudi Arabia
CARRIER: Iraqi Airways     FLIGHT:
AIRCRAFT: B-737-270C     REGISTRY: YI-AGJ
ABOARD: 106     FATAL: 63     GROUND:
DETAILS: Hijacking. Crashed after grenades exploded.

11/12/1986
LOCATION: Leninakan, Armenia, USSR
CARRIER: Aeroflot     FLIGHT:
AIRCRAFT: Ilyushin Il-76 / AFMi-8     REGISTRY:
ABOARD: 78     FATAL: 78     GROUND:
DETAILS: Midair collision with a Soviet AFMi-8.

10/20/1986
LOCATION: Kuybyshev, USSR
CARRIER: Aeroflot     FLIGHT:
AIRCRAFT: Tupolev TU-134A     REGISTRY: SSSR-65766
ABOARD: 94     FATAL: 70     GROUND:
DETAILS: Crashed during landing.

09/05/1986
LOCATION: Karachi, Pakistan
CARRIER: Pan American World Airways     FLIGHT:
AIRCRAFT: B-747     REGISTRY:
ABOARD:  FATAL: 16     GROUND:
DETAILS: Hijacking. Sixteen passengers killed while on
ground.

08/31/1986 11:52
LOCATION: Cerritos, CA
CARRIER: Aeromexico / private FLIGHT: 498
AIRCRAFT: DC-9-32 / Piper PA-28-181 REGISTRY:
XA-JED/N4891F
ABOARD: 67 FATAL: 67 GROUND: 15
DETAILS: Midair collision. Inadequate radar approach/
departure procedures.

06/18/1986 c 9:33
LOCATION: Grand Canyon, AZ
CARRIER: Grand Canyon Airlines / Helitech FLIGHT:
AIRCRAFT: DEHAVILLAND DHC-6 / Bell 206B
REGISTRY: N76GC/N6TC
ABOARD: 25 FATAL: 25 GROUND:
DETAILS: Midair collision.

05/03/1986
LOCATION: Colombo, Sri Lanka
CARRIER: Air Lanka FLIGHT:
AIRCRAFT: Lockheed L-1011-100 REGISTRY: 4R-ULD
ABOARD: 128 FATAL: 14 GROUND:
DETAILS: Detonation of an explosive device in the rear part
of the cabin.
04/02/1986
LOCATION: Near Athens, Greece
CARRIER: Trans World Airlines   FLIGHT:
AIRCRAFT: B-727   REGISTRY:
ABOARD:  FATAL: 4   GROUND:
DETAILS: Detonation of a explosive device in the passenger
compartment causing
   four passengers to be sucked out.

03/31/1986   c 09:15
LOCATION: Maravatio, Mexico
CARRIER: Mexicana   FLIGHT: 940
AIRCRAFT: B-727-264   REGISTRY: XA-MEM
ABOARD: 167   FATAL: 167   GROUND:
DETAILS: Tire explosion in wheel well after takeoff
damaged hydraulic and
electrical systems.

02/16/1986
LOCATION: Makung, Taiwan
CARRIER: China Airlines   FLIGHT:
AIRCRAFT: B-737-281   REGISTRY: B-1870
ABOARD: 13   FATAL: 13   GROUND:
DETAILS: Crashed during an attempted go-around.
01/28/1986
LOCATION: Sao Paulo, Brazil
CARRIER: VASP   FLIGHT:
AIRCRAFT: B-737-200   REGISTRY: PP-SME
ABOARD: 72   FATAL: 1   GROUND:
DETAILS: Crashed during a rejected takeoff during poor weather conditions.

01/18/1986  c 08:00
LOCATION: Near San Andres, Peten, Guatemala
CARRIER: Aerovias de Guatemala SA   FLIGHT:
AIRCRAFT: Sud-Aviation Caravelle VI-N   REGISTRY: HC-BAE
ABOARD: 94   FATAL: 94   GROUND:
DETAILS: Crashed into hilly area during second landing attempt.

12/31/1985  17:08
LOCATION: De Kalb, TX
CARRIER: Private   FLIGHT:
AIRCRAFT: DC-3   REGISTRY: N711Y
ABOARD: 9   FATAL: 7   GROUND:
DETAILS: Crash landed into field after dense smoke filled the cockpit. The fire most likely started in the cabin heater. Singer Rick Nelson killed.
12/12/1985
LOCATION: Near Gander, Newfoundland, Canada
CARRIER: Arrow Air Inc. FLIGHT:
AIRCRAFT: DC-8 Super 63PF REGISTRY: N950JW
ABOARD: 256 FATAL: 256 GROUND:
DETAILS: Stalled and crashed during takeoff. Icing.

11/24/1985
LOCATION: Valletta, Malta
CARRIER: Egyptair FLIGHT:
AIRCRAFT: B-737-266 REGISTRY:
ABOARD: 96 FATAL: 60 GROUND:
DETAILS: Hijacking.

09/06/1985
LOCATION: Milwaukee, WI
CARRIER: Midwest Express FLIGHT: 105
AIRCRAFT: DC-9-14 REGISTRY: N100ME
ABOARD: 31 FATAL: 31 GROUND:
DETAILS: Stalled and dove into the ground during takeoff.
Failure of right engine
after compressor spacer failure.

08/22/1985  c 07:15
LOCATION: Manchester, England
CARRIER: British Airtours FLIGHT:
AIRCRAFT: B-737-236 REGISTRY: G-BGJL
ABOARD: 133  FATAL: 55  GROUND:
DETAILS: Engine failure led to ruptured fuel tank and fire during takeoff.

08/12/1985  18:56
LOCATION: Mt. Ogura, near Ueno Village, Japan
CARRIER: Japan Air Lines   FLIGHT: 123
AIRCRAFT: B-747-SR46   REGISTRY: JA8119
ABOARD: 524  FATAL: 520  GROUND:

08/02/1985  18:06
LOCATION: Ft. Worth-Dallas, TX
CARRIER: Delta Air Lines   FLIGHT: 191
AIRCRAFT: Lockheed L-1011-1 TriStar   REGISTRY: N726DA
ABOARD: 167  FATAL: 136  GROUND: 1
DETAILS: Crashed while landing. Microburst induced windshear.

07/10/1985  c 23:45
LOCATION: Near Uch Kuduk, USSR
CARRIER: Aeroflot   FLIGHT: 7425
AIRCRAFT: Tupolev Tu-154B-2   REGISTRY: SSSR-85311
ABOARD: 200  FATAL: 200  GROUND:
DETAILS: Went into an uncontrolled descent from FL 400 and crashed.

06/23/1985  c 07:15
LOCATION: Atlantic Ocean, Near Ireland
CARRIER: Air India  FLIGHT: 182
AIRCRAFT: B-747-237B  REGISTRY: VT-EFO
ABOARD: 329  FATAL: 329  GROUND:
DETAILS: Detonation of an explosive device in the forward cargo hold. Aircraft broke up in flight.

06/14/1985
LOCATION: Athens, Greece
CARRIER: Trans World Airlines  FLIGHT: 
AIRCRAFT: B-727  REGISTRY: 
ABOARD: 1  FATAL: 1  GROUND: 
DETAILS: Hijacking.

04/15/1985
LOCATION: Phuket, Thailand
CARRIER: Thai Airways  FLIGHT: 
AIRCRAFT: B-737-200  REGISTRY: HS-TBB
ABOARD: 11  FATAL: 11  GROUND: 
DETAILS: Hit high ground after transmitting an emergency message.
03/28/1985
LOCATION: Florencia, Columbia
CARRIER: Satena   FLIGHT:
AIRCRAFT: Fokker F-28 Fellowship 3000   REGISTRY: FAC-1140
ABOARD: 52   FATAL: 52   GROUND:
DETAILS: Crashed into mountain.

03/05/1985   c 12:00
LOCATION: Near L'vov, Ukraine, USSR
CARRIER: Aeroflot / Soviet Air Force   FLIGHT:
AIRCRAFT: Tupolev Tu-134A / Antonov An-26
REGISTRY: 65856/26492
ABOARD: 94   FATAL: 94   GROUND:
DETAILS: Midair collision.

02/19/1985
LOCATION: 300 nm NW of SF Calif.
CARRIER: China Airlines   FLIGHT:
AIRCRAFT: B-747-SP-09   REGISTRY: N4522V
ABOARD: 274   FATAL: 0   GROUND:
DETAILS: Descended from FL 470 to 9,500 ft. after losing power in No. 4 engine.
02/19/1985  09:27
LOCATION: Mt. Oiz, near Durango, Vizcaya, Spain
CARRIER: Iberia Airlines  FLIGHT: 610
AIRCRAFT: B727-256  REGISTRY: EC-DDU
ABOARD: 148  FATAL: 148  GROUND:
DETAILS: Crashed into antenna on Mt. Oiz. Incorrect interpretation of ground proximity warning system.

01/21/1985  01:04
LOCATION: Reno, Nevada
CARRIER: Galaxy Airlines  FLIGHT: 203
AIRCRAFT: Lockheed L-188A Electra  REGISTRY: N5532
ABOARD: 71  FATAL: 70  GROUND:
DETAILS: Crashed while returning to airport after severe vibrations. Ground handler forgot to close an access door.

01/01/1985
LOCATION: Near La Paz, Bolivia
CARRIER: Eastern Air Lines  FLIGHT:
AIRCRAFT: B-727-225  REGISTRY: N819EA
ABOARD: 29  FATAL: 29  GROUND:
DETAILS: Hit mountain during approach.

12/23/1984  c 18:10
LOCATION: Near Kranoyarsk, USSR  
CARRIER: Aeroflot  FLIGHT: 3519  
AIRCRAFT: Tupolev Tu-154B-2  REGISTRY: SSSR-85338  
ABOARD: 118  FATAL: 117  GROUND:  
DETAILS: Crashed while attempting an emergency landing  
after No. 3 engine  
caught fire. Failure of compressor.

10/28/1984  
LOCATION: Kabul, Afghanistan  
CARRIER: Aeroflot  FLIGHT:  
AIRCRAFT: Antonov AN-22  REGISTRY: SSSR-08837  
ABOARD: 240  FATAL: 240  GROUND:  
DETAILS: Midair collision.

10/11/1984  c 05:40  
LOCATION: Near Omsk, USSR  
CARRIER: Aeroflot  FLIGHT: 3352  
AIRCRAFT: Tupolev Tu-154B  REGISTRY: SSSR-85243  
ABOARD: 178  FATAL: 174  GROUND: 4  
DETAILS: Crashed into two cleaning trucks on runway.

08/30/1984  
LOCATION: Douala, Cameroon  
CARRIER: Cameroon Airlines  FLIGHT:  
AIRCRAFT: B737-2H7C  REGISTRY: TJ-CBD
ABOARD: 116  FATAL: 2  GROUND:
DETAILS: Engine failed while aircraft was on the ground and started a fire after fuel tank was ruptured.

02/28/1984
LOCATION: Jamacia, NY
CARRIER: Scandinavian Airlines (SAS)  FLIGHT: 901
AIRCRAFT: DC-10-30  REGISTRY:
ABOARD: 177  FATAL: 0  GROUND:
DETAILS: Slid off end of runway and came to rest in tidal waterway. Auto throttle malfunction.

12/07/1983  c 09:40
LOCATION: Near Madrid, Spain
CARRIER: Iberia Airlines / AVIACO  FLIGHT: 350/134
AIRCRAFT: B-727-200 / DC9-32  REGISTRY: EC-CFJ/EC-CGS
ABOARD: 135  FATAL: 93  GROUND:
DETAILS: Ground collision during fog and snow.

11/28/1983
LOCATION: Enugu, Nigeria
CARRIER: Nigeria Airways  FLIGHT:
AIRCRAFT: Fokker F-28  REGISTRY: 5N-ANF
ABOARD: 72  FATAL: 53  GROUND:
DETAILS: Crashed short of runway and caught fire in poor visibility.

11/27/1983  10:06
LOCATION: Madrid-Barajas, Spain
CARRIER: AVIANCA    FLIGHT: 11
AIRCRAFT: B-747-283B    REGISTRY: HK-2910
ABOARD: 192    FATAL: 181    GROUND:
DETAILS: Crashed during approach after descending too low.

11/08/1983  c 15:20
LOCATION: Lubango, Huila, Angola
CARRIER: TAAG Angola Airlines    FLIGHT:
AIRCRAFT: B-737-200    REGISTRY: D2-TBN
ABOARD: 131    FATAL: 126    GROUND:
DETAILS: Crashed immediately after takeoff. Shot down by rebels.

09/23/1983  c 15:30
LOCATION: Near Mina Jebel Ali, UAE
CARRIER: Gulf Air    FLIGHT: 717
AIRCRAFT: B-737-2P6    REGISTRY: A40-BK
ABOARD: 112    FATAL: 112    GROUND:
DETAILS: Detonation of an explosive device in baggage compartment. Crashed during emergency landing.
09/01/1983  06:30
LOCATION: Near Sakhalin Island, Russia
CARRIER: Korean Airlines   FLIGHT: 007
AIRCRAFT: B-747-230B   REGISTRY: HL-7442
ABOARD: 269   FATAL: 269   GROUND:
DETAILS: Shot down by Russian Air Force fighter after straying into Soviet airspace.

08/31/1983  23:17
LOCATION: Near Alma-Ata, Kazakh, USSR
CARRIER: Aeroflot   FLIGHT:
AIRCRAFT: Tupolev Tu-134A   REGISTRY: SSSR-65129
ABOARD: 90   FATAL: 90   GROUND:
DETAILS: Crashed an burned while attempting to land.

07/11/1983  07:40
LOCATION: Near Cuenca, Azuay, Ecuador
CARRIER: TAME (Equador)   FLIGHT:
AIRCRAFT: B-737-2V2   REGISTRY: HC-BIG
ABOARD: 119   FATAL: 119   GROUND:
DETAILS: Crashed into mountain during approach.

06/02/1983  19:20
LOCATION: Cincinatti International Airport, Covington/Hebron, KY
CARRIER: Air Canada  FLIGHT: 797
AIRCRAFT: DC-9-32  REGISTRY: CFTLU
ABOARD: 41  FATAL: 23  GROUND:
DETAILS: In-flight fire in rear lavatory of unknown origin. Fatalities occurred from smoke inhalation. Underestimation of fire severity and conflicting fire progress reports.

03/11/1983
LOCATION: Barquisimeto Venezuela
CARRIER: Avensa  FLIGHT: 
AIRCRAFT: DC-9-32  REGISTRY: YV-67C
ABOARD: 50  FATAL: 23  GROUND:
DETAILS: Experienced hard landing in fog, slid off runway and broke up.

01/16/1983
LOCATION: Ankara, Turkey
CARRIER: THY Turkish Air  FLIGHT: 
AIRCRAFT: B-727-2F2  REGISTRY: TC-JBR
ABOARD: 67  FATAL: 47  GROUND:
DETAILS: Crashed short of runway in fog and snow. Windshear.
09/13/1982  c 12:00
LOCATION: Near Malaga, Spain
CARRIER: Spantax SA Transportes Aereos (Spain)
FLIGHT:
   AIRCRAFT: DC-10-30CF   REGISTRY: EC-DEG
   ABOARD: 393   FATAL: 51   GROUND:
   DETAILS: Crashed during takeoff after intense vibration caused by a blown tire.

08/11/1982
LOCATION: Pacific Ocean 40 from Honolulu
CARRIER: Pan American World Airways   FLIGHT:
   AIRCRAFT: B-747   REGISTRY:
   ABOARD:   FATAL: 1   GROUND:
   DETAILS: Detonation of an explosive device in the passenger compartment. The aircraft landed safely.

07/09/1982  16:09
LOCATION: Kenner, LA
CARRIER: Pan American World Airways   FLIGHT: 759
   AIRCRAFT: B-727-235   REGISTRY: N4737
   ABOARD: 145   FATAL: 145   GROUND: 8
   DETAILS: Crashed during thunderstorm shortly after takeoff. Microburst induced windshear.
07/06/1982  c 00:05
LOCATION: Near Moscow, USSR
CARRIER: Aeroflot     FLIGHT: 411
AIRCRAFT: Ilyushin Il-62M     REGISTRY: SSSR-86513
ABOARD: 90     FATAL: 90     GROUND:
DETAILS: Crashed and burned in field shortly after takeoff.
Failure of the
aircraft's power plant fire warning system due to design
deficiencies which resulted
in false fire indications in both engines.

06/28/1982  c 10:50
LOCATION: Soothern Belorussia, USSR
CARRIER: Aeroflot     FLIGHT: 8641
AIRCRAFT: Yakovlev Yak-42     REGISTRY: SSSR-45229
ABOARD: 132     FATAL: 132     GROUND:
DETAILS: In-flight failure and jamming of stabilizer screw-
jack mechanism due to
wear.

06/08/1982  02:25
LOCATION: Near Sierra de Pacatuba, Brazil
CARRIER: VASP (Brazil)     FLIGHT: 168
AIRCRAFT: B-727-212A     REGISTRY: PP-SRK
ABOARD: 135     FATAL: 135     GROUND:
DETAILS: Crashed into hill during approach.
05/25/1982
LOCATION: Brasilia, Brazil
CARRIER: VASP   FLIGHT: 
AIRCRAFT: B-737-200   REGISTRY: PP-SMY
ABOARD: 118   FATAL: 2   GROUND: 
DETAILS: Broke in two after a hard landing.

04/26/1982   c 16:45
LOCATION: Near Yangshuo, Guangxi, China
CARRIER: Civil Aviation Administration of China
FLIGHT: 3303
AIRCRAFT: Hawker Siddeley Trident 2E   REGISTRY: B-266
ABOARD: 112   FATAL: 112   GROUND: 
DETAILS: Struck a mountain during landing attempt.

03/20/1982
LOCATION: Branti Airport, Indonesia
CARRIER: Gradua Indonesia   FLIGHT: 
AIRCRAFT: Fokker F-28   REGISTRY: PK-GVK
ABOARD: 28   FATAL: 26   GROUND: 
DETAILS: Overran runway, crashed and burned in heavy rain.

02/09/1982
LOCATION: Tokyo, Japan
CARRIER: Japan Airlines   FLIGHT: 
AIRCRAFT: DC-8-61 REGISTRY: JA-8061
ABOARD: 174 FATAL: 24 GROUND:
DETAILS: Flew into shallow water after a struggle with mentally ill pilot.

01/24/1982 19:36
LOCATION: Boston, Logan, Boston, MA
CARRIER: World Airways FLIGHT: 30H
AIRCRAFT: DC-10-30CF REGISTRY: N113WA
ABOARD: 212 FATAL: 2 GROUND:
DETAILS: Slid off end of runway after landing on icy runway into shallow water.

01/13/1982 16:01
LOCATION: Washington, DC
CARRIER: Air Florida FLIGHT: 90
AIRCRAFT: B-737-222 REGISTRY: N62AF
ABOARD: 79 FATAL: 74 GROUND: 4
DETAILS: Crashed shortly after takeoff into the Potomac River and sank. Failure
to turn on engine anti-icing system. Crew inexperience in icing conditions.

12/01/1981 08:53
LOCATION: Mt. St. Pietro, near Petreto-Bicchisano, Corsica, France
CARRIER: Index Adria Aviopromet (Yugoslavia)
FLIGHT:
AIRCRAFT: DC-9 Super 82 REGISTRY: YU-ANA
ABOARD: 180 FATAL: 180 GROUND:
DETAILS: Crashed into mountain during approach in heavy fog. Imprecise language used by the crew and air traffic controller.

11/16/1981
LOCATION: Norilsk, USSR
CARRIER: Aeroflot FLIGHT:
AIRCRAFT: Tupolev TU-154B-2 REGISTRY: SSSR-85480
ABOARD: 99 FATAL: 99 GROUND:
DETAILS: Crashed during landing.

11/09/1981
LOCATION: Sierra de Guerro, Mexico
CARRIER: Aeromexico FLIGHT:
AIRCRAFT: DC-9-32 REGISTRY: XA-DEO
ABOARD: 18 FATAL: 18 GROUND:
DETAILS: Struck mountain during emergency descent due to decompression.

10/06/1981
LOCATION: Moerdijk, Netherlands
CARRIER: NLM (The Netherlands) FLIGHT:
AIRCRAFT: Fokker F-28 Friendship 4000 REGISTRY:
PH-CHI
ABOARD: 21  FATAL: 21  GROUND:
DETAILS: In-flight structural failure due to severe turbulence.

08/22/1981  c 10:00
LOCATION: Near Sanyi, Miao-li, Taiwan
CARRIER: Far Eastern Air Transport  FLIGHT: 103
AIRCRAFT: B-737-222  REGISTRY: B-2603
ABOARD: 110  FATAL: 110  GROUND:
DETAILS: In-flight structural failure. Severe corrosion in belly of plane.

07/27/1981
LOCATION: Chihuahua, Mexico
CARRIER: Aeromexico  FLIGHT:
AIRCRAFT: DC-9-32  REGISTRY: XA-DEN
ABOARD: 66  FATAL: 30  GROUND:
details: Landed right of runway, bounced, struck ground, fuselage broke in two and caught fire during inclement weather.

02/02/1981
LOCATION: Near Leningrad, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Tupolev Tu-134  REGISTRY:
ABOARD: 73  FATAL: 73  GROUND:
DETAILS:

12/23/1980
LOCATION: Arabian Gulf near Saudi Arabia
CARRIER: Saudi Arabian Airlines  FLIGHT:
AIRCRAFT: Lockheed L-1011-200  REGISTRY:
ABOARD: 288  FATAL: 2  GROUND:
DETAILS: Two passengers blown out of plane after a tire exploded in the wheel well.

08/19/1980  c 22:00
LOCATION: Near Riyadh, Saudi Arabia
CARRIER: Saudi Arabian Airlines  FLIGHT: 163
AIRCRAFT: Lockheed 1011-200 TriStar  REGISTRY: HZ-AHK
ABOARD: 301  FATAL: 301  GROUND:
DETAILS: Fire in the aft cargo compartment after takeoff.
Landed safely but all killed by smoke and fire before rescue.

07/08/1980  00:39
LOCATION: Nar Alma-Ata, Kazakh, USSR
CARRIER: Aeroflot  FLIGHT: 4225
AIRCRAFT: Tupolev Tu-154B  REGISTRY: SSSR-85355
ABOARD: 166  FATAL: 166  GROUND:
DETAILS: Crashed and burned two minutes after takeoff.
Windshear.

06/27/1980  c 21:00
LOCATION: Tyrrhenian Sea, Ustica, Italy
CARRIER: Aero Transporti Italiani  FLIGHT: 870
AIRCRAFT: DC-9-15  REGISTRY: I-TIGI
ABOARD: 81  FATAL: 81  GROUND:
DETAILS: Possibly struck by missile. Aircraft broke up and crashed.

05/10/1980
LOCATION: Near Rampur Hat, India
CARRIER: Indian Airlines  FLIGHT:
AIRCRAFT: B-737-200  REGISTRY:
ABOARD: 132  FATAL: 2  GROUND:
DETAILS: Severe turbulence while en route.

04/25/1980  13:21
LOCATION: Tenerife, Canary Islands
CARRIER: Dan-Air Services (UK)  FLIGHT:
AIRCRAFT: B-727-64  REGISTRY: G-BDAN
ABOARD: 146  FATAL: 146  GROUND:
DETAILS: Crashed into mountain during approach.
Navigation and procedural errors.
04/12/1980
LOCATION: Florianopolis, Brazil
CARRIER: Ytsmdntsd FLIGHT:
AIRCRAFT: B-727-27C REGISTRY: PT-TYS
ABOARD: 58 FATAL: 55 GROUND:
DETAILS: Crashed into hill while landing during thunderstorm.

03/14/1980 c 11:00
LOCATION: Near Warsaw, Poland
CARRIER: Polskie Linie Lotnicze (Poland) FLIGHT: 007
AIRCRAFT: Ilyushin Il-62 REGISTRY: SP-LAA
ABOARD: 87 FATAL: 87 GROUND:
DETAILS: Crashed while attempting to land. Engine disintegration caused the loss of the other two engines and severed rudder and elevator control lines.

01/21/1980 c 19:10
LOCATION: Elburz Mtns., near Laskarak, Markazi, Iran
CARRIER: Iran National Airlines FLIGHT:
AIRCRAFT: B-727-86 REGISTRY: EP-IRD
ABOARD: 128 FATAL: 128 GROUND:
DETAILS: Hit high ground during landing attempt in snowstorm. Inoperative ILS and ground radar.
12/23/1979
LOCATION: Ankara, Turkey
CARRIER: THY, Turkish Airlines   FLIGHT:
AIRCRAFT: Fokker F-28   REGISTRY: TC-JAT
ABOARD: 45   FATAL: 41   GROUND:
DETAILS: In-flight structural failure due to severe turbulence.

11/28/1979  12:49
LOCATION: Near Mt. Erebus, Ross Island Antarctica
CARRIER: Air New Zealand   FLIGHT:
AIRCRAFT: DC-10-30   REGISTRY: ZK-NZP
ABOARD: 257   FATAL: 257   GROUND:
DETAILS: Crashed into mountain while on sightseeing flight to Antarctica.
      Incorrect navigational charts supplied to the crew which resulted in the airliner
      flying into mountainous terrain.

11/26/1979  c 02:00
LOCATION: Near At Ta'if, Jeddah, Saudi Arabia
CARRIER: Pakistan International Airlines   FLIGHT: 740
AIRCRAFT: B-707-340C   REGISTRY: AP-AWZ
ABOARD: 156   FATAL: 156   GROUND:
DETAILS: Fire in the aft cabin area. Aircraft crashed into the desert.
10/31/1979 05:42
LOCATION: Mexico City, Mexico
CARRIER: Western Airlines FLIGHT: 2605
AIRCRAFT: DC-10-10 REGISTRY: N903WA
ABOARD: 89 FATAL: 72 GROUND: 1
DETAILS: Struck vehicle after landing on a closed runway.

09/14/1979
LOCATION: Near Sarroch, Italy
CARRIER: Aero Transporti Italiani FLIGHT:
AIRCRAFT: DC-9-32 REGISTRY: I-ATJC
ABOARD: 31 FATAL: 31 GROUND:
DETAILS: Hit mountain during approach.

08/11/1979 13:35
LOCATION: Dneprodzerzhinsk, Ukraine, USSR
CARRIER: Aeroflot / Aeroflot 7628 FLIGHT: 7880
AIRCRAFT: Tupolev Tu-134A / Tupolev Tu-134A
REGISTRY: 65735/65816
ABOARD: 178 FATAL: 178 GROUND:
DETAILS: Midair collision. Separation error by air traffic controller.

07/11/1979
LOCATION: Near Medan Airfield, Indonesia
CARRIER: Garuda Indonesia FLIGHT:


03/14/1979  LOCATION: Near Doha Airport, Qatar
12/28/1978  c 18:15
LOCATION: Portland, OR
CARRIER: United Airlines  FLIGHT: 173
AIRCRAFT: DC-8-61  REGISTRY: N8082U
ABOARD: 189  FATAL: 23  GROUND:
DETAILS: Ran out of fuel while crew was distracted with landing gear problem.

12/23/1978  00:39
LOCATION: Near Cinisi, Sicily, Italy
CARRIER: Alitalia (Italy)  FLIGHT: 4128
AIRCRAFT: DC-9-32  REGISTRY: I-DIKQ
ABOARD: 129  FATAL: 108  GROUND:
DETAILS: Crashed into ocean during landing approach.

11/15/1978  23:30
LOCATION: Near Katunayake, Sri Lanka
CARRIER: Loftleidir HF (Icelandic Airlines)  FLIGHT:
AIRCRAFT: DC8-Super 63CF  REGISTRY: TF-FLA
ABOARD: 262  FATAL: 184  GROUND:
DETAILS: Crashed while attempting to land.
09/25/1978 09:02
LOCATION: San Diego, CA
CARRIER: Pacific Southwest Airlines and Cessna
FLIGHT: 182
AIRCRAFT: B-727-214 / Cessna 172  REGISTRY: N533PS/N7711G
ABOARD: 137  FATAL: 137  GROUND: 7
DETAILS: Midair collision. Failure of the flightcrew of Pacific Southwest to comply with the provisions of a maintain-visual-separation clearance.

06/26/1978
LOCATION: Toronto, Canada
CARRIER: Air Canada  FLIGHT: 
AIRCRAFT: DC-9-32  REGISTRY: C-FTLV
ABOARD: 107  FATAL: 2  GROUND: 
DETAILS: Overran runway after an aborted takeoff due to a blown tire. Crashed into ravine.

05/08/1978 21:20
LOCATION: Pensacola, FL
CARRIER: National Airlines  FLIGHT: 193
AIRCRAFT: B-727-235  REGISTRY: N4744
ABOARD: 58  FATAL: 3  GROUND: 
DETAILS: Crashed while attempting to land. Came to rest
in twelve feet of water.

Failure of crew to monitor altitude and descent rate.

03/01/1978
LOCATION: LAX, Los Angeles, CA
CARRIER: Continental Airlines    FLIGHT:
AIRCRAFT: DC-10-10    REGISTRY: N68045
ABOARD: 200    FATAL: 2    GROUND:
DETAILS: Overran runway after an aborted takeoff due to a blown tire.

02/11/1978
LOCATION: Cranbrook Airport, Canada
CARRIER: Pacific Western Airlines    FLIGHT:
AIRCRAFT: B-737-275    REGISTRY: C-FPWC
ABOARD: 49    FATAL: 42    GROUND:
DETAILS: Crashed while landing after reverse thrusters did not fully deploy.

01/01/1978    c 20:15
LOCATION: Off Bandra, Maharashtra, India
CARRIER: Air India    FLIGHT: 855
AIRCRAFT: B-747-237B    REGISTRY: VT-EBD
ABOARD: 213    FATAL: 213    GROUND:
DETAILS: Went into a steep dive and exploded on impact.
Malfunction of altitude director indicator.
12/13/1977
LOCATION: Evansville, IN
CARRIER: National Jet Services   FLIGHT:
AIRCRAFT: DC-3   REGISTRY: N51071
ABOARD: 29   FATAL: 29   GROUND:
DETAILS: Crashed during takeoff. Killed the entire Evansville basketball team.

12/04/1977   c 20:15
LOCATION: Straits of Johore, near Kampung Ladang, Malaysia
CARRIER: Malaysian Airline System   FLIGHT: 653
AIRCRAFT: B-737-2H6   REGISTRY: 9M-MBD
ABOARD: 100   FATAL: 100   GROUND:
DETAILS: Crashed into swamp while descending. Both pilots shot.

11/19/1977   21:48
LOCATION: Near Funchal, Island of Madeira, Portugal
CARRIER: TAP (Air Portugal)   FLIGHT: 425
AIRCRAFT: B-727-282   REGISTRY: CS-TBR
ABOARD: 164   FATAL: 131   GROUND:
DETAILS: Overran runway on third landing attempt and plunged off a cliff.
11/03/1977
LOCATION: Belgrade, Yugoslavia
CARRIER: El Al FLIGHT:
AIRCRAFT: B-747 REGISTRY:
ABOARD: FATAL: 1 GROUND:
DETAILS: Explosive decompression.

09/27/1977
LOCATION: Lumpur, Malaysia
CARRIER: Japan Airlines FLIGHT:
AIRCRAFT: DC-8-62H REGISTRY: JA-8051
ABOARD: 79 FATAL: 34 GROUND:
DETAILS:

05/27/1977
LOCATION: Havana, Cuba
CARRIER: Aeroflot FLIGHT:
AIRCRAFT: Ilyushin II-62 REGISTRY: SSSR-86614
ABOARD: 70 FATAL: 68 GROUND: 1
DETAILS:

04/04/1977 16:19
LOCATION: New Hope, Georgia
CARRIER: Southern Airways FLIGHT: 242
AIRCRAFT: DC-9-31 REGISTRY: N1335U
ABOARD: 85 FATAL: 63 GROUND: 9
DETAILS: Lost power to both engines after penetrating thunderstorm. Crash landed on highway.

03/27/1977 17:07
LOCATION: Tenerife, Canary Islands
CARRIER: Pan American World Airways and KLM
FLIGHT:
AIRCRAFT: B-747-121 / B-747-206B   REGISTRY: N736PA/PH-BUF
ABOARD: 644  FATAL: 583  GROUND:
DETAILS: Ground collision during takeoff in fog. Started takeoff without permission. Worst death toll in aviation history.

02/15/1977
LOCATION: Mineralnye Vody, USSR
CARRIER: Aeroflot   FLIGHT:
AIRCRAFT: Ilyushin Il-18V   REGISTRY: SSSR-75520
ABOARD: 77  FATAL: 77  GROUND:
DETAILS: Crashed during an aborted landing.

01/13/1977  c 18:15
LOCATION: Near Alma Ata, Kazakh, USSR
CARRIER: Aeroflot   FLIGHT: 3843
AIRCRAFT: Tupolev Tu-104A   REGISTRY: SSSR-42369
ABOARD: 90  FATAL: 90  GROUND:
DETAILS: Crashed two miles short of runway after fire started in left engine.

12/25/1976  c 03:45
LOCATION: Near Bangkok, Thailand
CARRIER: Egyptair   FLIGHT: 864
AIRCRAFT: B-707-366C   REGISTRY: SU-AXA
ABOARD: 62   FATAL: 62   GROUND: 19
DETAILS: Crashed into industrial area during landing attempt.

10/13/1976
LOCATION: Santa Cruz, Bolivia
CARRIER: Bolivian Airlines   FLIGHT:
AIRCRAFT: B-707-131F   REGISTRY: N730JP
ABOARD: 3   FATAL: 3   GROUND: 110
DETAILS: Crashed into building during takeoff.

10/12/1976   01:37
LOCATION: Near Bombay, India
CARRIER: Indian Airlines   FLIGHT:
AIRCRAFT: Sud-Aviation Caravelle VI-N   REGISTRY: VT-DWN
ABOARD: 95   FATAL: 95   GROUND:
DETAILS: Crashed during emergency landing. Fatigue crack in compressor led to engine destruction and fire.
10/06/1976  c 13:30
LOCATION: Off Bridgetown, Barbados
CARRIER: Empresa Consolidada Cubana de Aviacion (Cuba)  FLIGHT: 455
AIRCRAFT: DC-8-43  REGISTRY: CU-T1201
ABOARD: 73  FATAL: 73  GROUND:
DETAILS: Crashed into Caribbean Sea. Detonation of an explosive device in the aft of the cabin.

09/20/1976
LOCATION: Karatepe Mountains, Turkey
CARRIER: THY Turkish Airlines  FLIGHT: 291
AIRCRAFT: B-727-2F2  REGISTRY: TC-JBH
ABOARD: 154  FATAL: 154  GROUND:
DETAILS: Struck mountain during approach.

09/10/1976  c 11:15
LOCATION: Near Gaj, Hrvatska, Yugoslavia
CARRIER: Inex Adria Aviopromet / British Airways  FLIGHT: 330/476
AIRCRAFT: DC-9-31 / Trident 3B  REGISTRY: YU-AJR/G-AWZT
ABOARD: 176  FATAL: 176  GROUND:
DETAILS: Mid air-collision. ATC error.
09/09/1976  c 14:50
LOCATION: Off Adler, USSR
CARRIER: Aeroflot / Aeroflot  FLIGHT: 
AIRCRAFT: Antonov An-24 / Yakovlev Yak-40
REGISTRY: 46518/87772
ABOARD: 64  FATAL: 64  GROUND: 
DETAILS: Midair collision. ATC error.

06/27/1976
LOCATION: Entebbe, Uganda
CARRIER: Air France  FLIGHT: 
AIRCRAFT: A300  REGISTRY: 
ABOARD:  FATAL: 7  GROUND: 
DETAILS: Hijacking. Seven passengers killed during commando raid to free hostages.

04/27/1976  15:10
LOCATION: St. Thomas, Virgin Islands
CARRIER: American Airlines  FLIGHT: 625
AIRCRAFT: B-727-95  REGISTRY: N1963
ABOARD: 88  FATAL: 37  GROUND: 
DETAILS: Overran runway while landing, struck ILS antenna, came to rest against building.
04/05/1976
LOCATION: Ketchican, Alaska
CARRIER: Alaska Airlines  FLIGHT:
AIRCRAFT: B-727-81  REGISTRY: N124AS
ABOARD: 57  FATAL: 1  GROUND:
DETAILS: Overran runway while landing.

03/06/1976  c 01:00
LOCATION: Near Voronezh, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Ilyushin Il-18D  REGISTRY: SSSR-75408
ABOARD: 111  FATAL: 111  GROUND: 7
DETAILS: Plunged to earth from FL 260. Electrical power failure of compass,
gyros and auto pilot.

01/01/1976  c 05:30
LOCATION: Northeastern Saudi Arabia
CARRIER: Middle East Airlines (Lebanon)  FLIGHT: 438
AIRCRAFT: B-720B  REGISTRY: OD-AFT
ABOARD: 81  FATAL: 81  GROUND:
DETAILS: Broke-up at FL 370. Detonation of an explosive device the forward cargo compartment.

10/30/1975  c 09:20
LOCATION: Near Prague, Czechoslovakia  
CARRIER: Inex Adria Aviopromet  
FLIGHT:  
AIRCRAFT: DC-9-32  
REGISTRY: YU-AJO  
ABOARD: 120  
FATAL: 75  
GROUND:  
DETAILS: Hit high ground during ILS approach in fog.

09/24/1975  
LOCATION: Near Palembang, Indonesia  
CARRIER: Garuda Indonesia  
FLIGHT:  
AIRCRAFT: Fokker F-28 Fellowship 100  
REGISTRY: PK-GVC  
ABOARD: 61  
FATAL: 25  
GROUND: 1  
DETAILS: Crashed while landing.

08/20/1975 c 00:13  
LOCATION: Near Damascus, Syria  
CARRIER: Ceskoslovenske Aerolinie  
FLIGHT: 542  
AIRCRAFT: Ilyushin Il-6262  
REGISTRY: IJ-DBF  
ABOARD: 126  
FATAL: 126  
GROUND:  
DETAILS: Crashed during approach.

08/07/1975 16:11  
LOCATION: Denver, CO  
CARRIER: Continental Airlines  
FLIGHT: 426  
AIRCRAFT: B-727-224  
REGISTRY: N88777  
ABOARD: 131  
FATAL: 0  
GROUND:  
DETAILS: Climbed to 100 feet during takeoff then crashed
at departure end of runway. Windshear.

08/03/1975  c 04:30
LOCATION: Near Immouzer, Morocco
CARRIER: Alia Royal Jordanian Airlines  FLIGHT:
AIRCRAFT: B-707-321C  REGISTRY: JY-AEE
ABOARD: 188  FATAL: 188  GROUND:
DETAILS: Crashed into mountain during approach.

06/24/1975  16:05
LOCATION: New York, Kennedy, NY
CARRIER: Eastern Airlines  FLIGHT: 66
AIRCRAFT: B-727-225  REGISTRY: N8845E
ABOARD: 124  FATAL: 113  GROUND:
DETAILS: Crashed into approach lights of runway. Adverse winds from thunderstorm.

04/04/1975
LOCATION: Saigon, Vietnam
CARRIER: US Air Force  FLIGHT:
AIRCRAFT: C-5 Galaxy  REGISTRY:
ABOARD:  FATAL: 172  GROUND:
DETAILS: Pressure failure.
01/30/1975
LOCATION: Istanbul, Turkey
CARRIER: THY (Turkish Airlines)  FLIGHT:
AIRCRAFT: Fokker F-28 Fellowship 100  REGISTRY: TC-JAP
ABOARD: 41  FATAL: 41  GROUND:
DETAILS: Crashed while landing.

12/22/1974  c12:30
LOCATION: Maturin, Venezuela
CARRIER: Aerovias Venezolanas SA (Venezuela)
FLIGHT: 358
AIRCRAFT: DC-9-14  REGISTRY: YV-CAVM
ABOARD: 75  FATAL: 75  GROUND:
DETAILS: Crashed 5 minutes after takeoff. Unknown cause.

12/04/1974  c 22:15
LOCATION: Near Maskeliya, Sri Lanka
CARRIER: Martinair Holland NV (The Netherlands)
FLIGHT:
AIRCRAFT: DC-8-55F  REGISTRY: PH-MHB
ABOARD: 191  FATAL: 191  GROUND:
DETAILS: Impacted high ground during approach.

12/01/1974  11:10
LOCATION: Near Berryville, VA  
CARRIER: Trans World Airlines  FLIGHT: 514  
AIRCRAFT: B-727-231  REGISTRY: N54328  
ABOARD: 92  FATAL: 92  GROUND:  
DETAILS: Crashed into high terrain during approach.

11/20/1974  c 07:50  
LOCATION: Near Nairobi, Kenya  
CARRIER: Lufthansa  FLIGHT: 540  
AIRCRAFT: B-747-130  REGISTRY: D-ABYB  
ABOARD: 157  FATAL: 59  GROUND:  
DETAILS: Stalled and crashed during takeoff. Wing flaps not extended.

09/15/1974  c 11:00  
LOCATION: Phan Rang, Vietnam  
CARRIER: Air Vietnam (South Vietnam)  FLIGHT: 706  
AIRCRAFT: B-727-121C  REGISTRY: XV-NJC  
ABOARD: 75  FATAL: 75  GROUND:  
DETAILS: Hijacked. Detonation of two hand grenades in the passenger compartment.

09/11/1974  c 07:35  
LOCATION: Near Charlotte, NC  
CARRIER: Eastern Air Lines  FLIGHT: 212  
AIRCRAFT: DC-9-31  REGISTRY: N8984E
ABOARD: 82   FATAL: 72   GROUND:
DETAILS: Struck trees short of runway during approach.

09/08/1974   c 09:40
LOCATION: Ionian Sea West of Athens, off Kefallinia, Greece
CARRIER: Trans World Airlines   FLIGHT: 841
AIRCRAFT: B-707-331B   REGISTRY: N8734
ABOARD: 88   FATAL: 88   GROUND:
DETAILS: Went into steep climb then nose-dived into ocean. Detonation of an explosive device in the aft cargo hold.

08/14/1974
LOCATION: Margarita Island, Venezuela
CARRIER: Linea Aeropostal Venezolana   FLIGHT:
AIRCRAFT: Vickers 749 Viscount   REGISTRY: YV-C-AMX
ABOARD: 47   FATAL: 43   GROUND:
DETAILS:

06/08/1974
LOCATION: Monte San Isidoro, Colombia
CARRIER: Aerolineas   FLIGHT:
AIRCRAFT: Vickers 785D Viscount   REGISTRY: HK-1058
ABOARD: 44   FATAL: 44   GROUND:
DETAILS:

04/27/1974
LOCATION: Near Leningrad, USSR
CARRIER: Aeroflot   FLIGHT:
AIRCRAFT: Ilyushin Il-18   REGISTRY: SSSR-75559
ABOARD: 118   FATAL: 118   GROUND:
DETAILS: Crashed after report of heavy vibration and fire.
Structural failure of
turbine disc in No. 4 engine.

04/22/1974   22:26
LOCATION: Grogak, Bali, Indonesia
CARRIER: Pan American World Airways   FLIGHT: 812
AIRCRAFT: B-707-321B   REGISTRY: N446PA
ABOARD: 107   FATAL: 107   GROUND:
DETAILS: Crashed and burned into mountain during
approach. Malfunctioning
automatic direction finder.

04/03/1974
LOCATION: Francistown, Botswana
CARRIER: Wenela Air Services   FLIGHT:
AIRCRAFT: DC-4   REGISTRY: A2-ZER
ABOARD: 84   FATAL: 77   GROUND:
DETAILS: Crashed during takeoff.
03/03/1974  c 12:40
LOCATION: Bois d' Ermenonville, France
CARRIER: THY (Turkish Air)  FLIGHT: 981
AIRCRAFT: DC-10-10  REGISTRY: TC-JAV
ABOARD: 346  FATAL: 346  GROUND:
DETAILS: Crashed shortly after takeoff. Lost improperly
latched cargo door.
Decompression, damage to controls.

01/30/1974  c 23:40
LOCATION: Pango Pango, American Samoa
CARRIER: Pan American World Airways  FLIGHT: 806
AIRCRAFT: 707-321B  REGISTRY: N454PA
ABOARD: 103  FATAL: 97  GROUND:
DETAILS: Crashed and burned while making ILS approach.
Failure to correct an
excessive rate of descent.

01/26/1974  c 07:30
LOCATION: Izmir, Turkey
CARRIER: THY (Turkish Airlines)  FLIGHT: 
AIRCRAFT: Fokker VFW F.28 Fellowship Mark 1000
REGISTRY: TC-JAO
ABOARD: 73  FATAL: 66  GROUND:
DETAILS: Crashed while taking off. Icing. Frost on the
wings along with
overrotation resulted in a stall.
01/01/1974
LOCATION: Near Turin, Italy
CARRIER: Aerolinee Itavia  FLIGHT:
AIRCRAFT: Fokker F-28  REGISTRY: I-TIDE
ABOARD: 42  FATAL: 38  GROUND:
DETAILS: Crashed during takeoff.

12/22/1973  22:10
LOCATION: Near Tetouan, Morocco
CARRIER: Sobelair SA (Belgium)  FLIGHT:
AIRCRAFT: Sud-Aviation Caravelle VI-N  REGISTRY: OO-SRD
ABOARD: 106  FATAL: 106  GROUND:
DETAILS: Missed outer marker, continued off course and crashed into mountain.

12/20/1973
LOCATION: New Delhi, India
CARRIER: Lufthansa  FLIGHT:
AIRCRAFT: B-707-330B  REGISTRY: D-ABOT
ABOARD: 109  FATAL: 0  GROUND:
DETAILS: Crashed on approach.

12/17/1973
LOCATION: Rome, Italy
CARRIER: Pan American World Airways  FLIGHT: 
AIRCRAFT: B-707-321A   REGISTRY: N407PA
ABOARD: 145  FATAL: 32  GROUND:
DETAILS: Attacked by terrorists while on ground.

11/03/1973
LOCATION: Boston MA
CARRIER: Pan American World Airways  FLIGHT: 
AIRCRAFT: B-707-321C   REGISTRY: N458PA
ABOARD: 3  FATAL: 3  GROUND:
DETAILS: Uncontrollable fire caused by spillage of nitric acid on sawdust packing.

11/03/1973
LOCATION: Near Albuquerque, New Mexico
CARRIER: National Airlines  FLIGHT: 
AIRCRAFT: DC-10-10   REGISTRY: N60NA
ABOARD: 116  FATAL: 1  GROUND:
DETAILS: Overspeeding of starboard engine, engine disintegrated, pieces struck fuselage, broke window, passenger sucked out.

10/13/1973  c 20:15
LOCATION: Near Domodedovo, USSR
CARRIER: Aeroflot   FLIGHT: 964
AIRCRAFT: Tupolev Tu-104B   REGISTRY: SSR-42486
ABOARD: 119  FATAL: 119  GROUND:
DETAILS: Plunged to earth from 1,500 ft. Electrical failure of compass and main gyro.

09/30/1973  20:40
LOCATION: Near Sverdlovsk, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Tupolev Tu-104B  REGISTRY: SSSR-42506
ABOARD: 108  FATAL: 108  GROUND:
DETAILS: Crashed shortly after takeoff. Malfunctioning artificial horizon.

08/28/1973  21:50
LOCATION: Thirty-five miles west of Los Angeles, CA
CARRIER: Trans World Airlines  FLIGHT:
AIRCRAFT: B-707-331B  REGISTRY: N8705T
ABOARD: 152  FATAL: 1  GROUND:
DETAILS: Plane porpoised while descending to LAX. The aircraft was subjected
to 2 minutes of peak acceleration forces of 2.4 g

08/27/1973
LOCATION: Bogota, Columbia
CARRIER: Aerovias  FLIGHT:
AIRCRAFT: Lockheed L-188A Electra  REGISTRY: HK-777
ABOARD: 42  FATAL: 42  GROUND:
DETAILS:

08/13/1973   c 11:40
LOCATION: Near La Corunda, Spain
CARRIER: AVIACO (Spain)   FLIGHT: 116
AIRCRAFT: Sud-Aviation Caravelle 10-R   REGISTRY: EC-BIC
ABOARD: 85  FATAL: 85  GROUND: 1
DETAILS: Crashed into trees, short of the runway, while attempting third landing.

07/31/1973   11:08
LOCATION: Logan Airport, Boston, MA
CARRIER: Delta Air Lines   FLIGHT: 723
AIRCRAFT: DC-9-31   REGISTRY: N975NE
ABOARD: 89  FATAL: 89  GROUND:
DETAILS: Crashed into seawall during ILS approach in poor weather conditions.
   Failure to monitor altitude in fast changing weather conditions.

07/22/1973   22:06
LOCATION: Off Papeete, Tahiti
CARRIER: Pan American World Airways   FLIGHT: 816
AIRCRAFT: 707-321B   REGISTRY: N417PA
ABOARD: 78  FATAL: 78  GROUND:
DETAILS: Crashed 30 seconds after takeoff into the ocean.

07/11/1973  c 15:00
LOCATION: Paris, Orly, France
CARRIER: VARIG (Brazil)   FLIGHT: 820
AIRCRAFT: B-707-345C   REGISTRY: PP-VJZ
ABOARD: 134   FATAL: 123   GROUND:
DETAILS: Emergency landing due to fire. Most fatalities due to CO before rescuers could reach passengers.

06/21/1973
LOCATION: Near Puerto Vallarta, Mexico
CARRIER: Aeromexico   FLIGHT:
AIRCRAFT: DC-9-15   REGISTRY: XA-SOC
ABOARD: 27   FATAL: 27   GROUND:
DETAILS: Hit high ground during approach.

06/03/1973
LOCATION: Goussainville, France
CARRIER: Aeroflot   FLIGHT:
AIRCRAFT: Tupolev 144   REGISTRY:
ABOARD: 6   FATAL: 6   GROUND: 7
DETAILS: Crashed during air show. First crash involving a commercial supersonic aircraft.
05/31/1973
LOCATION: Near New Dehli, India
CARRIER: Indian Airlines   FLIGHT:
AIRCRAFT: B-737-200   REGISTRY: VT-EAM
ABOARD: 65   FATAL: 48   GROUND:
DETAILS: Crashed and caught fire during landing.

05/18/1973
LOCATION: Southern Siberia, USSR
CARRIER: Aeroflot   FLIGHT:
AIRCRAFT: Tupolev Tu-104A   REGISTRY:
ABOARD: 81   FATAL: 81   GROUND:
DETAILS: Broke up at FL 300. Detonation of a bomb in the cabin being carried by a passenger.

04/10/1973   10:13
LOCATION: Near Hochwald, Solothurn, Switzerland
CARRIER: Invicta International Airlines (UK)   FLIGHT:
AIRCRAFT: Vickers Vanguard 952   REGISTRY: G-AXOP
ABOARD: 145   FATAL: 108   GROUND:
DETAILS: Cashed into forest during snowstorm. Malfunctioning navigation equipment.
03/05/1973  c 13:50
LOCATION: Near Nantes, France
CARRIER: Lineas Aereas de Espana/Spantax SA Transportes
FLIGHT: 504/
AIRCRAFT: DC-9-32 and Convair 990A Coronado
REGISTRY: EC-BII/EC-BJC
ABOARD: 68  FATAL: 68  GROUND:
DETAILS: Midair collision.

02/21/1973  c 14:10
LOCATION: Near Isma'iliya, Egypt
CARRIER: Libyan Arab Airlines  FLIGHT: 114
AIRCRAFT: B727-224  REGISTRY: 5A-DAH
ABOARD: 113  FATAL: 108  GROUND:
DETAILS: Drifted over Israeli territory due to strong
tailwinds and was shot down
by Israeli fighter planes.

01/22/1973  c 09:30
LOCATION: Kano, Nigeria
CARRIER: Alia Royal Jordanian Airlines  FLIGHT:
AIRCRAFT: B-707-3D3C  REGISTRY: JY-ADO
ABOARD: 209  FATAL: 176  GROUND:
DETAILS: Crashed while landing.
12/29/1972  23:42
LOCATION: Everglades, FL
CARRIER: Eastern Air Lines  FLIGHT: 401
AIRCRAFT: Lockheed L-1011 TriStar1  REGISTRY: N310EA
ABOARD: 176  FATAL: 99  GROUND:
DETAILS: Descended and crashed into Everglades while in holding pattern after autopilot was inadvertently disengaged while crew tried to repair landing gear indicator light.

12/23/1972
LOCATION: Skaugum, Norway
CARRIER: Braathens  FLIGHT:
AIRCRAFT: Fokker F-28  REGISTRY: LN-SUY
ABOARD: 45  FATAL: 40  GROUND:
DETAILS: Hit high ground during approach.

12/20/1972  c 18:00
LOCATION: Chicago, IL
CARRIER: Delta Airlines and North Central Airlines
FLIGHT: 954/
AIRCRAFT: Convair 880 and DC-9-31  REGISTRY: N8897E/N954N
ABOARD: 129  FATAL: 9  GROUND:
DETAILS: Ground collision during heavy fog. Ten of 41 passengers killed on the DC-9.
12/08/1972  14:28
LOCATION: Chicago, Midway Airport, IL
CARRIER: United Airlines  FLIGHT:  
AIRCRAFT: B-737-222  REGISTRY: N9031U  
ABOARD: 61  FATAL: 43  GROUND: 2
DETAILS: Crashed and burned during approach.

12/03/1972
LOCATION: Tenerife, Spain
CARRIER: Spantax (Spain)  FLIGHT:  
AIRCRAFT: Convair 990A Coronado  REGISTRY: EC-BZR  
ABOARD: 155  FATAL: 155  GROUND:  
DETAILS: Reached a height of 300 feet and plunged to earth and crashed.

11/28/1972  19:51
LOCATION: Near Moscow, USSR
CARRIER: Japan Air Lines  FLIGHT: 446
AIRCRAFT: DC-8-62  REGISTRY: JA8040
ABOARD: 76  FATAL: 62  GROUND:  
DETAILS: Lost altitude while taking off and crashed.
Inadvertent extension of spoilers or icing.
10/27/1972  c 19:20
LOCATION: Near Noiretable, Loire, France
CARRIER: Air Inter (France)  FLIGHT: 696
AIRCRAFT: Vickers Viscount 724  REGISTRY: F-BMCH
ABOARD: 68  FATAL: 60  GROUND:
DETAILS: Crashed while landing. Faulty indication by radio compass.

10/13/1972  c 21:50
LOCATION: Near Krasnaya Polyana, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Ilyushin Il-62  REGISTRY: SSSR-86671
ABOARD: 174  FATAL: 174  GROUND:
DETAILS: Crashed at outer marker while attempting to land for the third time in poor weather conditions. Sudden incapacitation of the crew.

10/13/1972
LOCATION: Near San Fernando, Chile
CARRIER: TAMU  FLIGHT:
AIRCRAFT: Fairchild-Hiller Fh-227D/LCD  REGISTRY: T-571
ABOARD: 45  FATAL: 29  GROUND:
DETAILS: Crashed into mountains. Survivors not found until 12/22/72. The book and move "Alive" based on this accident.
10/01/1972  c 18:00
LOCATION: Near Adler, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Ilyushin Il-18B  REGISTRY: SSSR-75507
ABOARD: 109  FATAL: 109  GROUND:
DETAILS: Crashed into Black Sea shortly after takeoff.

08/31/1972
LOCATION: Near Magnitogorsk, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Ilyushin Il-18  REGISTRY: SSSR-74298
ABOARD: 101  FATAL: 101  GROUND:
DETAILS: Crashed, trailing heavy smoke. Fire caused by spontaneous ignition of passenger baggage.

08/14/1972  C 17:00
LOCATION: Near Konigs Wusterausen, East Germany
CARRIER: Interflug  FLIGHT:
AIRCRAFT: Ilyushin Il-62  REGISTRY: DM-SEA
ABOARD: 156  FATAL: 156  GROUND:
DETAILS: Fire of unknown origin in the rear fuselage weakened the structure until the tail fell off.

06/29/1972  10:37
LOCATION: Appleton, WI  
CARRIER: North Central Airlines / Air Wisconsin Inc.  
FLIGHT:  
AIRCRAFT: Convair 580/de Havillant Twin Otter 100  
REGISTRY: N90858/N4043B  
ABOARD: 13  FATAL: 13  GROUND:  
DETAILS: Both aircraft were getting ready to land when there was a midair collision. Both aircraft were destroyed.

06/18/1972  17:11  
LOCATION: London Heathrow, Staines, Surrey, England  
CARRIER: British European Airways  
FLIGHT: 548  
AIRCRAFT: Hawker Siddeley Trident 1C  
REGISTRY: G-ARPI  
ABOARD: 118  FATAL: 118  GROUND:  
DETAILS: Crashed into field shortly after taking off. Incapacitation of pilot.

06/18/1972  
LOCATION: Near Kharkov, USSR  
CARRIER: Aeroflot  
FLIGHT:  
AIRCRAFT: Antonov An-10A  
REGISTRY: SSSR-11215  
ABOARD: 122  FATAL: 122  GROUND:  
DETAILS: Structural failure and separation of both wings due to fatigue crack in the center wing section.
06/15/1972  c 14:00
LOCATION: Near Pleiku, Vietnam
CARRIER: Cathay Pacific Airways (Hong Kong)
FLIGHT: 700Z
AIRCRAFT: Convair 880M   REGISTRY: VR-HFZ
ABOARD: 81   FATAL: 81   GROUND:
DETAILS: Crashed while en route. Detonation of an explosive device in the passenger cabin.

06/14/1972  c 20:20
LOCATION: Near New Delhi, India
CARRIER: Japan Air Lines   FLIGHT: 471
AIRCRAFT: DC-8-53   REGISTRY: JA8012
ABOARD: 89   FATAL: 86   GROUND: 4
DETAILS: Crashed short of the runway.

05/05/1972  c 22:24
LOCATION: Near Carini, Sicily, Italy
CARRIER: Alitalia (Italy)   FLIGHT: 112
AIRCRAFT: DC-8-43   REGISTRY: I-DIWB
ABOARD: 115   FATAL: 115   GROUND:
DETAILS: Cashed into mountain during approach.

03/19/1972
LOCATION: Mt. Shamsen, South Yemen
CARRIER: Egyptair  FLIGHT: 763
AIRCRAFT: DC-9-32  REGISTRY: YU-AHR
ABOARD: 30  FATAL: 30  GROUND:
DETAILS: Crashed into mountain during visual approach.

03/14/1972  c 22:00
LOCATION: Near Al Fujayrah, United Arab Emirates
CARRIER: Sterling Airways (Denmark)  FLIGHT:
AIRCRAFT: Aerospatiale Caravelle Super 10B
REGISTRY: OY-STL
ABOARD: 112  FATAL: 112  GROUND:
DETAILS: Struck mountain during approach. Incorrect information from an outdated flight plan.

01/26/1972
LOCATION: Near Hermsdorf, Czechoslovakia
CARRIER: JAT  FLIGHT:
AIRCRAFT: DC-9-32  REGISTRY: YU-AHT
ABOARD: 28  FATAL: 27  GROUND:
DETAILS: Detonation of bomb in forward cargo hold.
Crew member fell 15,000 feet in the tail section and survived.

01/07/1972  c 22:00
LOCATION: Sierra de Atalayasa, Spain
CARRIER: Lineas Aereas de Espana SA (Iberia)
FLIGHT: 602
AIRCRAFT: Sud-Aviation Caravelle VI-R REGISTRY: EC-ATV
ABOARD: 104 FATAL: 104 GROUND:
DETAILS: Crashed into hill while attempting to land.

12/24/1971 c 12:40
LOCATION: Near Puerto Inca, Huanuco, Peru
CARRIER: Lineas Aereas Nacionales SA (Peru) FLIGHT: 508
AIRCRAFT: Lockheed 188A Electra REGISTRY: OB-R-941
ABOARD: 92 FATAL: 91 GROUND:
DETAILS: Separation of both wings due to severe turbulence from a thunderstorm.

10/02/1971 11:10
LOCATION: Near Aarsele, West Vlaanderen, Belgium
CARRIER: British European Airways FLIGHT: 706
AIRCRAFT: Vickers Vanguard 951 REGISTRY: G-APEC
ABOARD: 63 FATAL: 63 GROUND:
DETAILS: Crashed after sending distress message.
Structural failure caused by corrosion of rear pressure bulkhead.

09/04/1971 c 12:15
LOCATION: Juneau, Alaska
CARRIER: Alaska Airlines  FLIGHT: 1866
AIRCRAFT: B-727-193  REGISTRY: N2969G
ABOARD: 111  FATAL: 111  GROUND:
DETAILS: Crashed into mountain while in holding pattern.
Received incorrect navigational information.

07/30/1971  c 14:00
LOCATION: Near Morioko, Japan
CARRIER: All Nippon Airlines and Japanese Airforce
FLIGHT: 58
AIRCRAFT: B-727-281 and Air Force F86F  REGISTRY: JA8329
ABOARD: 162  FATAL: 162  GROUND:
DETAILS: Midair collision.

07/30/1971
LOCATION: San Francisco, CA
CARRIER: Pan American World Airways  FLIGHT: 845
AIRCRAFT: B-747  REGISTRY: N747PA
ABOARD:  FATAL: 0  GROUND:
DETAILS: Struck approach lights at departure end of runway during takeoff.

07/25/1971
LOCATION: Near Irkutsk, USSR
07/03/1971  c 18:10
LOCATION: Hokkaido, Japan
CARRIER: Toa Domestic Airline (Japan)  FLIGHT: 63
AIRCRAFT: NAMC YS-11A-227  REGISTRY: JA8764
ABOARD: 68  FATAL: 68  GROUND:
DETAILS: Crashed into mountain during approach.
Navigational error after strong winds caused flight to drift.

06/06/1971  c 18:10
LOCATION: Near Duarte, California
CARRIER: Hughes Airwest and US Marine Air Corps
FLIGHT: 706
AIRCRAFT: DC-9-31 and F4-B  REGISTRY: N9345/151458
ABOARD: 51  FATAL: 50  GROUND:
DETAILS: Midair collision. One of two killed on the Marine F4.

05/28/1971
LOCATION: Roanoak, VA
CARRIER: Private    FLIGHT: 
AIRCRAFT:    REGISTRY: 
ABOARD: 5    FATAL: 5    GROUND: 
DETAILS: Crashed in thunderstorm. World War II hero and western movie star 
    Audie Murphy killed.

05/23/1971    c 20:00 
LOCATION: Near Rijeka, Yugoslavia  
CARRIER: Aviogenex (Yugoslavia)    FLIGHT: 
AIRCRAFT: Tupolev Tu-134A    REGISTRY: YU-AHZ 
ABOARD: 83    FATAL: 78    GROUND: 
DETAILS: Crashed while attempting to land in a heavy rainstorm.

05/13/1971  
LOCATION: Honolulu, Hawaii  
CARRIER: Northwest Airlines    FLIGHT: 
AIRCRAFT: B-747-151    REGISTRY: N607US 
ABOARD:    FATAL: 0    GROUND: 
DETAILS: Engine disintegrated during takeoff.

01/09/1971  
LOCATION: Newark, NJ  
CARRIER: American Airlines and private    FLIGHT: 
AIRCRAFT: B-707-323 and Cessna 150    REGISTRY: 
N7595A/N60942
ABOARD:   FATAL: 2   GROUND:
DETAILS: Midair collision. The 707 landed safely. Two killed on the Cessna.

12/28/1970
LOCATION: St. Thomas, VI
CARRIER: American Airlines   FLIGHT: 505
AIRCRAFT: B-727-2A7   REGISTRY: N7890R
ABOARD: 55   FATAL: 2   GROUND:
DETAILS: Experienced hard landing, bounced, main landing gear failed, overran runway and hit embankment.

11/14/1970   19:35
LOCATION: Near Huntington, West Virginia
CARRIER: Southern Airways (US)   FLIGHT: 932
AIRCRAFT: DC-9-31   REGISTRY: N97S
ABOARD: 75   FATAL: 75   GROUND:
DETAILS: Crashed short of runway. Members of Marshall University football team killed.

10/02/1970   13:00
LOCATION: Mt. Trelease, near Sliver Plume, Colorado
CARRIER: Golden Eagle Aviation   FLIGHT: 108
AIRCRAFT: Martin 404   REGISTRY: N464M
ABOARD: 40   FATAL: 32   GROUND:
DETAILS: Flew into mountainous terrain while on a flight from Denver to Stapleton. Wichita State Football team killed.

08/17/1970
LOCATION: St. Jean, Quebec, Canada
CARRIER: Air France   FLIGHT:
AIRCRAFT: B-747-128   REGISTRY: F-BPUD
ABOARD:  FATAL: 0   GROUND:
DETAILS: Engine disintegrated in flight.

08/09/1970   15:00
LOCATION: Near Cuzco, Peru
CARRIER: Lineas Aereas Nacionales SA (Peru)   FLIGHT:
AIRCRAFT: Lockheed 188A Electra   REGISTRY: OB-R939
ABOARD: 100   FATAL: 99   GROUND: 2
DETAILS: Crashed shortly after takeoff after No. 3 engine failed.

07/05/1970   08:09
LOCATION: Toronto, Canada
CARRIER: Air Canada   FLIGHT: 621
AIRCRAFT: DC-8-63   REGISTRY: CF-TIW
ABOARD: 109   FATAL: 109   GROUND:
DETAILS: Spoilers inadvertently deployed by the first officer 60 ft. off ground
while attempting to land. During a go-around, the aircraft exploded and crashed.

07/03/1970    19:05
LOCATION: Near Arbucias, Gerona, Spain
CARRIER: Dan-Air (UK)    FLIGHT:
AIRCRAFT: de Havilland Comet 4    REGISTRY: G-APDN
ABOARD: 112    FATAL: 112    GROUND:
DETAILS: Flew into mountain during approach. Possible malfunctioning equipment.

05/02/1970
LOCATION: Near St. Croix, US Virgin Islands
CARRIER: Antillian Airlines    FLIGHT: 980
AIRCRAFT: DC-9-33CF    REGISTRY: N935F
ABOARD: 60    FATAL: 22    GROUND:
DETAILS: Aircraft ditched into the ocean after running out of fuel.

04/19/1970
LOCATION: Fiumicino, Italy
CARRIER: SAS    FLIGHT:
AIRCRAFT: DC-8-62    REGISTRY: SE-DBE
ABOARD: 65    FATAL: 0    GROUND:
DETAILS: Failure of No.1 engine fan disc damaged a fuel
tank and caused a leak
which resulted in a fire.

02/21/1970
LOCATION: Zurich, Switzerland
CARRIER: Swissair  FLIGHT:
AIRCRAFT: Convair CV-990-30A-6  REGISTRY:
HBICD
ABOARD: 47  FATAL: 47  GROUND:
DETAILS: Detonation of an explosive device in the rear of
the plane shortly after
takeoff.

02/15/1970
LOCATION: Santo Domingo, Dominican Republic
CARRIER: Compania Dominicana de Aviacion  FLIGHT:
AIRCRAFT: DC-9-32  REGISTRY: HI-177
ABOARD: 102  FATAL: 102  GROUND:
DETAILS: Lost an engine shortly after takeoff. Crashed
into ocean while
attempting to return to airport.

02/06/1970
LOCATION: Nar Samarkand, Uzbek, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Ilyushin Il-18  REGISTRY: SSSR-75798
ABOARD: 92  FATAL: 92  GROUND:
DETAILS: Crashed into mountain at an elevation of 5,000 ft.

12/22/1969
LOCATION: Nha Trang, Vietnam
CARRIER: US Air Force  FLIGHT:
AIRCRAFT: C-5  REGISTRY:
ABOARD: FATAL: GROUND:
DETAILS: Overran runway and crashed into school.

12/13/1969
LOCATION: Renton, WA
CARRIER: Pan American Airways  FLIGHT:
AIRCRAFT: B-747  REGISTRY: N732PA
ABOARD: FATAL: 0  GROUND:
DETAILS: Crashed short of runway during landing attempt.

12/08/1969  20:46
LOCATION: Near Athens, Greece
CARRIER: Olympia Airways (Greece)  FLIGHT:
AIRCRAFT: DC-6B  REGISTRY: SC-DAE
ABOARD: 90  FATAL: 90  GROUND:
DETAILS: Crashed into mountain while preparing to land.

11/20/1969  c 08:30
LOCATION: Near Ikeja, Nigeria
CARRIER: Nigeria Airways   FLIGHT: 825
AIRCRAFT: BAC VC-10   REGISTRY: 5N-ABD
ABOARD: 87   FATAL: 87   GROUND: 
DETAILS: Crashed while attempting to land.

09/21/1969
LOCATION: Mexico City, Mexico
CARRIER: Mexicana   FLIGHT: 
AIRCRAFT: B-727-64   REGISTRY: XA-SEJ
ABOARD: 27   FATAL: 27   GROUND: 
DETAILS: Landed short of runway and broke up.

09/20/1969   c 16:00
LOCATION: Near Hoi An, Vietnam
CARRIER: Air Vietnam   FLIGHT: 
AIRCRAFT: DC-4 / USAF F-4E   REGISTRY: XV-NUG
ABOARD: 77   FATAL: 75   GROUND: 2
DETAILS: Midair collision.

09/09/1969   15:29
LOCATION: Indianaplois, IN
CARRIER: Allegheny Airlines and private   FLIGHT: 853
AIRCRAFT: DC-9-31 and Piper Cherokee   REGISTRY: N988VJ
ABOARD: 84   FATAL: 84   GROUND: 
DETAILS: Midair collision. Inadequate VFR separation.
Two killed on the Piper.
06/04/1969  c 08:42
LOCATION: Near Salinas Victoria, Nuevo Leon, Mexico
CARRIER: Compania Mexicana de Aviacion (Mexico)
FLIGHT: 704
AIRCRAFT: B-727-64   REGISTRY: XA-SEL
ABOARD: 79  FATAL: 79  GROUND:
DETAILS: Hit high ground during descent in poor weather conditions. Excessive speed and wide radius of turn.

03/20/1969  c 02:00
LOCATION: Near Aswan Egypt
CARRIER: United Arab Airlines (Egypt)   FLIGHT:
AIRCRAFT: Ilyushin Il-18D   REGISTRY: SU-APC
ABOARD: 105  FATAL: 100  GROUND:
DETAILS: Crashed and burned while attempting to land for the third time.

03/16/1969  c 12:00
LOCATION: Maracaibo, Zulia, Venezuela
CARRIER: Venezolana Internacional de Aviacion
FLIGHT: 742
AIRCRAFT: DC-9-32   REGISTRY: YV-C-AVD
ABOARD: 84  FATAL: 84  GROUND: 71
DETAILS: Struck electrical power lines during takeoff and crashed into houses.
Takeoff calculations made from erroneous information.

01/18/1969
LOCATION: Near Los Angeles, CA
CARRIER: United Airlines      FLIGHT:
AIRCRAFT: B-727-22QC REGISTRY: N7434U
ABOARD: 38  FATAL: 38  GROUND:
DETAILS: Crashed into ocean after reporting an engine fire warning and shutting down an engine. Possible inadvertent shutting down of master battery switch.

01/13/1969
LOCATION: Los Angeles, CA
CARRIER: SAS      FLIGHT:
AIRCRAFT: DC-8-62 REGISTRY: LM-MOO
ABOARD: 40  FATAL: 15  GROUND:
DETAILS: Crashed into the ocean six miles short of runway during approach.

01/05/1969  c 02:35
LOCATION: Gatwick Airport, Horley, Surrey, England
CARRIER: Ariana Afghan Airlines      FLIGHT: 701
AIRCRAFT: B-727-113C REGISTRY: YA-FAR
ABOARD: 62  FATAL: 48  GROUND: 2
DETAILS: Crashed into trees and a house short of runway.
Incorrect setting of
flaps and instruments.

12/12/1968  22:02
LOCATION: Near Caracas, Venezuela
CARRIER: Pan American World Airways   FLIGHT: 217
AIRCRAFT: B-707-321B    REGISTRY: N494PA
ABOARD: 51  FATAL: 51  GROUND:
DETAILS: Crashed into the ocean and exploded during a
descent for landing.
Possible sensory illusion produced by town lights.

11/22/1968
LOCATION: San Francisco, CA
CARRIER: Japan Air Lines   FLIGHT:
AIRCRAFT: DC-8-62    REGISTRY: JA8032
ABOARD: 0  FATAL: 0  GROUND:
DETAILS: Landed in ocean short of runway. Pilot later
committed suicide.

09/11/1968  c 10:30
LOCATION: Off Cap d'Antibes, Alpes-Maritimes, France
CARRIER: Air France   FLIGHT: 1611
AIRCRAFT: Sud-Aviation Caravelle 3   REGISTRY: F-
BOHB
ABOARD: 95  FATAL: 95  GROUND:
DETAILS: Crashed into the Mediterranean Sea shortly after
receiving a message
that there was a fire aboard.

08/04/1968
LOCATION: Milwaukee, WI
CARRIER: North Central Airlines / private   FLIGHT: 
AIRCRAFT: Convair 580 and Cessna 150   REGISTRY: N46345/N8742S
ABOARD:  FATAL: 1   GROUND: 
DETAILS: Midair collision. Lack of VFR separation.

05/03/1968  c 16:50
LOCATION: Near Dawson, TX
CARRIER: Braniff Airlines   FLIGHT: 352
AIRCRAFT: Lockheed 188A Electra   REGISTRY: N9707C
ABOARD:  85   FATAL:  85   GROUND: 
DETAILS: Lost right wing and crashed after penetrating a thunderstorm.

04/20/1968  c 18:50
LOCATION: Near Windhoek, South Africa
CARRIER: South African Airways   FLIGHT: 228/129
AIRCRAFT: B-707-344C   REGISTRY: ZS-EUW
ABOARD:  123   FATAL:  123   GROUND: 
DETAILS: Crashed shortly after taking off.
03/27/1968
LOCATION: St. Louis, MO
CARRIER: Ozark Airlines / private  FLIGHT:
AIRCRAFT: DC-9 and Cessna 150F   REGISTRY: N970Z/
N8669G
ABOARD:  FATAL: 2  GROUND:
DETAILS: Midair collision. Error by the DC-9 crew.

03/24/1968  c 12:10
LOCATION: Off Wexford Harbor, Ireland
CARRIER: Aer Lingus - Irish International Airlines
FLIGHT: 712
AIRCRAFT: Vickers Viscount 803   REGISTRY: EI-AOM
ABOARD: 61  FATAL: 61  GROUND:
DETAILS: Went into spin which caused structural damage
and plunged into water.

03/05/1968  20:32
LOCATION: Basse-Terre, Guadeloupe, West Indies
CARRIER: Air France   FLIGHT: 212
AIRCRAFT: B-707-328C   REGISTRY: F-BLCJ
ABOARD: 63  FATAL: 63  GROUND:
DETAILS: After reporting field in sight aircraft struck ridge
of a dormant volcano.

02/29/1968
LOCATION: Near Bratsk, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Ilyushin Il-18D  REGISTRY: SSSR-74252
ABOARD: 82  FATAL: 82  GROUND:
DETAILS: Emergency descent from FL 260 that eventually broke plane apart.

02/16/1968
LOCATION: Linkuo, Taiwan
CARRIER: Civil Air Transport  FLIGHT:
AIRCRAFT: B-727-92C  REGISTRY: B-1018
ABOARD: 63  FATAL: 21  GROUND: 1
DETAILS: Struck trees and houses short of runway.

12/08/1967
LOCATION: Carpich Huano Mt., Peru
CARRIER: Faucett  FLIGHT:
AIRCRAFT: DC-C-54A  REGISTRY: OR-R-148
ABOARD: 67  FATAL: 67  GROUND:
DETAILS: Flew into mountain.

11/20/1967 c 21:00
LOCATION: Cincinatti International Airport, Covington/Hebron, KY
CARRIER: Trans World Airlines  FLIGHT: 128
AIRCRAFT: Convair 880-22-1  REGISTRY: N821TW
ABOARD: 82  FATAL: 70  GROUND:
DETAILS: Struck a tree short of runway during approach.

11/16/1967
LOCATION: Near Sverdlovsk, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Ilyushin Il-18B  REGISTRY: SSSR-75538
ABOARD: 107  FATAL: 107  GROUND:
DETAILS: Climbed to 700 ft. and plunged to ground.
Malfunctioning artificial horizon and compass.

11/06/1967
LOCATION: Cincinatti International Airport, Covington/Hebron, KY
CARRIER: Trans World Airlines  FLIGHT:
AIRCRAFT: B-707-131  REGISTRY: N742TW
ABOARD:  FATAL: 1  GROUND:
DETAILS: Crashed after an aborted takeoff. Takeoff aborted after reaching V1

10/12/1967  c 07:25
LOCATION: Off south-western Turkey
CARRIER: British European Airways  FLIGHT: 284
AIRCRAFT: de Havilland Comet 4B  REGISTRY: G-ARCO
ABOARD: 66  FATAL: 66  GROUND:
DETAILS: Broke up at FL290. Detonation of an explosive
device in the passenger cabin.

07/19/1967 12:01
LOCATION: Near Hendersonville, NC
CARRIER: Piedmont Airlines and private FLIGHT: 22
AIRCRAFT: B-727-22 and Cessna 310 REGISTRY:
N68650/N31215
ABOARD: 82 FATAL: 82 GROUND:
DETAILS: Midair collision. Deviation from IFR clearance by the Cessna. Three killed aboard the Cessna.

06/23/1967
LOCATION: Elmira, NY
CARRIER: Mohawk Airlines FLIGHT:
AIRCRAFT: BAC-111-204AF REGISTRY: N1116J
ABOARD: 34 FATAL: 34 GROUND:
DETAILS: Incorrect installation of a valve caused hot air to ignite hydraulic fluid.

06/04/1967 c 10:10
LOCATION: Stockport, Cheshire, England
CARRIER: British Midland Airways FLIGHT:
AIRCRAFT: Canadair C-4 REGISTRY: G-ALHG
ABOARD: 83 FATAL: 72 GROUND:
DETAILS: Crashed during landing. Loss of power in both
starboard engines
resulting in control difficulties.

06/03/1967  22:06
LOCATION: Mt. Canigou, near Roussillon, France
CARRIER: Air Ferry Ltd (UK)  FLIGHT:
AIRCRAFT: DC-C54A  REGISTRY: G-APYK
ABOARD: 88  FATAL: 88  GROUND:
DETAILS: Crashed while landing.

04/27/1967
LOCATION: Virgin Islands
CARRIER: American Airlines  FLIGHT:
AIRCRAFT: B-727  REGISTRY:
ABOARD:  37  GROUND:
DETAILS: Overran runway after go-around.

04/20/1967  02:13
LOCATION: Near Nicosia, Cyprus
CARRIER: Chartered Britannia  FLIGHT:
AIRCRAFT: Bristol Britannia 313  REGISTRY: HB-ITB
ABOARD: 130  FATAL: 126  GROUND:
DETAILS: Crashed while making second landing attempt.

03/09/1967
LOCATION: Urbana, OH  
CARRIER: Trans World Airlines and private  
FLIGHT:  
AIRCRAFT: DC-9-15 and Beechcraft B-55  
REGISTRY: N1063T  
ABOARD: 26  
FATAL: 26  
GROUND:  
DETAILS: Midair collision.

12/24/1966  
LOCATION: Da Nang, South Vietnam  
CARRIER: Flying Tiger Line  
FLIGHT:  
AIRCRAFT: Canadair CL-44D4-1  
REGISTRY: N228SW  
ABOARD: 4  
FATAL: 4  
GROUND: 107  
DETAILS: Crashed into village.

11/24/1966  c 16:30  
LOCATION: Near Bratislava, Czechoslovakia  
CARRIER: Transportno Aviatsionno Bulgaro-Soviet Obshchestvo  
FLIGHT: 101  
AIRCRAFT: Ilyushin II-18B  
REGISTRY: LZ-BEN  
ABOARD: 82  
FATAL: 82  
GROUND:  
DETAILS: Following takeoff, aircraft did not follow assigned route and crashed into wooded hillside.

11/13/1966  
LOCATION: Off Matsuyama, Japah  
CARRIER: All Nippon Airways  
FLIGHT:  
ABOARD:  
FATAL:  
GROUND:  
DETAILS:  

AIRCRAFT: NAMC-YS-11-111 REGISTRY: JA8658
ABOARD: 50 FATAL: 50 GROUND:
DETAILS: Crashed after overshooting runway.

10/01/1966
LOCATION: Near Wemme, OR
CARRIER: West Coast Airlines FLIGHT:
AIRCRAFT: DC-9-14 REGISTRY: N9101
ABOARD: 18 FATAL: 18 GROUND:
DETAILS: Flew into mountain while attempting to land.

09/01/1966 00:47
LOCATION: Near Ljubljana, Slovenia, Yugoslavia
CARRIER: Britannia Airways (UK) FLIGHT:
AIRCRAFT: Bristol Britannia 102 REGISTRY: G-ANBB
ABOARD: 117 FATAL: 98 GROUND:
DETAILS: Crashed into forest during landing attempt.

04/22/1966 20:30
LOCATION: Near Ardmore, OK
CARRIER: American Flyers Airline FLIGHT:
AIRCRAFT: Lockheed 188C Electra REGISTRY: N183H
ABOARD: 98 FATAL: 83 GROUND:
DETAILS: Crashed into foothills during landing attempt.
Incapacitation of captain
with a heart attack during final stages of approach.
03/05/1966  c 14:15
LOCATION: Mt. Fuji, Japan
CARRIER: British Overseas Airways Corporation
FLIGHT:
  AIRCRAFT: B-707-436   REGISTRY: G-APFE
  ABOARD: 124   FATAL: 124   GROUND:
DETAILS: Crashed into Mt. Fuji from severe turbulence after pilot decided to give passengers a view of the mountain.

03/04/1966  c 20:15
LOCATION: Near Tokyo, Japan
CARRIER: Canadian Pacific Air Lines   FLIGHT: 402
AIRCRAFT: DC-8-43   REGISTRY: CF-CPK
ABOARD: 72   FATAL: 64   GROUND:
DETAILS: Struck approach lights during a landing attempt.

02/04/1966
LOCATION: Tokyo Bay, Japan
CARRIER: All Nippon Airlines   FLIGHT: 60
AIRCRAFT: B-727-81   REGISTRY: JA8302
ABOARD: 133   FATAL: 133   GROUND:
DETAILS: Flew into Tokyo Bay during approach.

01/24/1966  c 08:00
LOCATION: Mont Blanc, French Alps, Switzerland
CARRIER: Air India    FLIGHT: 101
AIRCRAFT: B-707-437    REGISTRY: VT-DMN
ABOARD: 117    FATAL: 117    GROUND:
DETAILS: Crashed into mountain while in holding pattern.

01/15/1966
LOCATION: Kansas City, KS
CARRIER: Continental Airlines    FLIGHT:
AIRCRAFT: B-707    REGISTRY:
ABOARD:    FATAL: 0    GROUND:
DETAILS: Overran runway.

01/15/1966
LOCATION: Off Cartagena, Columbia
CARRIER: Avancia    FLIGHT:
AIRCRAFT: DC-6-54B    REGISTRY: HK-730
ABOARD: 64    FATAL: 56    GROUND:
DETAILS:

12/05/1965
LOCATION: Carmel, NY
CARRIER: Trans World Airlines and Eastern Airlines
FLIGHT:
AIRCRAFT: B-707 and Consetillation    REGISTRY:
ABOARD:    FATAL: 4    GROUND:
DETAILS: Midair collision.
11/11/1965  c 19:50
LOCATION: Salt Lake City, UT
CARRIER: United Airlines  FLIGHT: 227
AIRCRAFT: B-727-22  REGISTRY: N7030U
ABOARD: 91  FATAL: 43  GROUND:
DETAILS: Crashed short of runway, main landing gear failed, caught fire. Too fast of a descent rate during approach.

11/08/1965  19:01
LOCATION: Cincinatti, Airport, near Covington, Kentucky
CARRIER: American Airlines  FLIGHT: 383
AIRCRAFT: B-727-23  REGISTRY: N1996
ABOARD: 62  FATAL: 58  GROUND:
DETAILS: Crashed short of runway during an approach in deteriorating weather conditions.

08/16/1965
LOCATION: Chicago, IL
CARRIER: United Airlines  FLIGHT:
AIRCRAFT: B-727-22  REGISTRY: N7036U
ABOARD: 30  FATAL: 30  GROUND:
DETAILS: Crashed into Lake Michigan during approach.
07/08/1965  c 16:40  
LOCATION: Near 100 mile House, British Columbia, Canada  
CARRIER: Canadian Pacific Air Lines  FLIGHT: 21  
AIRCRAFT: DC-6B  REGISTRY: CF-CUQ  
ABOARD: 52  FATAL: 52  GROUND:  
DETAILS: The tail section separated from the fuselage after a bomb exploded in the passenger compartment.

07/01/1965  
LOCATION: Kansas, MO  
CARRIER: Continental Airlines  FLIGHT:  
AIRCRAFT: B-707-124  REGISTRY: N70773  
ABOARD:  FATAL: 0  GROUND:  
DETAILS: Slid off the end of the runway while landing and broke in two.

06/28/1965  
LOCATION: San Francisco, CA  
CARRIER:  FLIGHT:  
AIRCRAFT: B-707  REGISTRY:  
ABOARD:  FATAL: 0  GROUND:  
DETAILS: Landed safely at Edwards Air Force Base after an engine disintegrated and one-third of the wing was lost.
06/02/1965
LOCATION: San Jose Volcano, Chile
CARRIER: LAN-Chile   FLIGHT: 
AIRCRAFT: DC-6B   REGISTRY: CC-CCG
ABOARD: 87   FATAL: 87   GROUND: 
DETAILS: Flew into mountain.

05/20/1965   c 01:50
LOCATION: Cairo, Egypt
CARRIER: Pakistan Airlines   FLIGHT: 705
AIRCRAFT: B-720B   REGISTRY: AP-AMH
ABOARD: 127   FATAL: 121   GROUND: 
DETAILS: Descended during approach triple the normal rate and crashed.

03/31/1965
LOCATION: Off Tangiers, Morocco
CARRIER: Iberia   FLIGHT: 
AIRCRAFT: Convair 440-62   REGISTRY: EC-ATH
ABOARD: 53   FATAL: 50   GROUND: 
DETAILS: 

02/08/1965    18:26
LOCATION: Jones Beach, New York, NY
CARRIER: Eastern Air Lines   FLIGHT: 663
AIRCRAFT: DC-7B   REGISTRY: N849D
ABOARD: 84  FATAL: 84  GROUND:
DETAILS: Crashed shortly after taking off after taking evasive action to avoid another aircraft.

11/23/1964
LOCATION: Rome, Italy
CARRIER: Trans World Airlines  FLIGHT: 800
AIRCRAFT: B-707-331  REGISTRY: N769W
ABOARD: 73  FATAL: 51  GROUND:
DETAILS: Crashed while attempting to abort a takeoff. Malfunction of reverse thrusters. Collision with steamroller.

11/15/1964
LOCATION: Las Vegas, NV
CARRIER: Bonanza Airlines  FLIGHT:
AIRCRAFT: Fairchild F-27A  REGISTRY: N745L
ABOARD: 29  FATAL: 29  GROUND:
DETAILS: Crashed during approach. Premature descent below obstructing terrain.

10/02/1964  05:45
LOCATION: Near Trevelez, Granada, Spain
CARRIER: Union des Transports Aeriens (UTA)
FLIGHT:
AIRCRAFT: DC-6B  REGISTRY: F-BHMS
ABOARD: 80  FATAL: 80  GROUND:
DETAILS: Crashed into mountain while en route.

09/02/1964
LOCATION: Island of Sakhalin, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Ilyushin Il-18B  REGISTRY: SSR-75531
ABOARD: 87  FATAL: 87  GROUND:
DETAILS: Crashed into wooded hillside during approach.

07/09/1964
LOCATION: Parrottsville, TN
CARRIER: United Airlines  FLIGHT:
AIRCRAFT: Vickers Viscount 745D  REGISTRY: N7405
ABOARD: 39  FATAL: 39  GROUND:
DETAILS: Crashed from uncontrollable fire of unknown origin.

06/05/1964
LOCATION: New York, NY
CARRIER: Northeast Airlines  FLIGHT:
AIRCRAFT: DC-6B  REGISTRY:
ABOARD:  FATAL: 0  GROUND:
DETAILS: Struck approach lights with landing gear during landing.
05/07/1964
LOCATION: San Ramon, CA
CARRIER: Pacific Airlines   FLIGHT:
AIRCRAFT: Fairchild F-27A   REGISTRY: N2770R
ABOARD: 44   FATAL: 44   GROUND:
DETAILS: Went into steep dive and crashed. Shooting of both pilots by a passenger.

03/01/1964   c 11:30
LOCATION: Near Zephyr Cove, Nevada
CARRIER: Paradise Airlines   FLIGHT: 901A
AIRCRAFT: Lockheed 049 Constellation   REGISTRY: N86504
ABOARD: 85   FATAL: 85   GROUND:
DETAILS: Crashed into mountain while attempting to land under VFR conditions.

02/29/1964   c 15:15
LOCATION: Near Innsbruck, Austria
CARRIER: British Eagle International Airlines   FLIGHT: 802
AIRCRAFT: Bristol Britannia 312   REGISTRY: G-AOVO
ABOARD: 84   FATAL: 84   GROUND:
DETAILS: Crashed into mountain while in a holding pattern.
02/25/1964  02:05
LOCATION: Lake Pontchartrain, New Orleans, LA
CARRIER: Eastern Air Lines    FLIGHT: 304
AIRCRAFT: DC-8-21    REGISTRY: N8607
ABOARD: 58    FATAL: 58    GROUND:
DETAILS: Crashed into Lake Ponchatrain after taking off.

Uncommanded
extension of pitch trim compensator.

12/17/1963
LOCATION: Los Angeles, CA
CARRIER: Western Airlines    FLIGHT:
AIRCRAFT: DC-6B    REGISTRY:
ABOARD: 46    FATAL: 0    GROUND:
DETAILS: Crashed after an attempted go-around.

12/08/1963  20:59
LOCATION: Elkton, MD
CARRIER: Pan American World Airways    FLIGHT: 214
AIRCRAFT: B-707-121    REGISTRY: N709PA
ABOARD: 81    FATAL: 81    GROUND:
DETAILS: Exploded and crashed while in holding pattern.
Lightening induced
ignition of fuel tank vapors.

11/29/1963  c 18:30
LOCATION: Montreal, Canada
CARRIER: Trans-Canada Air Lines   FLIGHT: 831
AIRCRAFT: DC-8F-54F   REGISTRY: CF-TJN
ABOARD: 118  FATAL: 118  GROUND:
DETAILS: Crashed shortly after takeoff. Incorrectly set horizontal stabilizer.

09/04/1963   c 07:20
LOCATION: Durrenasch, Aargau, Switzerland
CARRIER: Swissair AG   FLIGHT: 306
AIRCRAFT: Sud-Aviation Caravelle III   REGISTRY: HG-ICV
ABOARD: 80  FATAL: 80  GROUND:
DETAILS: Crashed shortly after takeoff after fire caused the loss of control of the aircraft. Unauthorized fog clearing procedure led to a burst tire and damaged fuel line.

07/28/1963   c 01:50
LOCATION: Off Bandra, Maharashtra, India
CARRIER: United Arab Airlines (Egypt)   FLIGHT: 869
AIRCRAFT: de Havilland Comet 4C   REGISTRY: SU-ALD
ABOARD: 63  FATAL: 63  GROUND:
DETAILS: Crashed into the ocean while preparing to land.

06/03/1963
LOCATION: Pacific Ocean, WSW of Annette Island Alaska
CARRIER: Northwest Airlines   FLIGHT:
AIRCRAFT: DC-7CF   REGISTRY: N290
ABOARD: 101   FATAL: 101   GROUND:
DETAILS: Crashed into ocean while en route.

05/03/1963
LOCATION: Near Buca, Cameroons
CARRIER: Air Afrique   FLIGHT:
AIRCRAFT: DC-6B   REGISTRY: F-BIAO
ABOARD: 55   FATAL: 55   GROUND:
DETAILS: Flew into mountain.

03/05/1963
LOCATION: Dyersburg, TN
CARRIER: Private   FLIGHT:
AIRCRAFT: Piper Comanche   REGISTRY:
ABOARD: 4   FATAL: 4   GROUND:
DETAILS: Inclement weather. Singer Patsy Cline killed.

02/12/1963
LOCATION: Everglades, FL
CARRIER: Northwest Airlines   FLIGHT:
AIRCRAFT: 707-720B   REGISTRY: N724ES
ABOARD: 43   FATAL: 43   GROUND:
DETAILS: Crashed after penetrating a thunderstorm and encountering severe
turbulence.

02/01/1963 c 17:15
LOCATION: Ankara, Turkey
CARRIER: Middle East Airlines (Lebanan)/Turkish Air Force
C-47 FLIGHT: 265
AIRCRAFT: Vickers Viscount 754D REGISTRY: OD-ADE
ABOARD: 17 FATAL: 17 GROUND: 87
DETAILS: Midair collision between a civilian and military aircraft. Both planes crashed into a heavily populated area destroying buildings, houses and vehicles.

01/28/1963
LOCATION: Kansas City, KS
ABOARD: 8 FATAL: 8 GROUND: DETAILS: Dove into ground while making landing approach. Icing.

11/30/1962
LOCATION: New York, NY
CARRIER: Eastern Air Lines FLIGHT: 512
AIRCRAFT: DC-7B REGISTRY: N815D
ABOARD: 51  FATAL: 25  GROUND:
DETAILS: Tail of aircraft hit ground during attempted go-
around in fog.

11/27/1962  c 03:40
LOCATION: Lima, Peru
CARRIER: VARIG (Brazil)  FLIGHT: 810
AIRCRAFT: B-707-441  REGISTRY: PP-VJB
ABOARD: 97  FATAL: 97  GROUND:
DETAILS: Crashed after a missed approach.

11/23/1962
LOCATION: Ellicot, MD
CARRIER: United Airlines  FLIGHT:
AIRCRAFT: Vikers Viscount 745D  REGISTRY: N7430
ABOARD: 18  FATAL: 18  GROUND:
DETAILS: Separation of the stabilizer after a collision with a whistling swan.

09/23/1962
LOCATION: North Atlantic Ocean
CARRIER: Flying Tiger Airlines  FLIGHT:
AIRCRAFT: Lockheed 1049H Constellation  REGISTRY: N6923C
ABOARD: 76  FATAL: 28  GROUND:
DETAILS: Ditched at sea after losing two of four engines and disabling a third one.
09/02/1962
LOCATION: Near Khabarovsk, USSR
CARRIER: Aeroflot FLIGHT:
AIRCRAFT: Tupolev Tu-104A REGISTRY: SSSR-42366
ABOARD: 86 FATAL: 86 GROUND:
DETAILS: Crashed and burned shortly after taking off and reporting shaking and uncontrollable roll and yaw.

07/07/1962 c 00:15
LOCATION: Near Junnar, Maharashtra, India
CARRIER: Alitalia FLIGHT: 771
AIRCRAFT: DC-8-43 REGISTRY: I-DIWD
ABOARD: 94 FATAL: 94 GROUND:
DETAILS: Crashed into a hill. Navigational error.

06/30/1962
LOCATION: Near Krasnoyarsk, USSR
CARRIER: Aeroflot FLIGHT:
AIRCRAFT: Tupolev Tu-104A REGISTRY: SSSR-42340
ABOARD: 84 FATAL: 84 GROUND:
DETAILS: Went into an uncontrollable dive from FL 290.

06/28/1962
LOCATION: Near Adler, USSR
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Antonov An-10A  REGISTRY: SSSR11186
ABOARD: 81  FATAL: 81  GROUND:
DETAILS: Crashed into mountain during approach.

06/22/1962  c 04:01
LOCATION: Basse-Terre, Guadaloupe, West Indies
CARRIER: Air France  FLIGHT: 117
AIRCRAFT: B-707-328  REGISTRY: F-BHST
ABOARD: 113  FATAL: 113  GROUND:
DETAILS: Crashed into a hill while on approach.

06/03/1962  c 12:35
LOCATION: Villeneuve-le-Roi, Val-de-Marne, France
CARRIER: Air France  FLIGHT:
AIRCRAFT: B-707-328  REGISTRY: F-BHSM
ABOARD: 132  FATAL: 130  GROUND:
DETAILS: Crashed into lights and a house after an aborted takeoff. Horizontal stabilizer improperly trimmed.

05/22/1962  c 21:15
LOCATION: Near Unionville, MO
CARRIER: Contenental Airlines  FLIGHT: 11
AIRCRAFT: B-707-124  REGISTRY: N70775
ABOARD: 45  FATAL: 45  GROUND:
DETAILS: Crashed while en route. Detonation of a
dynamite bomb in the right
rear lavatory.

03/16/1962  c 00:30
LOCATION: Western Pacific Ocean, Philippine Sea
CARRIER: Flying Tiger Airlines  FLIGHT:
AIRCRAFT: Lockheed 1049H Super Constellation
REGISTRY: N6921C
ABOARD: 107  FATAL: 107  GROUND:
DETAILS: Lost at sea while en route. In-flight explosion.

03/04/1962  c19:20
LOCATION: Douala, Cameroon
CARRIER: Caledonian Airways  FLIGHT:
AIRCRAFT: DC-7C  REGISTRY: G-ARUD
ABOARD: 111  FATAL: 111  GROUND:
DETAILS: After a long takeoff, run struck trees and crashed
into swamp. Jammed
right elevator spring tab.

03/01/1962  10:08
LOCATION: Jamacia Bay, New York, NY
CARRIER: American Airlines  FLIGHT: 1
AIRCRAFT: B-707-123B  REGISTRY: N7506A
ABOARD: 95  FATAL: 95  GROUND:
DETAILS: After climbing to 1,500 ft., the aircraft plunged
into ocean. Damaged wiring during manufacturing which caused a short circuit in the rudder servo unit and the rudder to jam.

11/08/1961  c21:30
LOCATION: Near Richmond, VA
CARRIER: Imperial Airlines
FLIGHT:
AIRCRAFT: Lockheed C-69 Constellation
REGISTRY: N2737A
ABOARD: 79  FATAL: 77  GROUND:
DETAILS: Loss of power in two engines due to procedural errors. Crashed into wooded area.

09/18/1961
LOCATION: Ndola, Zambia
CARRIER: United Nations Organization
FLIGHT:
AIRCRAFT: DC-6B
REGISTRY: SE-BDY
ABOARD:  FATAL: 16  GROUND:
DETAILS: Crashed into jungle. UN Secretary General, Dag Hammerskjold killed.

09/17/1961
LOCATION: Chicago, IL
CARRIER: Northwest
FLIGHT:
AIRCRAFT: Lockheed 188C Electra
REGISTRY:
N137US
ABOARD: 37  FATAL: 37  GROUND:
DETAILS: Struck high tension wires. Mechanical failure of the aileron primary control system.

09/12/1961  21:09
LOCATION: Near Rabat, Morrocco
CARRIER: Air France   FLIGHT: 2005
AIRCRAFT: Sud-Aviation Caravelle III   REGISTRY: F-BJTB
ABOARD: 77  FATAL: 77  GROUND:
DETAILS: Crashed and burned while attempting to land.
Possible misread altimeter.

09/10/1961  c 03:55
LOCATION: Near Limerick, Ireland
CARRIER: President Airlines   FLIGHT:
AIRCRAFT: DC-6B   REGISTRY: N90773
ABOARD: 84  FATAL: 84  GROUND:
DETAILS: Crashed into the Shannon River shortly after takeoff. Possible fault with the artificial horizon or aircraft's aileron tabs.

09/01/1961  c 2:05
LOCATION: Near Hinsdale, IL
CARRIER: Trans World Airlines   FLIGHT: 529
AIRCRAFT: Lockheed 049 Constellation   REGISTRY: N86511
ABOARD: 78   FATAL: 78   GROUND:
DETAILS: Crashed after takeoff. Loss of a 5/16 inch steel bolt from the elevator assembly.

07/11/1961
LOCATION: Denver, CO
CARRIER: United Airlines   FLIGHT:
AIRCRAFT: DC-8   REGISTRY: N8040U
ABOARD: 122   FATAL: 17   GROUND:
DETAILS: Crashed while making an emergency landing. Asymmetrical thrust during the landing.

05/31/1961   c 01:20
LOCATION: Near Lisbon, Portugal
CARRIER: KLM Royal Dutch Airlines   FLIGHT: 897
AIRCRAFT: DC-8-53   REGISTRY: PH-DCL
ABOARD: 61   FATAL: 61   GROUND:
DETAILS: Plunged into the Atlantic Ocean five minutes after takeoff.

05/10/1961   c 02:30
LOCATION: Near In Amenas, Libya, Sahara Desert
CARRIER: Air France    FLIGHT: 406
AIRCRAFT: Lockheed 1649A Starliner    REGISTRY: F-BHBM
ABOARD: 78    FATAL: 78    GROUND: Details: Crashed and burned in the Sahara Desert while en route. Detonation of a nitrocellulose explosive.

03/28/1961
LOCATION: Russelbach, East Germany
CARRIER: Ceskoslovenske Aerolinie    FLIGHT:
AIRCRAFT: Ilyushin Il-18    REGISTRY: OK-OAD
ABOARD: 52    FATAL: 52    GROUND: Details: Crashed after in-flight explosion.

02/15/1961  10:05
LOCATION: Near Brussels, Belgium
CARRIER: Belgian World Airlines (Sebena)    FLIGHT: 548
AIRCRAFT: B-707-320    REGISTRY: OO-SJB
ABOARD: 72    FATAL: 72    GROUND: 1
DETAILS: Crashed while landing. Failure of the flying controls. Eighteen members of the US figure skating team killed.

12/16/1960  c 10:30
LOCATION: Brooklyn, NY
CARRIER: United Airlines and Trans World Airlines
FLIGHT: 826/266
AIRCRAFT: DC-8-11 and Lockheed 1049 Super Const
REGISTRY:
   N8013U/N6907C
ABOARD: 128  FATAL: 128  GROUND: 6
DETAILS: Midair collision. United crew flew past clearance limits and into airspace of other aircraft.

10/04/1960  17:40
LOCATION: Boston, MA
CARRIER: Eastern Air Lines  FLIGHT: 375
AIRCRAFT: Lockheed 188A Electra  REGISTRY: N5533
ABOARD: 72  FATAL: 62  GROUND:
DETAILS: Crashed about a minute after takeoff. Loss of engine power due to bird ingestion.

09/19/1960  c 06:00
LOCATION: Agana, Guam, Mariana Islands
CARRIER: World Airways  FLIGHT:
AIRCRAFT: DC-6AB  REGISTRY: N90779
ABOARD: 94  FATAL: 80  GROUND:
DETAILS: Crashed shortly after takeoff.

09/17/1960
LOCATION: Chicago, IL  CARRIER: Northwest Airlines  FLIGHT:  
AIRCRAFT: Lockheed Electra  REGISTRY:  
ABOARD:  FATAL: 37  GROUND:  
DETAILS: Rolled over and crashed during takeoff. Jammed aileron.

08/29/1960  c 06:50  
LOCATION: Off Dakar, Senegal  
CARRIER: Air France  FLIGHT: 343  
AIRCRAFT: Lockheed 1049G Super Constellation  
REGISTRY: F-BHBC  
ABOARD: 63  FATAL: 63  GROUND:  
DETAILS: Crashed into the Atlantic Ocean after an unsuccessful landing attempt.

06/24/1960  
LOCATION: Rio de Janerio, Brazil  
CARRIER: REAL  FLIGHT:  
AIRCRAFT: Convair 340-62  REGISTRY: PP-YRB  
ABOARD:  FATAL: 53  GROUND:  
DETAILS: 

06/19/1960  
LOCATION: Ankara, Turkey  
CARRIER: SAS  FLIGHT:  
AIRCRAFT: Caravelle  REGISTRY: 
ABOARD: FATAL: 42  GROUND: DETAILS: Crashed during approach.

06/19/1960
LOCATION: Los Angeles, CA
CARRIER: FLIGHT:
AIRCRAFT: REGISTRY:

06/10/1960
LOCATION: Off Mackay, Qld. Australia
CARRIER: Trans Australia Airlines FLIGHT:
AIRCRAFT: Fokker F-27 Friendship 100 REGISTRY: VH-TFB
ABOARD: FATAL: 29 GROUND: DETAILS: Crashed into the ocean.

03/17/1960  15:25
LOCATION: Near Cannelton 10 mile SE of Tell City, IN
CARRIER: Northwest Airlines FLIGHT: 710
AIRCRAFT: Lockheed 188C Electra REGISTRY: N121US
ABOARD: 63 FATAL: 63 GROUND: DETAILS: In-flight separation of wing. Flutter in the wing
induced by a design flaw.

02/05/1960
LOCATION: Laguna de Huana-Costa, Bolivia
CARRIER: Lloyd Aereo Boliviano
FLIGHT: 
AIRCRAFT: DC-4
REGISTRY: 
ABOARD: FATAL: 59 GROUND: 
DETAILS: Engine fire.

01/18/1960
LOCATION: Charles City, VA
CARRIER: Captial Airlines
FLIGHT: 20
AIRCRAFT: Vickers Viscount 745D
REGISTRY: N7462
ABOARD: 50 FATAL: 50 GROUND: 
DETAILS: Crashed and burned in wooded area. Delayed arming of engine icing system.

01/06/1960
LOCATION: Wilmington/Bolivia, NC
CARRIER: National Airlines
FLIGHT: 
AIRCRAFT: DC-6B
REGISTRY: N8225H
ABOARD: 34 FATAL: 34 GROUND: 
DETAILS: Disintegrated in flight. Detonation of a dynamite bomb in passenger compartment. Possible suicide.
11/16/1959
LOCATION: Lvov, Ukraine, USSR
CARRIER: Aeroflot FLIGHT:
AIRCRAFT: Antonov AN-10 REGISTRY: SSSR-1167
ABOARD: 40 FATAL: 40 GROUND:
DETAILS: Crashed during approach.

11/15/1959
LOCATION: Gulf of Mexico
CARRIER: Delta Air Lines FLIGHT:
AIRCRAFT: DC-7B REGISTRY: N4891C
ABOARD: FATAL: 40 GROUND:
DETAILS:

09/29/1959
LOCATION: Buffalo, TX
CARRIER: Braniff Airlines FLIGHT:
AIRCRAFT: Lockheed 188A Electra REGISTRY:
ABOARD: 34 FATAL: 34 GROUND:
DETAILS: In-flight separation of wing. Flutter in the wing induced by a design flaw.

09/24/1959
LOCATION: Bordeaux, France  
CARRIER: T.A. Intercontinentaux  
FLIGHT:  
AIRCRAFT: DC-7C  
REGISTRY: F-BIAF  
ABOARD:  
FATAL: 53  
GROUND:  
DETAILS: Crashed during takeoff.

07/10/1959  
LOCATION: Nicaragua  
CARRIER: Aerolineas Nacionales  
FLIGHT:  
AIRCRAFT: Curtiss C-46  
REGISTRY: TI-1022  
ABOARD: 60  
FATAL: 60  
GROUND:  
DETAILS: Shot down by Nicaraguan fighters.

06/26/1959  
LOCATION: Near Varese, Lombardia, 20 miles NW of Milan, Italy  
CARRIER: Trans World Airlines  
FLIGHT: 891  
AIRCRAFT: Lockheed 1549A Starliner  
REGISTRY: N7313C  
ABOARD: 68  
FATAL: 68  
GROUND:  
DETAILS: Right wing exploded during storm. Ignition of gasoline vapors emanating from fuel tank by static discharge when airliner was hit by lightning.

05/12/1959  
LOCATION: Chase, MD
CARRIER: Capital Airlines   FLIGHT: 75
AIRCRAFT: Vickers Viscount 745D   REGISTRY: N7463
ABOARD: 31   FATAL: 31   GROUND:
DETAILS: Disintegrated in flight due to severe turbulence after penetrating a thunderstorm.

02/03/1959
LOCATION: Clear Lake, IA
CARRIER: Private   FLIGHT:
AIRCRAFT: Beech Bonanza   REGISTRY:
ABOARD: 4   FATAL: 4   GROUND:
DETAILS: Crashed during snowstorm. Singers Ritchie Valens and Buddy Holly and Jiles P. "the Big Bopper" Richardson killed.

02/03/1959   23:55
LOCATION: La Guardia Airport, New York, NY
CARRIER: American Airlines   FLIGHT: 320
AIRCRAFT: Lockheed Electra L-188A   REGISTRY: N6101A
ABOARD: 73   FATAL: 65   GROUND:
DETAILS: Crashed while attempting to land in rain and fog.

10/17/1958
LOCATION: Near Kanash, USSR
CARRIER: Aeroflot   FLIGHT:
AIRCRAFT: Tupolev Tu-104A REGISTRY: SSSR-42362
ABOARD: 80 FATAL: 80 GROUND:
DETAILS: Experienced extreme turbulence during climb, stalled, plunged to earth and burned.

08/15/1958
LOCATION: Near Chetia, USSR
CARRIER: Aeroflot FLIGHT:
AIRCRAFT: Tupolev Tu-104-A REGISTRY: SSSR-42349
ABOARD: 64 FATAL: 64 GROUND:
DETAILS: Stalled after flying over a thunderstorm.

08/14/1958 03:45
LOCATION: North Atlantic Ocean, 100 miles W of Galaway Bay, Ireland
CARRIER: KLM Royal Dutch Airlines FLIGHT: 607E
AIRCRAFT: Lockheed 1049H Super Constellation
REGISTRY: PH-LKM
ABOARD: 99 FATAL: 99 GROUND:
DETAILS: Crashed into the sea while en route. Possible overspeeding of outer propeller.

06/02/1958
LOCATION: Near Guadalajara, Mexico
CARRIER: Aeronaves de Mexico    FLIGHT:
AIRCRAFT: Lockheed 749A Constellation    REGISTRY:
XA-MEV
ABOARD: 45    FATAL: 45    GROUND:
DETAILS: Flew into mountainous terrain.

05/20/1958
LOCATION: Brunswick, MD
CARRIER: Capital Airlines and Air National Guard
FLIGHT:
AIRCRAFT: Vickers Viscount 745D / T-33    REGISTRY:
N7410
ABOARD: 15    FATAL: 15    GROUND:
DETAILS: Midair collision.

05/18/1958    c 04:30
LOCATION: Near Casablanca, Morocco
CARRIER: Belgian World Airlines    FLIGHT:
AIRCRAFT: DC-7C    REGISTRY: OO-SFA
ABOARD: 69    FATAL: 65    GROUND:
DETAILS: While attempting to land with the loss of one engine the aircraft stalled,
crashed into a building and burned.

04/21/1958    c 08:30
LOCATION: Near Sloan, 10 miles SW of Las Vegas, NV
CARRIER: United Airlines and US Air Force    FLIGHT:
AIRCRAFT: DC-7 and F100F   REGISTRY: N6328C
ABOARD: 47    FATAL: 47   GROUND:
DETAILS: Midair collision. DC-7 en route from Los Angeles to Denver at FL 210. The military jet was on a training mission. The fighter initiated an evasive maneuver prior to the collision.

04/06/1958
LOCATION: Saginaw, MI
CARRIER: Capital Airlines    FLIGHT:
AIRCRAFT: Vickers Viscount 745D   REGISTRY:
ABOARD: 49    FATAL: 49   GROUND:
DETAILS: Crashed while making a landing attempt. Icing.

02/06/1958
LOCATION: Munich, West Germany
CARRIER: British European Airways    FLIGHT:
AIRCRAFT: Airspeed Ambassador A5-57   REGISTRY: G-ALZU
ABOARD: 44    FATAL: 23   GROUND:
DETAILS: Crashed during takeoff in a snowstorm. Icing.

12/08/1957
LOCATION: Bolivar, Argentina
CARRIER: Aerolineas Aregntinas    FLIGHT:
AIRCRAFT: DC-4    REGISTRY: LV-AHZ
ABOARD: 61    FATAL: 61    GROUND:
DETAILS: Crashed during storm.

11/15/1957
LOCATION: Hants, England
CARRIER: Aquilla Airways    FLIGHT:
AIRCRAFT: Short Solent 3    REGISTRY: G-AKNU
ABOARD: 46    FATAL: 46    GROUND:
DETAILS:

11/09/1957  c 16:30
LOCATION: Pacific Ocean
CARRIER: Pan American World Airways    FLIGHT: 7
AIRCRAFT: Boeing - 377 Stratocruiser    REGISTRY: N90944
ABOARD: 44    FATAL: 44    GROUND:
DETAILS: Disappeared while on a flight between San Francisco and Honolulu.

09/15/1957
LOCATION: New Bedford, MA
CARRIER: Northeast Airlines    FLIGHT:
AIRCRAFT: DC-3    REGISTRY: N33417
ABOARD:    FATAL: 12    GROUND:
DETAILS: Struck trees to the right and short of runway during approach.
08/11/1957   c:14:15
LOCATION: Near Issoudon, Quebec, Canada
CARRIER: Maritime Central Airways  FLIGHT:
AIRCRAFT: DC-4   REGISTRY: CF-MCF
ABOARD: 79  FATAL: 79  GROUND:
DETAILS: Aircraft plunged to earth after penetrating a thunderstorm at 6,000 ft.

07/25/1957
LOCATION: Daggett, CA
CARRIER: Western Airlines  FLIGHT:
AIRCRAFT: CV-240   REGISTRY:
ABOARD:  1  FATAL: 1  GROUND:
DETAILS: Landed safely after a bomb exploded in the rear lavatory.

07/15/1957
LOCATION: Near Biak, Indonesia
CARRIER: KLM  FLIGHT:
AIRCRAFT: Lockheed 1049C Super Constellation
REGISTRY: PH-LKT
ABOARD: 68  FATAL: 58  GROUND:
DETAILS:
07/04/1957  
LOCATION: Bage, Brazil  
CARRIER: Varig  
FLIGHT:  
AIRCRAFT: Curtiss C-46  
REGISTRY: PP-VCF  
ABOARD: FATAL: 40  
GROUND:  
DETAILS: Engine fire.

04/21/1957  
LOCATION: Istanbul, Turkey  
CARRIER: Air France  
FLIGHT:  
AIRCRAFT: Lockheed Super Constellation  
REGISTRY:  
ABOARD: FATAL: 1  
GROUND:  
DETAILS: Passenger sucked out of window.

03/14/1957  
LOCATION: Manchester, England  
CARRIER: British European Airways  
FLIGHT:  
AIRCRAFT: Vickers Viscount 701  
REGISTRY: G-ALWE  
ABOARD: FATAL: 20  
GROUND: 2  
DETAILS: Crashed into houses. Incorrectly assembled flaps.

01/02/1957  
LOCATION: Rikers Island, NY  
CARRIER: DC-6A  
FLIGHT:  
AIRCRAFT: Northeast Airlines  
REGISTRY: N34954  
ABOARD: 102  
FATAL: 21  
GROUND:  
DETAILS: Crashed during snowstorm on Rikers Island N.Y. after takeoff. Improper monitoring of instuments.

12/09/1956 c 19:15
LOCATION: Near New Hope, British Columbia, Canada
CARRIER: Trans Canada FLIGHT: 810-9
AIRCRAFT: Canadair DC-4M-2 Northstar REGISTRY: CF-TFD
ABOARD: 62 FATAL: 62 GROUND: DETAILS: Crashed after reporting fire in the No. 2 engine after encountering severe icing and turbulence.

06/30/1956 c 11:30
LOCATION: Grand Canyon, AZ
CARRIER: United Air Lines and Trans World Airlines
FLIGHT: 718 / 2
AIRCRAFT: DC-7 and Lockheed Super Constellation
REGISTRY: N6902C/N6324C
ABOARD: 128 FATAL: 128 GROUND:
DETAILS: Midair collision over the Grand Canyon.

06/20/1956 c 01:30
LOCATION: Asbury Park, NJ
CARRIER: Linea Aeropostal Venezolana (Venezuelan)
FLIGHT:
   AIRCRAFT: Lockheed 1049E Super Constellation
   REGISTRY: YV-C-AMS
   ABOARD: 74   FATAL: 74   GROUND:
   DETAILS: Crashed in ocean. Vibration from uncontrollable propeller caused wing attachments to loosen and break causing an uncontrollable fire.

02/18/1956   c 13:20
LOCATION: Near Zurrieg, Malta
CARRIER: Scottish Airlines (UK)   FLIGHT:
   AIRCRAFT: Avro York C-1   REGISTRY: G-ANSY
   ABOARD: 50   FATAL: 50   GROUND:
   DETAILS: Crashed shortly after takeoff trailing smoke.
   Engine failure due to cracks in boot enrichment capsule.

01/11/1956
LOCATION: Rio de Janeiro
CARRIER: DLH   FLIGHT:
   AIRCRAFT: Lockheed Super Constellation   REGISTRY:
   ABOARD:   FATAL: 36   GROUND:
   DETAILS: Crashed while on approach.

11/01/1955
LOCATION: Longmont, CO
CARRIER: United Airlines  FLIGHT:
AIRCRAFT: DC-6B  REGISTRY: N37559
ABOARD: 44  FATAL: 44  GROUND:
DETAILS: Detonation of a bomb. Placed by John Graham in order to collect insurance on his mother. Delayed flight caused the bomb to detonate over flat land rather than mountains as planned.

10/06/1955  c 07:25
LOCATION: Near Centennial, WY
CARRIER: United Air Lines  FLIGHT: 409
AIRCRAFT: DC-4  REGISTRY: N30062
ABOARD: 66  FATAL: 66  GROUND:
DETAILS: Crashed into Medicine Bow Peak while en route to Salt Lake City.
   Possible incapacitation by carbon monoxide.

07/27/1955  c 07:40
LOCATION: Near Petrich, Bulgaria
CARRIER: El Al Israel Airlines  FLIGHT: 402/46
AIRCRAFT: Lockheed 049 Constellation  REGISTRY: 4X-AKC
ABOARD: 58  FATAL: 58  GROUND:
DETAILS: Drifted over Bulgarian airspace and was shot down by Bulgarian jet fighters. Navigational error.
03/20/1955
LOCATION: Springfield, MO
CARRIER: American Airlines   FLIGHT: 
AIRCRAFT: Convair 240   REGISTRY: N94234
ABOARD:  FATAL: 13   GROUND: 
DETAILS: Crashed during landing. Pilot sensory illusion.

02/19/1955
LOCATION: Albuquerque, NM
CARRIER: Trans World Airlines   FLIGHT: 260
AIRCRAFT: Martin 404   REGISTRY: 
ABOARD:  FATAL:   GROUND: 
DETAILS: Flew into mountain while en route from Albuquerque to Sante Fe.
Possible problem with flux gauge compass.

01/19/1955
LOCATION: Des Moines, Iowa
CARRIER: United Airlines   FLIGHT: 329
AIRCRAFT: Convair   REGISTRY: 
ABOARD:  FATAL: 0   GROUND: 
DETAILS: Safely made emergency landing in corn field after vibration. Incorrectly installed elevator bolt worked loose.

12/18/1954
LOCATION: New York, NY  
CARRIER: Linee Aeree Italiane  
FLIGHT: 
AIRCRAFT: DC-6B  REGISTRY: I-LINE  

09/05/1954  
LOCATION: Dublin, Ireland  
CARRIER: KLM  
FLIGHT: 
AIRCRAFT: Lockheed 1049C Constellation  REGISTRY: PH-LKY  

04/08/1954  
LOCATION: Stromboli, Italy  
CARRIER: South African Airways  
FLIGHT: 
AIRCRAFT: de Havilland Comet 1  REGISTRY: G-ALYY  

01/10/1954  
LOCATION: Elba, Italy  
CARRIER: British Overseas Airlines  
FLIGHT: 
AIRCRAFT: de Havilland Comet 1  REGISTRY: G-ALYP

07/12/1953  c 20:40
LOCATION: Pacific Ocean, 350 miles east of Wake Island
CARRIER: Transocean Air Lines (US)  FLIGHT:
AIRCRAFT: DC-6A  REGISTRY: N90806
ABOARD: 58  FATAL: 58  GROUND:
DETAILS: Lost at sea while en route from Wake Island to Honolulu.

06/18/1953
LOCATION: Tachikawa AFB Tokyo, Japan
CARRIER: USAF C-124  FLIGHT:
AIRCRAFT:  REGISTRY:
ABOARD:  FATAL: 129  GROUND:
DETAILS: Engine failure during takeoff.

05/02/1953  c 16:35
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
03/03/1953
LOCATION: Karachi, Pakistan
CARRIER: Canadian Pacific Airlines
FLIGHT: AIRCRAFT: de Havilland Commet 1A
REGISTRY: CF-CUN
ABOARD: 11 FATAL: 11 GROUND:
DETAILS: First fatal crash of a commercial jet aircraft.

12/20/1952
LOCATION: Moses Lake, WA
CARRIER: USAF C-124
FLIGHT: AIRCRAFT: REGISTRY:
ABOARD: FATAL: 87 GROUND:
DETAILS: Crashed and burned.

04/29/1952 03:40
LOCATION: Near Carolina, Brazil
CARRIER: Pan American World Airways
FLIGHT: 202
AIRCRAFT: Boeing 377 Stratocruiser
REGISTRY: N1039V
ABOARD: 50 FATAL: 50 GROUND:
DETAILS: Crashed into jungle. Separation of propeller blade.

design flaw.
04/11/1952  c 12:20
LOCATION: North of San Juan, Puerto Rico
CARRIER: Pan American World Airways   FLIGHT: 526A
AIRCRAFT: DC-4   REGISTRY: N88899
ABOARD: 69  FATAL: 52  GROUND:
DETAILS: Crashed into the Atlantic Ocean after losing No.3 and No. 4 engines.

03/26/1952
LOCATION: Moscow, USSR
CARRIER: Aeroflot   FLIGHT:
AIRCRAFT:   REGISTRY:
ABOARD: 70  FATAL: 70  GROUND:
DETAILS: Overshot runway and collided with military aircraft.

03/22/1952
LOCATION: Frankfurt, Germany
CARRIER: KLM   FLIGHT:
AIRCRAFT: DC-6   REGISTRY: PH-TPJ
ABOARD: 49  FATAL: 44  GROUND:
DETAILS: Crashed during rain and fog during approach.

02/11/1952
LOCATION: Elizabeth, NJ
CARRIER: National Airlines   FLIGHT:
AIRCRAFT: DC-6    REGISTRY: N90891
ABOARD: 63    FATAL: 29    GROUND: 4
DETAILS: Crashed into an apartment complex on takeoff.

01/19/1952
LOCATION: Sandsplit, BC, Canada
CARRIER: Northwest Airlines    FLIGHT:
AIRCRAFT: DC-54-E    REGISTRY: N45342
ABOARD: 43    FATAL: 36    GROUND:
DETAILS: Crashed into the ocean after overshooting the runway.

12/16/1951    c 15:10
LOCATION: Elizabeth, NJ
CARRIER: Miami Airlines, Inc    FLIGHT:
AIRCRAFT: Curtiss Wright C-46F    REGISTRY: N1678M
ABOARD: 56    FATAL: 56    GROUND:
DETAILS: Crashed shortly after taking off with smoke trailing. Engine failure due to fatigue.

08/24/1951    c 05:00
LOCATION: Union City, CA
CARRIER: United Air Lines    FLIGHT: 615
AIRCRAFT: DC-6B    REGISTRY: N37550
ABOARD: 50    FATAL: 50    GROUND:
DETAILS: Struck hill while making approach 15 miles SSE
of Okland Municipal Airport.

06/30/1951  c 02:00
LOCATION: Rocky Mountain Nat. Park, near Ft. Collins, CO
CARRIER: United Airlines  FLIGHT: 610
AIRCRAFT: DC-6B  REGISTRY: N37543
ABOARD: 50  FATAL: 50  GROUND:
DETAILS: Flew into Crystal Mountain while en route from San Francisco to Denver.

06/22/1951
LOCATION: Near Sanoyea, Liberia
CARRIER: Pan American World Airways  FLIGHT: 
AIRCRAFT: Lickheed 049 Constellation  REGISTRY: N88846
ABOARD: 40  FATAL: 40  GROUND:
DETAILS: Crashed into a hill.

04/25/1951
LOCATION: Key West, FL
CARRIER: Cubana / USN Beech SMB  FLIGHT: 
AIRCRAFT: DC-4  REGISTRY: CU-T188
ABOARD: 44  FATAL: 44  GROUND:
DETAILS: Midair collision.
01/16/1951
LOCATION: Reardon, WA
CARRIER: Northwest Airlines     FLIGHT: 115
AIRCRAFT: Martin 202     REGISTRY: N93054
ABOARD: FATAL: 10     GROUND:
DETAILS: Went into a dive and crashed while on approach to Spokane. Hit ground at 340 mph.

11/13/1950     c 18:00
LOCATION: Mt. de L'Obiou, France
CARRIER: Curtiss-Reid Flying Services Ltd. (Canada)
FLIGHT:
AIRCRAFT: DC-4     REGISTRY: CF-EDN
ABOARD: 58     FATAL: 58     GROUND:
DETAILS: Drifted off course and flew into mountain.

11/03/1950
LOCATION: Mont Blanc, France
CARRIER: Air India     FLIGHT:
AIRCRAFT: Lockheed 749 Constellation     REGISTRY: VT-CQP
ABOARD: 48     FATAL: 48     GROUND:
DETAILS:
10/31/1950
LOCATION: London Heathrow, England
CARRIER: British European Airways FLIGHT:
AIRCRAFT: Vickers Viking 1B REGISTRY: G-AHPN
ABOARD: 30 FATAL: 28 GROUND:
DETAILS: Crashed in fog.

08/31/1950  c 02:00
LOCATION: Near Wadi Natrun, Egypt
CARRIER: Trans World Airlines FLIGHT: 903
AIRCRAFT: Lockheed 740A Constellation REGISTRY: N6004C
ABOARD: 55 FATAL: 55 GROUND:
DETAILS: Crashed while turning back to Cairo after a reported engine fire.
    Engine failure leading to uncontrollable fire.

07/28/1950
LOCATION: Porte Alegre, Brazil
CARRIER: Penair do Brasil FLIGHT:
AIRCRAFT: Lickheed 049 Constellation REGISTRY: PP-PCG
ABOARD: 50 FATAL: 50 GROUND:
DETAILS: Flew into power lines during a landing attempt.

06/24/1950  c 01:25
LOCATION: Lake Michigan, 20 NNW of Benton Harbor, MI
CARRIER: Northwest Airlines    FLIGHT: 2501
AIRCRAFT: DC-4    REGISTRY: N95425
ABOARD: 58    FATAL: 58    GROUND:
DETAILS: Crashed into Lake Michigan while en route from New York to Minneapolis during a storm.

03/12/1950    c 14:50
LOCATION: Llandow Airport, Cardiff, Ireland
CARRIER: Fairflight Ltd.    FLIGHT: 
AIRCRAFT: Avro Tudor 5    REGISTRY: G-AKBY
ABOARD: 83    FATAL: 80    GROUND:
DETAILS: Crashed while landing, after coming in too low, applying full power and stalling.

11/01/1949
LOCATION: Arlington, VA
CARRIER: Eastern Airlines and US Air Force    FLIGHT: 
AIRCRAFT: Douglas C-54B and USAF P-38
REGISTRY: N88727
ABOARD: 55    FATAL: 55    GROUND:
DETAILS: Midair collision.

10/27/1949
LOCATION: San Miguel Island, Azores
CARRIER: Air France   FLIGHT:  
AIRCRAFT: Lockheed 749 Constellation   REGISTRY: F-BAZN
ABOARD: 48  FATAL: 48  GROUND:  
DETAILS: Flew into mountain.

09/09/1949
LOCATION: Sault-aux-Cochons, PQ, Canada
CARRIER: Canadian Pacific Airlines   FLIGHT:  
AIRCRAFT: DC-3   REGISTRY: CF-CUA
ABOARD: 22  FATAL: 22  GROUND:  
DETAILS: Detonation of a dynamite bomb in forward baggage compartment.  
Planted by Albert Guay to kill his wife.  Gauy and two accomplices executed for the crime.

07/06/1949
LOCATION: San Juan, Porto Rico
CARRIER: Strato Freight   FLIGHT:  
AIRCRAFT: Curtiss C-46D   REGISTRY: N92857
ABOARD: 81  FATAL: 53  GROUND:  
DETAILS: Crashed during takeoff.  Engine failure.

01/17/1949
LOCATION: Atlantic Ocean, off Bermuda
CARRIER: British South American Airways  FLIGHT: 
AIRCRAFT: Avro Tudor 1   REGISTRY: G-AGRE 
ABOARD: 40  FATAL: 40  GROUND: 
DETAILS: Lost at sea.

10/21/1948
LOCATION: Prestwick Airport, Scotland
CARRIER: KLM   FLIGHT: 
AIRCRAFT: Lockheed 049 Constellation   REGISTRY: PH-TEN 
ABOARD: 40  FATAL: 39  GROUND: 
DETAILS: Hit power lines. After an aborted landing.

08/29/1948
LOCATION: Winona, MN
CARRIER: Northwest Airlines   FLIGHT: 
AIRCRAFT: Martin 202   REGISTRY: NC93044 
ABOARD: 37  FATAL: 37  GROUND: 
DETAILS: Wing separated in thunderstorm. Metal fatigue due to design flaw.

08/01/1948
LOCATION: Atlantic Ocean
CARRIER: Air France   FLIGHT: 
AIRCRAFT: Latecoerce 631   REGISTRY: F-BDRC 
ABOARD: 52  FATAL: 52  GROUND: 
DETAILS: Lost at sea.
07/04/1948
LOCATION: Middlesex, England
CARRIER: SAS
FLIGHT:
AIRCRAFT: DC-6 / RAF York MW248
REGISTRY: SE-BDA
ABOARD: 39  FATAL: 39  GROUND:
DETAILS: Midair collision.

06/17/1948
LOCATION: Mount Carmel, PA
CARRIER: United Airlines
FLIGHT:
AIRCRAFT: DC-6
REGISTRY: NC37506
ABOARD: 43  FATAL: 43  GROUND:
DETAILS: In-flight fire in cargo hold.

05/13/1948
LOCATION: Near Magazini, Belgian Congo
CARRIER: Sebena
FLIGHT:
AIRCRAFT: DC-4-1009
REGISTRY: OO-CBE
ABOARD: 32  FATAL: 31  GROUND:
DETAILS: Crashed in a thunderstorm.

04/15/1948
LOCATION: Shannon, Ireland
CARRIER: Pan American World Airways  FLIGHT: Lockheed Constellation  REGISTRY: NC88858
ABOARD: 31  FATAL: 30  GROUND:
DETAILS: Crashed while landing.

04/05/1948
LOCATION: Berlin, Germany
CARRIER: British BEA, Soviet Air Force  FLIGHT: Viking 1B and Soviet YAK-3 fighter
REGISTRY: G-AIVP
ABOARD: 15  FATAL: 15  GROUND:
DETAILS: Midair collision.

03/12/1948
LOCATION: Mt. Sanford, Alaska
CARRIER: Northwest Airlines  FLIGHT: Douglas C-54G  REGISTRY: NC95422
ABOARD: 30  FATAL: 30  GROUND:
DETAILS:

03/02/1948
LOCATION: Heathrow Airport, London, England
CARRIER: Sebena  FLIGHT: DC-3  REGISTRY: OO-AWH
ABOARD: 21  FATAL: 20  GROUND:
DETAILS: Crashed during approach in poor weather
conditions. Last DC-3 built.

01/30/1948
LOCATION: NE of Berma
CARRIER: British South American Airways   FLIGHT: 
AIRCRAFT: Avro Tudor 4B    REGISTRY: G-AHNP
ABOARD: 31    FATAL: 31    GROUND:
DETAILS: 

01/28/1948
LOCATION: Diablo Mts., CA
CARRIER: Airline Transport Carriers   FLIGHT: 
AIRCRAFT: DC-3    REGISTRY: NC36480
ABOARD: 32    FATAL: 32    GROUND:
DETAILS: Inflight fire caused wing to separate.

10/26/1947
LOCATION: Near Nt. Hymettus, Greece
CARRIER: AB Aerotransport   FLIGHT: 
AIRCRAFT: DC-4-1009    REGISTRY: SE-BBG
ABOARD: 44    FATAL: 44    GROUND:
DETAILS: Crashed during storm.

10/24/1947
LOCATION: Bryce Canyon, UT
CARRIER: AMERICAN AIRLINES  FLIGHT: 511
AIRCRAFT: DC-4  REGISTRY: N37510
ABOARD: 52  FATAL: 52  GROUND: 0
DETAILS: Faulty design allowed vented fuel to be sucked into heating unit and exploded when cabin heater came on.

10/08/1947
LOCATION: El Paso, TX
CARRIER: American Airlines  FLIGHT: 311
AIRCRAFT: DC-4  REGISTRY: N37510
ABOARD: 56  FATAL: 0  GROUND: 0
DETAILS: Went into steep dive and pulled out 350 feet from the ground. Pilot engaged gust lock in flight.

06/13/1947
LOCATION: Leesburg, VA
CARRIER: Penn Central Airlines  FLIGHT: 511
AIRCRAFT: DC-4  REGISTRY: N37510
ABOARD: 50  FATAL: 50  GROUND: 0
DETAILS: Crashed into mountain.

05/30/1947
LOCATION: Fort Deposit, MD
CARRIER: Eastern Air Lines  FLIGHT: 605
AIRCRAFT: DC-4  REGISTRY: NC88814
ABOARD: 54  FATAL: 54  GROUND:
DETAILS:

05/29/1947
LOCATION: La Guardia Airport, Jamaica, NY
CARRIER: United Air Lines  FLIGHT:
AIRCRAFT: DC-4  REGISTRY: NC30046
ABOARD: 43  FATAL: 43  GROUND:
DETAILS: Overran runway during landing, crashed and caught fire.

02/15/1947
LOCATION: Near Bogota, Columbia
CARRIER: Avianca  FLIGHT:
AIRCRAFT: DC-4  REGISTRY: C-114
ABOARD: 53  FATAL: 53  GROUND:
DETAILS: Flew into mountain.

01/05/1947
LOCATION: Tsingtao, China
CARRIER: CNAC  FLIGHT:
AIRCRAFT: DC-4  REGISTRY:
ABOARD: 38  FATAL: 38  GROUND:
DETAILS: Flew into mountain.
12/25/1946
LOCATION: Shanghai, China
CARRIER: CNAC / Central Air Transport / CNAC
FLIGHT:
AIRCRAFT: Curtiss C-46 / DC-3 / DC-3  REGISTRY:
ABOARD: 68  FATAL: 49  GROUND: 1
DETAILS: Collision of three planes on the ground during poor weather conditions.

12/23/1946
LOCATION: Rio de Janerio, Brazil
CARRIER: FAMA  FLIGHT:
AIRCRAFT: DC-3  REGISTRY: LV-LIG
ABOARD: 21  FATAL: 21  GROUND:
DETAILS: Flew into mountain.

12/04/1946
LOCATION: Meshed, Iran
CARRIER: Aeroflot  FLIGHT:
AIRCRAFT: Lisunov Li-2  REGISTRY:
ABOARD: 24  FATAL: 24  GROUND:
DETAILS:

11/26/1946
LOCATION: San Jose, Costa Rica
CARRIER: LACSA  FLIGHT:
AIRCRAFT: DC-3  REGISTRY: RX-76
ABOARD: 22  FATAL: 22  GROUND: DETAILS:

11/14/1946
LOCATION: Amsterdam, Netherlands
CARRIER: KLM   FLIGHT:
AIRCRAFT: DC-3   REGISTRY: PH-TBW
ABOARD: 26  FATAL: 26  GROUND: DETAILS: Crashed during landing in inclement weather.

10/03/1946
LOCATION: Stephenville, Newfoundland
CARRIER: American Overseas Airlines   FLIGHT:
AIRCRAFT: Douglas C-54E   REGISTRY: NC90904
ABOARD: 39  FATAL: 39  GROUND: DETAILS: Crashed into high ground.

09/18/1946
LOCATION: Gander, Newfoundland
CARRIER: Sabena   FLIGHT:
AIRCRAFT: DC-4   REGISTRY:
ABOARD: 49  FATAL: 32  GROUND: DETAILS:

09/06/1946
LOCATION: Bathurst, Gambia  
CARRIER: Avro York  
FLIGHT:  
AIRCRAFT: British South American Airways  
REGISTRY: G-AHEW  
ABOARD: 24  
FATAL: 24  
GROUND:  
DETAILS: Crashed during takeoff.

09/05/1946  
LOCATION: Elko, NV  
CARRIER: Trans-Luxury Airlines  
FLIGHT:  
AIRCRAFT: DC-3  
REGISTRY: NC57850  
ABOARD: 22  
FATAL: 21  
GROUND:  
DETAILS:  

09/04/1946  
LOCATION: Le Bourget, France  
CARRIER: Air France  
FLIGHT:  
AIRCRAFT: DC-3  
REGISTRY: F-BAXD  
ABOARD: 27  
FATAL: 20  
GROUND: 1  
DETAILS:  

07/13/1946  
LOCATION: Tsinan, China  
CARRIER: Central Air Transport  
FLIGHT:  
AIRCRAFT: Curtiss C-46  
REGISTRY:  
ABOARD: 49  
FATAL: 13  
GROUND:  
DETAILS: Crashed during takeoff.
07/11/1946
LOCATION: Reading, PA
CARRIER: Trans World Airlines  FLIGHT: 
AIRCRAFT: Lockheed 049 Constellation  REGISTRY: 
NC86513
ABOARD: 6  FATAL: 5  GROUND: 
DETAILS: In-flight fire. Electrical short.

03/10/1946
LOCATION: Richmond, VA
CARRIER: Viking Air Transport  FLIGHT: 
AIRCRAFT: DC-3  REGISTRY: NC53218
ABOARD: 25  FATAL: 25  GROUND: 
DETAILS:

03/03/1946
LOCATION: San Diego, CA
CARRIER: American Airlines  FLIGHT: 
AIRCRAFT: DC-3  REGISTRY: NC21799
ABOARD: 25  FATAL: 25  GROUND: 
DETAILS: Flew into high ground.

01/31/1946
LOCATION: Mt. Elk, WY
CARRIER: United Air Lines   FLIGHT: 
AIRCRAFT: DC-3   REGISTRY: NC25675 
ABOARD:  FATAL:   GROUND: 
DETAILS: 

07/28/1945
LOCATION: New York, NY
CARRIER:   FLIGHT: 
AIRCRAFT: USAF B-25   REGISTRY: 
ABOARD:  FATAL: 14   GROUND: 
DETAILS: US Air Force plane crashed into the Empire State Building in fog.

04/14/1945
LOCATION: Morgantown, PA
CARRIER: Pennsylvania Central Airlines   FLIGHT: 
AIRCRAFT: DC-3   REGISTRY: NC25692 
ABOARD: 20   FATAL: 20   GROUND: 
DETAILS: Flew into mountain.

01/10/1945
LOCATION: Burbank, CA
CARRIER: American Airlines   FLIGHT: 
AIRCRAFT: DC-3   REGISTRY: NC25684 
ABOARD: 24   FATAL: 24   GROUND: 
DETAILS: 

11/04/1944
LOCATION: Hartford, CA
CARRIER: Trans Continental & Western Airways
FLIGHT:
AIRCRAFT: DC-3 REGISTRY: NC28310
ABOARD: 24 FATAL: 24 GROUND:
DETAILS: Separation of wing during severe turbulence.

08/23/1944
LOCATION: Freckelton, England
CARRIER: FLIGHT:
AIRCRAFT: USAF B-24 REGISTRY:
ABOARD: FATAL: 76 GROUND:
DETAILS: US Air Force Bomber crashed into a school.

02/24/1944
LOCATION: Memphis, TN
CARRIER: American Airlines FLIGHT:
AIRCRAFT: DC-3 REGISTRY: NC211767
ABOARD: 24 FATAL: 24 GROUND:
DETAILS: Crashed in a snow storm.

07/28/1943
LOCATION: Tramniel, KY
CARRIER: American Airlines FLIGHT:
AIRCRAFT: DC-3    REGISTRY: NC16014
ABOARD: 21    FATAL: 19    GROUND:
DETAILS: Crashed during a storm.

02/22/1943
LOCATION: Lisbon, Portugal
CARRIER: Pan American Airways    FLIGHT:
AIRCRAFT: B-314    REGISTRY: NC18603
ABOARD: 39    FATAL: 24    GROUND:
DETAILS: Crashed while attempting to land.

01/21/1943
LOCATION: Boonville, CA
CARRIER: Pan American Airways    FLIGHT:
AIRCRAFT: Martin M-130    REGISTRY: NC14715
ABOARD: 19    FATAL: 19    GROUND:
DETAILS: Flew into mountain.

10/23/1942
LOCATION: Palm Springs, CA
CARRIER: American Airlines / USAF    FLIGHT:
AIRCRAFT: DC-3 / B-34    REGISTRY: NC16017
ABOARD: 12    FATAL: 12    GROUND:
DETAILS: Midair collision.
02/05/1942
LOCATION: Salt Lake City, UT
CARRIER: United Air Lines  FLIGHT:
AIRCRAFT: Douglas DST  REGISTRY: NC18146
ABOARD: 17  FATAL: 17  GROUND:
DETAILS: Flew into mountain.

01/17/1942
LOCATION: Near Las Vegas, NV
CARRIER: Trans Contintental & Western Airways
FLIGHT:
AIRCRAFT: DC-3  REGISTRY: NC1946
ABOARD: 20  FATAL: 20  GROUND:
DETAILS: Flew into mountain. Actress Carole Lumbard killed.

10/30/1941
LOCATION: New London, Ont, Canada
CARRIER: American Airlines  FLIGHT:
AIRCRAFT: DC-3  REGISTRY: NC25663
ABOARD: 20  FATAL: 20  GROUND:
DETAILS:

08/31/1940
LOCATION: Near Lovettsville, VA
CARRIER: Pennsylvania Centeral Airlines  FLIGHT:
AIRCRAFT: DC-3  REGISTRY: NC21789
ABOARD: 23  FATAL: 23  GROUND:
DETAILS: Crashed during a storm.

11/26/1938
LOCATION: Bathurst, Gambia
CARRIER: Lufthansa  FLIGHT:
AIRCRAFT: Junkers JU90V2  REGISTRY: D-AIVI
ABOARD: 16  FATAL: 16  GROUND:
DETAILS: Crashed during takeoff.

08/13/1938
LOCATION: Kehl, Germany
CARRIER:  FLIGHT:
AIRCRAFT:  REGISTRY:
ABOARD:  FATAL: 16  GROUND:
DETAILS: Crashed into mountain.

06/30/1938
LOCATION: South Pacific
CARRIER: Pan American World Airways  FLIGHT:
AIRCRAFT: Martin Clipper  REGISTRY:
ABOARD:  FATAL: 15  GROUND:
DETAILS: Lost at sea.

05/24/1938
LOCATION: Cleveland, OH
CARRIER: United Air Lines   FLIGHT: 
AIRCRAFT: Douglas DST   REGISTRY: NC18108 
ABOARD: 10   FATAL: 10   GROUND: 
DETAILS: Crashed after an engine fire.

10/17/1937
LOCATION: Haydens Peak, WY
CARRIER: United Air Lines   FLIGHT: 
AIRCRAFT: DC-3   REGISTRY: NC16074 
ABOARD: 19   FATAL: 19   GROUND: 
DETAILS: Crashed in inclement weather.

07/28/1937
LOCATION: Hal, Belgium
CARRIER: KLM   FLIGHT: 
AIRCRAFT: DC-2-115L   REGISTRY: PH-ALF 
ABOARD: 15   FATAL: 15   GROUND: 
DETAILS: Fire inflight

07/02/1937
LOCATION: Phoenix Islands near Hawaii
CARRIER: Private   FLIGHT: 
AIRCRAFT:   REGISTRY: 
ABOARD: 2   FATAL: 2   GROUND: 
DETAILS: Disappeared while en route from Lae to Howland Island. Amelia
Earhart killed.

06/05/1937
LOCATION: Lakehurst, NJ
CARRIER: Deutsche Zeppelin Reederet
FLIGHT:
AIRCRAFT: Zeppelin LZ-129
REGISTRY: D-LZ-219
ABOARD: 35  FATAL: 97  GROUND:
DETAILS: Caught fire during mooring.

03/25/1937
LOCATION: Clifton, PA
CARRIER: Trans Continental & Western Airways
FLIGHT:
AIRCRAFT: DC-2-112
REGISTRY: NC13730
ABOARD: 13  FATAL: 13  GROUND:
DETAILS: Icing

02/09/1937
LOCATION: San Francisco, CA
CARRIER: United Air Lines
FLIGHT:
AIRCRAFT: DC-3
REGISTRY: NC16073
ABOARD: 11  FATAL: 11  GROUND:
DETAILS: Crashed into San Francisco Bay.

12/27/1936
LOCATION: Newhall, CA  
CARRIER: United Air Lines  
FLIGHT:  
AIRCRAFT: B-247D  
REGISTRY: NC13355  
ABOARD: 12  
FATAL: 12  
GROUND:  
DETAILS: Crashed on approach.

12/19/1936  
LOCATION: Fort Jarvis, NY  
CARRIER: Eastern Air Lines  
FLIGHT:  
AIRCRAFT: DC-2-112  
REGISTRY: NC13732  
ABOARD: 14  
FATAL: 14  
GROUND:  
DETAILS: Crashed due to icing.

12/15/1936  
LOCATION: Lone Peak, UT  
CARRIER: Western Air Express  
FLIGHT:  
AIRCRAFT: B-247  
REGISTRY: NC13370  
ABOARD: 10  
FATAL: 10  
GROUND:  
DETAILS: Crashed into mountain.

12/09/1936  
LOCATION: Croydon, England  
CARRIER: KLM  
FLIGHT:  
AIRCRAFT: DC-2-115E  
REGISTRY: PH-AKL  
ABOARD: 16  
FATAL: 14  
GROUND:  
DETAILS: Crashed into houses during heavy fog.
04/07/1936
LOCATION: Uniontown, PA
CARRIER: Trans Continental & Western Air   FLIGHT:
AIRCRAFT: DC-2-112   REGISTRY: NC13721
ABOARD: 15  FATAL: 13  GROUND:
DETAILS:

03/26/1936
LOCATION: Amemeca, Mexico
CARRIER: Mecicana   FLIGHT:
AIRCRAFT: Ford 5-AT-B Tri Motor   REGISTRY: X-ABCO
ABOARD: 14  FATAL: 14  GROUND:
DETAILS: Caught fire and crashed.

01/14/1936
LOCATION: Goodwin, AR
CARRIER: DC-2-120   FLIGHT:
AIRCRAFT: American Airlines   REGISTRY: NC14274
ABOARD: 17  FATAL: 17  GROUND:
DETAILS:

12/31/1935
LOCATION: Alexandria, Egypt
CARRIER: Imperial Airways   FLIGHT:
AIRCRAFT: Short Calcutta    REGISTRY: G-AASJ
ABOARD: 13    FATAL: 12    GROUND:
DETAILS: Ran out of fuel crashed.

11/09/1935
LOCATION: Near Juticalpa, Honduras
CARRIER: TACA    FLIGHT:
AIRCRAFT: Ford Tri Motor    REGISTRY:
ABOARD: 14    FATAL: 14    GROUND:
DETAILS:

08/15/1935
LOCATION: Walakpi, near Point Barrow, Alaska
CARRIER: Private    FLIGHT:
AIRCRAFT:    REGISTRY: NR12283
ABOARD: 2    FATAL: 2    GROUND:
DETAILS: Crashed into a lagoon after taking off in inclement weather. Wiley Post and Will Rogers killed.

05/18/1935
LOCATION: Near Moscow, USSR
CARRIER:    FLIGHT:
AIRCRAFT: Tupolev ANT-20    REGISTRY:
ABOARD: 49    FATAL: 49    GROUND: 2
DETAILS: Midair collision.
10/19/1934
LOCATION: Bass Strait, Australia
CARRIER: Holyman Airways
FLIGHT:
AIRCRAFT: de Havilland DH-86
REGISTRY: VH-URN
ABOARD: 11
FATAL: 11
GROUND:
DETAILS:

06/24/1934
LOCATION: Medellin, Columbia
CARRIER: Servicio Aereo Columbiano
FLIGHT:
AIRCRAFT: Ford Tri Motor / Ford Tri Motor
REGISTRY: C-31 / F-31
ABOARD: 17
FATAL: 17
GROUND:
DETAILS: Midair collision. Actor Carlos Gardel killed.

01/14/1934
LOCATION: Corbigny, France
CARRIER: Air France
FLIGHT:
AIRCRAFT: Dewoitine D-332
REGISTRY: F-AMMY
ABOARD: 10
FATAL: 10
GROUND:
DETAILS: Cashed in bad weather. Icing.

11/21/1933
LOCATION: Near Kharkov, Ukraine, USSR
CARRIER: Kalimin
FLIGHT:

04/23/1933
LOCATION: Mt. Terrione, Italy
CARRIER: Air Orient  FLIGHT:
AIRCRAFT: Cams 33  REGISTRY: F-ALCE
ABoard: 6  FATAL: 6  GROUND: DETAILS: Crashed into mountain.

03/28/1933
LOCATION: Near Dixmude, Belgium
CARRIER: Imperial Airways  FLIGHT:
AIRCRAFT: Armstrong Whitworth Argosy II
REGISTRY: G-AACI

03/25/1933
LOCATION: Hayward, CA
CARRIER: Carney Speed Lines  FLIGHT:
AIRCRAFT: Lockheed Orion 9  REGISTRY: NC12226
ABoard: 3  FATAL: 3  GROUND: 11 DETAILS:
07/16/1932
LOCATION: Vitacura, Chili
CARRIER: Panagra  FLIGHT:
AIRCRAFT: Ford 5-AT-C Tri Motor  REGISTRY: NC403H
ABOARD: 9  FATAL: 9  GROUND:
DETAILS: Crashed into mountain. Found 20 months later.

11/05/1931
LOCATION: Camden, NJ
CARRIER: NY, Phil., Washington AW  FLIGHT:
AIRCRAFT: Lockheed Orion 9  REGISTRY: NC12221
ABOARD: 5  FATAL: 5  GROUND:
DETAILS:

08/09/1931
LOCATION: Cincinatti, OH
CARRIER: American Airways  FLIGHT:
AIRCRAFT: Ford 5-AT-C Tri Motor  REGISTRY: NC9662
ABOARD: 6  FATAL: 6  GROUND:
DETAILS: Crashed on takeoff. Engine failure.

03/31/1931
LOCATION: Bazaar, Kansas
CARRIER: Trans Continental & Western Air  FLIGHT:
AIRCRAFT: Fokker F10A   REGISTRY: NC999E
ABOARD: 9   FATAL: 9   GROUND:

08/22/1930
LOCATION: Iglau, Czechoslovakia
CARRIER: Ceskoslovenske, Aerolines   FLIGHT:
AIRCRAFT: Ford 5-AT-B Tri Motor   REGISTRY: OK-FOR
ABOARD: 12   FATAL: 12   GROUND:
DETAILS: Crashed in storm.

01/19/1930
LOCATION: Oceanside, CA
CARRIER: Maddux, Airlines   FLIGHT:
AIRCRAFT: Ford 5-AT-C Tri Motor   REGISTRY: NC989
ABOARD: 16   FATAL: 16   GROUND:
DETAILS: Crashed in bad weather.

11/06/1929
LOCATION: Surrey, England
CARRIER: Luftansa   FLIGHT:
AIRCRAFT: Junkers G-24   REGISTRY: D903
ABOARD: 8   FATAL: 7   GROUND:
DETAILS:
09/03/1929
LOCATION: Mt. Taylor, NM
CARRIER: Trans Continental Air Transport  FLIGHT:
AIRCRAFT: Ford 5-AT-B Tri Motor  REGISTRY: NC9649
ABOARD: 8  FATAL: 8  GROUND:
DETAILS: Crashed in thunderstorm.

06/24/1929
LOCATION: St. Paul, MN
CARRIER: Northwest Airlines  FLIGHT:
AIRCRAFT: Ford 5-AT-B Tri Motor  REGISTRY: NC7416
ABOARD: 8  FATAL: 1  GROUND:
DETAILS: Triple engine failure.

06/17/1929
LOCATION: English Channel
CARRIER: Imperial Airways  FLIGHT:
AIRCRAFT: Handley Page W-10  REGISTRY: G-EBMT
ABOARD: 13  FATAL: 4  GROUND:
DETAILS: Engine failure.

04/21/1929
LOCATION: San Diego, CA
CARRIER: Maddux Airlines / USAF    FLIGHT:    
AIRCRAFT: Ford 5-AT-B Tri Motor / B-PW-9D-28-37
REGISTRY: NC9636    
ABOARD: 6    FATAL: 6    GROUND:    
DETAILS: Midair collision.

03/17/1929    
LOCATION: Newark, New Jersey    
CARRIER: Colonial Western Airlines    FLIGHT:    
AIRCRAFT: Ford 4-AT-B Tri Motor    REGISTRY:    
NC7683    
ABOARD: 15    FATAL: 14    GROUND:    
DETAILS: Double engine failure.

12/04/1928    
LOCATION: Rio de Janero    
CARRIER: Junkers G24    FLIGHT:    
AIRCRAFT: Junkers G24    REGISTRY:    
ABOARD:    FATAL: 6    GROUND:    
DETAILS: Wingtip struck water. Aircraft crashed into Rio de Janero Bay.

08/25/1928    
LOCATION: Near Port Townsend, BC, Canada    
CARRIER: British Columbia Airways    FLIGHT:    
AIRCRAFT: Ford 4-AT-B Tri Motor    REGISTRY: G-CATX
ABOARD: 6  FATAL: 6  GROUND:
DETAILS: Crashed in fog.

01/12/1928
LOCATION: Spur, Texas
CARRIER: Sunbean Air Transport Co.  FLIGHT:
AIRCRAFT: Ford 4-AT-B Tri Motor  REGISTRY: NC7862
ABOARD: 5  FATAL: 5  GROUND:
DETAILS:

09/17/1927
LOCATION: Hadley, NJ
CARRIER: Reynolds Airways  FLIGHT:
AIRCRAFT: Fokker F-VII  REGISTRY: NC776
ABOARD: 12  FATAL: 7  GROUND:
DETAILS: Engine failure.

07/27/1927
LOCATION: Amonburg, Germany
CARRIER: Luftansa  FLIGHT:
AIRCRAFT: Junkers F-13  REGISTRY: D-206
ABOARD: 5  FATAL: 5  GROUND:
DETAILS:
03/24/1927
LOCATION: Tambo, Qld, Australia
CARRIER: de Havilland DH-9C  FLIGHT:
AIRCRAFT: Qantas  REGISTRY: G-AUED
ABOARD: 3  FATAL: 3  GROUND:
DETAILS:

08/18/1926
LOCATION: Hurst, Kent, England
CARRIER: Air Union  FLIGHT:
AIRCRAFT: Bleriot 155  REGISTRY: F-AIEB
ABOARD: 4  FATAL: 4  GROUND:
DETAILS: Crashed in bad weather. Engine failure.

07/03/1926
LOCATION: Czechoslovacia
CARRIER: CIDNA  FLIGHT:
AIRCRAFT: Caudron C-61  REGISTRY: F-AFBT
ABOARD: 7  FATAL: 7  GROUND:
DETAILS:

03/22/1925
LOCATION: Near Tiflives, Georgia, USSR
CARRIER: Zakavia  FLIGHT:
AIRCRAFT: Junkers F-13  REGISTRY: R-RECA
ABOARD: 5  FATAL: 5  GROUND:
DETAILS:
12/24/1924
LOCATION: Surrey, England
CARRIER: Imperial Airways   FLIGHT:
AIRCRAFT: de Havilland DH-34B   REGISTRY: G-EBBX
ABOARD: 8   FATAL: 8   GROUND:
DETAILS:

06/08/1924
LOCATION: Barranquilla, Columbia
CARRIER: SCADTA   FLIGHT:
AIRCRAFT: Junkers F-13   REGISTRY: A16
ABOARD:   FATAL: 3   GROUND:
DETAILS:

09/14/1923
LOCATION: Berks, England
CARRIER: Daimier Hire   FLIGHT:
AIRCRAFT: de Havilland DH-34   REGISTRY: G-EBBS
ABOARD: 6   FATAL: 6   GROUND:
DETAILS:

04/07/1922
LOCATION: Grandvilliers, France
CARRIER: Daimier Hire / Grands Express Aeriens
FLIGHT:
   AIRCRAFT: de Havilland DH-18/Faman F-60 Goliath
REGISTRY: G-EAOW/FGEAD
ABOARD: 7  FATAL: 7  GROUND: DETAILS: First commercial midair collision.

12/14/1920
LOCATION: London, England
CARRIER: AT & amp  FLIGHT:
AIRCRAFT: Handley  REGISTRY:

10/05/1920
LOCATION: Valencia, Spain
CARRIER: Latecoere Airlines  FLIGHT:
AIRCRAFT: Breguet 14  REGISTRY:
ABOARD:  FATAL:  GROUND:
DETAILS:

09/17/1908
LOCATION: Fort Myer, VA
CARRIER:  FLIGHT:
AIRCRAFT: Wright Flyer III  REGISTRY:
ABOARD: 2  FATAL: 1  GROUND: DETAILS: US Army flyer flown by Orville Wright crashed
killing Lt. Thomas Selfridge. Propeller separated in flight.

From: Isaac Slaughter <islaught@168.150.250.1>
Date: March 11, 1997 11:56:47 AM PST
To: barry@corazon.com
Subject: TWA

Hey Barry is there any more info. you can send me about fight 800?

From: barry@corazon.com
Date: March 11, 1997 11:08:29 AM PST
To: islaught@168.150.250.1
Subject: on site www.corazon.com

Hey Barry is there any more info. you can send me about fight 800?
It's a lot and it's too big for email and it's all on web site...www.corazon.com
John Barry Smith.

From: harwell <harwell@prodigy.net>
Date: March 11, 1997 10:01:28 PM PST
Interesting marshalling of data. Reminded of diagnostic keys in
ident books. Tables are powerful tools if assembled rigorously,
as these appear to be. The truth may be out there.

Thanks, John Barry Smith

Hello Major Smith:

Having had over a decade in the design and analysis of
aircraft/aerospace manufacture, you present an interesting
supposition.
I do, however, have some questions, the answers to which I could not find in your compelling pages. Mind you, I am not disbelieving. Just curious and open to debate.

You talk about money. While disclaiming it as a motive for yourself, you infer it may be for Boeing & the powers that be. All fine and well, but having taken part in NTSB investigations in the past, Boeing's exposure (financial & market) raises EXPONENTIALLY if it ever got out that the cause is as you suspect. Simply put, as a former manufacturer, there is NO ECONOMIC INCENTIVE to cover up such a fault. Manufacturers learned LONG ago it is better to fess up and fix than to hide and cover. And, of course, the most compelling exposure/incentive a manufacturer has to find & fix a problem is a crash. The exposure placed on a manufacturer, even without serious media involvement, is incredible. I will stake stock on it. Boeing knows it is always better off finding and fixing the problem than to deny and cover. The truth eventually comes out as to cause, and when it does, so the cover up. Then the problems REALLY begin.

Aircraft have pressurization valves in the rear compartmentn
(behind bullk cargo) that regulate internally pressure between 8.4 and 9.2 psig.
Assuming a problem with these valves and an internal over pressure of 20 psig (and yes, the people would feel quite uncomfortable at that), the resulting pressure on a 8 by 9 door is approx 206,000. The diagram show 20 attachments points on the door. this equates to about 10,000 pounds force on each. Very easily down without substantial cost or weight.
Indeed, I have a product I currently make that safely and easily carries over 40,000 of force on 1 0.430" steel bolt. The force it carries, by the way, is a violent impact force, not a steady constant as that of the door. Guarantee the latches aren't letting go.
What about the electric controller. Maybe, but here again, easily fixed.

Secondarily, and without going back over point by point, I have to high ranking British Nationals on my Board of Directors. Let me tell you, citizens of the Crown do not always speak the King's English. They are just as prone to language failures as we ugly americans.
In my review of the 103 report (and I thank you for providing it), I don't share your opinion of how GLARING the inadequacies are.
(Although
I am amazed the forawrd door isn't discussed.)

A web site to check is the web site of a consulting firm called
Failure
Analysis Associates, http://www.fail.com  It is AMAZING how the mach
stem issues presented in the AAIB PA103 report mirror the issues in
FaAA's anaylsis of the Ok City bombing.

Lastly, shotgun charges, fireworks, nor explosive decompressions result
the pitting of a fast burn/moving chemical explosive.

My question therefor:
You dismiss the bomb as secondary to the door. Might it not be otherwise? I mean, maybe the bomb opened the door? What are your
thoughts?

I look forward to hearing back.

Bob Muller

---

From: John Barry Smith <barry@corazon.com>
Date: March 12, 1997 12:48:55 PM PST
To: fenrir@ix.netcom.com
Subject: boors, doors, floors

Manufacturers learned LONG ago it is better to
fess up and fix than to hide and cover.
I agree and say all along no coverup no conspiracy no plot and that goes for Boeing TWA Libya and Sikhs, no conspiracy. No one knows cargo door and is hiding that fact. No one except me seriously believes the door has caused four accidents. There is however an incentive not to stir up trouble, let sleeping dogs lie, etc. Boeing right now should be doing computer simulation on supercomputers to find out what variables could produce the events proven by cvr, fdr, fod, wreckage plot. They are not actively trying to find out what happened. I have been in touch with the Boeing safety people. They say thanks for the interest and good bye. They do not act, nor does the FBI or NTSB as investigators, they act as prosecutors, only looking for their evidence and discounting others, FBI bomb, wackos missile, NTSB center tank explosion, me cargo door who is doing the wide ranging investigation? No one. All roads lead to the NTSB and there is no backup if they get it wrong, which of course has happened and can happen again.
Boeing's exposure (financial & market) raises EXPONENTIALLY if it ever got out
that the cause is as you suspect
Well, it's everyone's fault from the passenger wanting his bags loaded quickly and accepts large hole cut in pressurized vessel to rushed baggage handler at night closing door.

Guarantee the latches aren't letting go.
That means the door can't open if latches closed. I agree. The problem is cam latches are unlocking past the lock sectors and door then pops open. Why cam latches unlatch is unknown and is the real mystery.
opinion of how GLARING the inadequacies are. (Although I am amazed the forawrd door isn't discussed.)
Well, glaring means obvious and it took me many readings to
detect the omissions and contradictions and fudging with artist's
impression drawings to see the report was directed to support
bomb, period. The 103 people copied 182 because they are so
similar and the Indians called 182 a bomb, wrongly, and the
British copied the Indians and both got it wrong. They are
similar, cargo door popped.
It is AMAZING how the mach
stem issues presented in the AAIB PA103 report mirror the issues
in
FaAA's analysis of the Ok City bombing.
Interesting. Mach stem from truckload of bomb stuff OK, Mach
stem from imaginary tape recorder filled with explosive, no.
Lastly, shotgun charges, fireworks, nor explosive decompressions
result
the pitting of a fast burn/moving chemical explosive.
There was a blast in 103 but after door, just like there was a
fireball for 800 but after door.
My question therefor:
You dismiss the bomb as secondary to the door. Might it not be
otherwise? I mean, maybe the bomb opened the door? What are
your thoughts?
A very important point, the door opened and it could have been a
bomb for 103, and a bomb could have opened door of 182, and a
bomb was thought to have blown door of 811, and a center tank
or bomb could have blown door of 800.
The forward doors popped on four 747s and left incredibly
similar evidence which means a one common cause. What
caused the door to pop? Could have been bomb yes, and I have
twelve other alternatives to consider for ruling out or ruling in.
The exact sequence of nose coming off after door went is tough
too, I suggest 300 knots crumpled nose in crease of door/skin
hole. 103 not bomb is easy after residue shown to be benign for dog sniffing tests and Thurman discredited as explosive expert, and there is now reasonable alternative explanation for plane coming apart. The preponderance of evidence is door went, why door opened is subject for further investigation.

Yes, could have been a bomb that popped door, but a what big one to overcome the latches which are >Guarantee the latches aren't letting go.> tough.

Thanks for your thoughts,
John Barry Smith

From: XXX
Date: March 13, 1997 12:23:10 PM PST
To: <barry@corazon.com>
Subject: TWA Flight 800

Sir, I think you are nuts to assume that a cargo door came off which you say caused

From: jp <jpv@on-it.net>
Date: March 13, 1997 1:09:59 PM PST
Ahoy Barry;
I think you are on to something here!!
Keep up the investigation, I'll check in daily for updates and clue in my associates to your website,
regards,
chuckellery@hotmail.com

Barry:
I think you kinda forgot about the 60 or so witnesses and the pressure
to forget what they saw. Good try though......... now actual pictures
that is something to try and get past

Some time ago, I reviewed your site. Although I know nothing about
aircraft facts involved the detail and logic of your site make an impressive argument.

Therefore, I keep expecting to read some discussion of your theory in the press, if only to explain why your theory is not true. I have never seen any such discussion.

Now there is a debate raging over the Salinger story and Sanders "independent" investigation. I subscribe to the Press-Enterprise, so I have seen their full "exclusive story" on this.

The FBI and NTSB have taken a strong position there was no missle. If there was a missle, it could perhaps have caused the door to come off, I suppose, which would result in both the missle theory and your theory being correct.

If there were no missle, than the debris trail is absolutely consistent with your theory on the door failure. So I fail to understand why competent journalists would not at least mention your competing theory.

I checked in to your site to see if you had any comment on these recent reports, but I was not able to locate it if you have made one.

Keep up the good work.
From: John Barry Smith <barry@corazon.com>
Date: March 14, 1997 7:38:00 AM PST
To: basd@pe.net
Subject: radar and streak are door

I have never seen
any such discussion.
I'm trying, you can help.
I subscribe to the Press-Enterprise,
They will listen to a subscriber. Tell them there is an alternate explanation for radar tape of target and include the below which is on web site under TWA 800.
There is a match between the primary radar images of Pan Am 103 and TWA 800 just before the total catastrophic destruction of both. Images attached as .jpg file. One image is the TWA 800 image showing primary radar blip picked up several times for many seconds behind the airliners. The other image is of Pan Am 103 drawing of the final radar plot in a sequence. The third image is a scan of text from the Pan Am 103 UK report about that greed diamond radar blip.
  At the same time before destruction, a radar blip was picked up by two ground radars for one sweep and displayed on the drawing as a green diamond. The radar plots of 103 and 800 match on time and size of reflected primary radar energy on a target just behind those airliners which shortly came apart in the air.
  It is not a missile.
  The blip is the forward cargo door spinning away probably with fuselage skin attached, just like UAL 811 which tracked that radar blip to the ocean where the door was retrieved. The UAL 811 radar images will match the TWA 800 and Pan Am 103
images. Air India was too far away for a primary radar image when it destructed in mid-air.

The streak is the sun's reflected energy on the metal door and skin as it peels erratically away in the sunset and observed by viewers looking east up high.

The forward cargo door was seen by primary radar and human eyes as it departed TWA 800. It left first of all the pieces to go, and landed closest to the takeoff point. The door has failed before. The effect of departing caused an explosive decompression which was recorded on the cockpit voice recorder as a sudden loud sound just before an abrupt power cut occurred when the nose separated from the rest of the body by the force of the 300 knot slipstream crumpling the nose into the hole caused crease.

I say again: There is a match between the primary radar images of Pan Am 103 and TWA 800 just before the total catastrophic destruction of both. The culprit's fingerprint matched at two crimes.

I urge you, investigate and rule in or rule out the inadvertent opening of the forward cargo door in flight as the cause of the crash of TWA 800.

John Barry Smith

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**From:** John Barry Smith <barry@corazon.com>  
**Date:** March 14, 1997 8:16:05 AM PST  
**To:** hal@rain.org  
**Subject:** nice analysis

Nice analysis for 800 blip. I say cargo door spun off and your analysis fits. I love the stationery part, even cheap missiles don't stand still. John Barry Smith
Hello,

I have been checking your site occasionally. I always thought that 103 was due to a cargo door opening from the first pictures that were pub in the paper. I always have wondered how they could say the chip remains that were found belonged to a bomb trigger device. Do you know the numbers on the supposed chip?

Please leave a message of do a file to say what you updated. There is so much info here I cannot tell what is new. If you would do a link to a flie that listed the lastest changes and the dates it would make life wonderfull for those interested in your theory (which I fully support).

What do you think of the Salengier thing? Could he be referring to the door in the radar images?

JLM  jmag@preferred.com
I update pages as the new information comes in. I should put a 'new' page with new stuff. It's like a book or newspaper. A link to the new stuff is a good idea, let me work on it. The Salinger thing is good for me because the radar image is the door. The missile guys will have trouble explaining the radar image that was stationary over many seconds. I always have wondered how they could say the chip remains that were found belonged to a bomb trigger device. It turns out the guy who said that and discovered it has recently been removed from his position as Chief of the FBI labs for mismanagement, Tom Thurman, so his discovery of timer chip is discredited. Thanks for interest. John Barry Smith

My personal theory...

TWA 800 was taken out by a meteor or piece of re-entering space junk.

Statistically it's going to happen sometime.

This scenerio could easily seem like a missle to the naked eye!
Look into it...

--

JLH IV (The Sump-Master)

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From: Olibird@aol.com
Date: March 14, 1997 10:51:25 PM PST
To: barry@corazon.com
Subject: Twa flight 800

Hi my name is Neil. I was just at you website on your theory about the cause of Flight 800 and other crashes in history being caused by a faulty cargo door. I was just wondering if you still believe that this was the cause of the downing of flight 800, even after the voice and data recorder boxes were found. Also what about the missle theory envolving the government? I was just wondering what your opinion would be, being that you have many creditials in this sort of field.

Sincerely,
Neil

---

From: John Barry Smith <barry@corazon.com>
Date: March 15, 1997 8:00:17 AM PST
To: Olibird@aol.com
Subject: Answers on web site

I was just wondering if you still believe that this was the cause of the downing of flight 800, even after the voice and data recorder boxes were found.
Yes.
Also what about the missle theory envolving the government?
No missile, good story, no evidence.
So, yes, still cargo door after all these years. Web site says it all.
Thanks for email.
Sincerely,
John Barry Smith

From: "Stephen M. Lane"
<"lane@planeteer.com"@planeteer.com>
Date: March 15, 1997 9:40:28 AM PST
To: barry@corazon.com
Cc: lane@planeteer.com
Subject: TWA 800
Reply-To: "lane@planeteer.com"@planeteer.com

Hello Mr. Smith. I was reading your posting dated Dec. 4 1997. Now that few months have past do you still feel that TWA 800 was brought down by the opening of a cargo door? The failure of aircraft in flight because of cargo doors is well documented up to and including radar images of the door actually separating from the aircraft. I have been following this accident since it happened. Hopefully what ever
the
cause, your government will let the people
know.
regards Steve

From: "Stephen M. Lane"
<"lane@planeteer.com"@planeteer.com>
Date: March 15, 1997 11:35:39 AM PST
To: barry@corazon.com
Cc: lane@planeteer
Subject: Re: TWA 800
Reply-To: "lane@planeteer.com"@planeteer.com

Stephen M. Lane wrote:

Hello Mr. Smith. I was reading your posting dated Dec. 4 1997. Now
that few months have past do you still feel that TWA 800 was brought
down by the opening of a cargo door? The failure of aircraft in flight
because of cargo doors is well documented up to and including radar
images of the door actually separating from the aircraft. I have been
following this accident since it happened. Hopefully what ever the
cause, your government will let the people know.
regards Steve
Now that few months have past do you still feel that TWA 800 was brought down by the opening of a cargo door? Yes, even more so since the recently released radar tapes show the door on radar as it falls away. Door and streak explained by cargo door departing airplane. The failure of aircraft in flight because of cargo doors is well documented up to and including radar images of the door actually separating from the aircraft. Yes, so true and not known by many. Thanks for interest, John Barry Smith

TWA Flight 800 Eyewitness streak explained

TWA 800 was a Boeing 747 flying at 13700 feet at 8:35 PM on July 17th. It was headed northeast. The sun was down to the observers on the ground yet the plane was in bright sunlight high up. The fuselage would appear to be a light object as the sun from the west struck the almost parallel fuselage and reflected down to observers on the ground facing east. At a certain relationship of sun, airplane, and observer, the sun reflects at such an angle that a bright light will appear on the fuselage and last for a few seconds. This bright orange flash is the start of the streak. The light source is the sun. When the cargo door went up, out, and away, taking large fuselage skin with it, the sun reflected off this metal object and bounced down to observers below. As
the door and skin decelerated from 300 knots to zero knots horizontally and from zero knots vertically to about two hundred knots, it appeared as a streak to those at the proper angle and would appear as a parabola as it fell to the sea. The direction of the streak could appear to be any direction based upon the angle observed and the relative activity of the rest of the destructing aircraft. In addition, the sudden unexpected appearance and duration of the streak of just a few seconds at most would make it difficult to judge direction.

The radar anomaly of blips at TWA 800 is the primary radar returns of the door and skin spinning away erratically as it falls to the sea.

Comment: It all fits. The forward cargo door opened inadvertently on TWA 800 and tore up and away and down, observed by human eyes and radar eyes as it fell to the sea. I videotaped the bright flash on the fuselage of Boeing 747s as they fly overhead my house. I am under a major jet airway from San Francisco to Los Angeles and see approximately 40 Boeing 747s fly overhead daily. The video tape clearly shows the sunset, the airplane, the start of the flash, the bright light, and the fading light as the plane flies overhead and changes the viewing angle.

If the door were to depart during the short few seconds duration of the reflective sunlight, I would see a streak as the door and skin peeled away and fell to the surface.

Boeing747historycontents.html
DC-10crashcontents.html
103reportcontents.html
811reportcontentpage.html
AirIndiareportcontents.html
800newsreports.html
800newsreports1.html
800newsreports2.html
Could it be true that the U.S. NAVY shot down a civilion airliner (TWA 800) by mistake? And in fact if this turns out to be fact, could the NAVY do so without knowing? The number of witnesses describing a streak of light rising from sea level to ARCH to Flight TWA 800's position is hard to ignore.

if I may ask... Who are you... and what are your credentials??
From: John Barry Smith <barry@corazon.com>
Date: March 17, 1997 7:23:44 AM PST
To: Hardtoggler@aol.com
Subject: Does it made a difference?

if I may ask...Who are you...and what are your credentials??
Does it make a difference? The evidence speaks for itself. My ultimate credential is I am a survivor of a night jet fatal fiery airplane crash. I've been there.
More personal information scattered around site when relevant. For instance, when I say the door is on radar for 800, that comes from fixing, operating, and maintaining radars. I've spent thousands of hours looking at scopes on three airplanes, P2V, P3 and RA 5C.
Thanks for interest, John Barry Smith

From: Library <"2street"@pathway.com>
Date: March 17, 1997 6:47:12 AM PST
To: barry@corazon.com
Subject: really?

Do you seriously believe that a missile did not have cause the damage??????

From: John Barry Smith <barry@corazon.com>
Date: March 17, 1997 8:20:17 AM PST
To: 2street@pathway.com
Subject: missile no

Do you seriously believe that a missile did not have cause the damage??????
Yes. John Barry Smith

From: Hardtogger@aol.com  
Date: March 17, 1997 8:42:52 AM PST  
To: barry@corazon.com  
Subject: Re: Does it made a difference?

yes it does make a differance to me...see I am writing an essay for my college course...and i am looking for credibable sources...not just biased positions. If you are a credible person..I might be able to weave some of what you say into my assignment..

From: John Barry Smith <barry@corazon.com>  
Date: March 17, 1997 12:31:04 PM PST  
To: Hardtogger@aol.com  
Subject: credible

If you are a credible person..I might be able to weave some of what you say into my assignment..
Well, problem, I'm incredible. That leaves out the cargo door explanation.  
"Even a blind squirrel finds a nut."
John Barry Smith

From: Hardtogger@aol.com  
Date: March 18, 1997 5:43:31 AM PST  
To: barry@corazon.com  
Subject: Re: credible
At 08:44 PM 3/18/97 -0800, you wrote:
N=1, ah so, not true. N=2

Meaning unchanged.

John Barry Smith

Why doesn't all the air,
Just float off into space?

Is that a serious question?

Anyway, nice to finally chat with you. So tell me about your ideas regarding mechanical failures (I'm open-minded, really, just give me a chance).

Email: barry@corazon.com
Page: http://www.corazon.com/

Thanks for the email,
VG E R
Subject: Serious question.

N=1, ah so, not true. N=2
Meaning unchanged.
Meaning unchanged even though facts did...hmmmm...and my source tells me N=2+X
Why doesn't all the air, Just float off into space?
Is that a serious question?
Does it make a difference? You will answer if serious and not answer if trivial?
Well, I started out serious, then joking, then serious, then joking, back to serious when you asked. Of course I know the answer why the air stays here, everybody knows that, the reason is...the reason is, ah, it's ah... well, the air stays because, ah you know, like it ah, well...
I give up. Wait! Don't tell me, let me guess...
Gravity. Gravity holds the air molecules close to earth because air has weight. Ah, the answer, I hope. Omitting of course no one knows what the hell gravity is.
The ozone layer just takes the good air that hugs the earth because of gravity and stops it from turning into something else not good. No ozone, yes bad air.
Next question to soon go on my signature will be Why is the Sky Blue?
And gravity may be wrong. Why else would air not leak out to low pressure area. Nature abhors a vacuum.
So,
Anyway, nice to finally chat with you. So tell me about your ideas regarding mechanical failures (I'm open-minded, really, just give me a chance).
Well, let's do this. I say a piece of real evidence that we both
agree is a piece of real evidence. Then we draw conclusions and make explanation for that piece of real evidence based from missile point of view and from cargo door point of view. Then we say which is more likely.

Then you say a piece of real evidence we both agree is a piece of real evidence. Then we do the same, two explanations for one piece of evidence and say which is more likely.

At the end we should be able to say based on the evidence we agree which is more likely.

I would open with streak, then radar blip, then CVR noise, then FDR abrupt stop, missing bodies, debris pattern, FOD, and many others we can think of and agree are real evidence. If one disagrees then that evidence is not considered for the two points of view.

I'm ready when you are. Should you choose to accept the mission. I'm open minded...HA! My mind is as set in concrete for cargo door as can be. I am right and the rest of the world is wrong.

I could be wrong about that.

So, I look forward to discourse about the cause of an airplane crash currently under investigation. We both have web sites and I will review yours for ammo for the missile explanation.

Nice to chat, could be good, John Barry Smith

From: Jeff Root <jeffroot@macon.mindspring.com>
Date: March 19, 1997 10:49:41 PM PST
To: John Barry Smith <barry@corazon.com>
Subject: Re: Serious question.

At 08:31 PM 3/19/97 -0800, you wrote:
N=1, ah so, not true. N=2
Meaning unchanged.
Meaning unchanged even though facts did...hmmmm...and my source tells me N=2+X

The meaning of the statement was this, let N be some number defined on (0,inf.). Then if we let N *approach* unity to a sufficiently close value (statisticians determine this value with a constant of significance) then we say that the meaning of your statement is statistically insignificant. In other words, for any N that is sufficiently small, we cannot guarantee statistical significance, again, by definition not useful info. Now if we let N=2+X then we would like to know the range of X before examining that case. Usually the minimum value for N is around 20 or 30, but that depends on the circumstances.

Why doesn't all the air, Just float off into space? Is that a serious question? Does it make a difference? You will answer if serious and not answer if trivial?

Correct, but I'm trying to change :-)
to serious when you asked. Of course I know the answer why the air stays here, everybody knows that, the reason is...the reason is, ah, it's ah... well, the air stays because, ah you know, like it ah, well... I give up. Wait! Don't tell me, let me guess... Gravity.

Ha, you're a funny man Mr. Smith. :-) 

Gravity holds the air molecules close to earth because air has weight. Ah, the answer, I hope. Omitting of course no one knows what the hell gravity is.

Sure we do. Gravity is a vector whose magnitude is defined by the relation: $F = G * m * M / r^2$ and is directed radially inward toward an objects center of mass.

The ozone layer just takes the good air that hugs the earth because of gravity and stops it from turning into something else not good. No ozone, yes bad air. Next question to soon go on my signature will be Why is the Sky Blue?

Dust particles of a statistically dominant length reflect a specific wavelength of light, namely blue.

And gravity may be wrong.
Why else would air not leak out to low pressure area.

Because the magnitude of the gravitational force that acts on the atmosphere is greater than the force of the pressure of the atmosphere-really a simple relation. Recall my discussion of force normals that oppose applied forces. We can examine this at the molecular level and see the sense of the previous statement. If you tie a rope to a large oak tree and pull on the rope, well, guess what, the tree doesn't go anywhere. Same concept.

Nature abhors a vacuum.

Agreed, specifically, the Second Law of Thermodynamics abhors a vacuum.

So, Anyway, nice to finally chat with you. So tell me about your ideas regarding mechanical failures (I'm open-minded, really, just give me a chance). Well, let's do this. I say a piece of real evidence that we both agree is a piece of real evidence. Then we draw conclusions and make explanation for
that piece of real evidence based from missile point of view and from cargo
door point of view. Then we say which is more likely.

Sure, but recall that I have not posited a "missile theory". For some
reason, readers seem to repeatedly read that into what I wrote, something I
still don't understand.

Then you say a piece of real evidence we both agree is a piece of real
evidence.

Define 'real' (your meaning).

Then we do the same, two explanations for one piece of evidence
and say which is more likely.
At the end we should be able to say based on the evidence we agree which is
more likely.
I would open with streak, then radar blip, then CVR noise, then FDR abrupt
stop, missing bodies, debris pattern, FOD, and many others we can think of
and agree are real evidence. If one disagrees then that evidence is not
considered for the two points of view.
I'm ready when you are. Should you choose to accept the mission. I'm open
minded...HA!

I would be glad to discuss your ideas and evidence, but I am not
looking for a debate, just a civilized discussion.

My mind is as set in concrete for cargo door as can be. I am right and the rest of the world is wrong. I could be wrong about that. So, I look forward to discourse about the cause of an airplane crash currently under investigation. We both have web sites and I will review yours for ammo for the missile explanation.

Why?

Nice to chat, could be good, John Barry Smith

Same thoughts here.

I think it would be useful to open discussion by *explicitly* stating my position, since so much has apparently been read into what I wrote.

1). Anything is possible, and I do mean anything. What matters is the probability that a statement, call it A, is 'true' by some commonly agreed upon measure of 'truth'. It is possible, for example, that the Second Law of Thermodynamics that I mentioned above is wholly false, however, based on the empirical data available to address that law, that it be untrue is highly
improbable (virtually none of the modern technology you probably take for granted would work if the law were not true).

2). I have never asserted that a missile struck TWA 800 but I have written of the possibility.

3). I have not explicitly, and never intended implicitly, to impugn your integrity or slight the conclusions you reached. In other words, I have not *necessarily* disagreed with your premises. What concerns me are probabilities.

I think this reduces our discussion to a discussion of probabilities (enriched greatly by your knowledge of aircraft, which is far beyond my own). It is entirely possible, however astronomically unlikely, that Godzilla destroyed that plane. Though written for humor effect, I hope you can see why that point is very real and important. Anyway, I will check your site more closely tomorrow and refresh my memory. Thanks for the thoughts.

VGER
Hi:
saw this on CNN Interactive today, didn't know if you did. The interesting part is Jim Hall's statement at the end.

Thursday March 13 8:20 AM EST

Salinger: Reveal truth of TWA Flight 800

PARIS, March 13 (UPI) _ A former Kennedy administration official is challenging the U.S. government to reveal that a wayward Navy missile brought down TWA Flight 800 _ or see the truth disclosed by Russian satellite photos.

In an interview (Thursday) with The Washington Times, Pierre Salinger says Washington is hiding the truth about last summer's air disaster

(Blah, Blah, Blah - DELETED)

National Transportation Safety Board Chairman Jim Hall tells NBC, ``It's beyond me that a human being can make a statement"
that the Navy is covering up any involvement with the downing of the plane.

Hall says the best witness to what happened is the aircraft itself, which he says has been 90 percent reconstructed. "Right now we have no evidence, no physical evidence, that a missile or bomb exploded and caused that accident."

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Dan Savage
savage@sure.net
"Any man who hates children and kicks small dogs can't be all bad." --
W.C. Fields

From: John Barry Smith <barry@corazon.com>
Date: March 20, 1997 7:43:08 AM PST
To: jeffroot@pop.macon.mindspring.com
Subject: A link to you from this Italian journalist
The mystery surrounding the TWA Flight 800 accident has not yet been solved, despite eight months of inquiry. The investigations, conducted by the National Transportation Safety Board and the FBI, have reached a standstill giving room to speculation, growing wider every day, and hypotheses sometimes so complex that they resemble a Tom Clancy technothriller. 95% of airplane remains have been retrieved, but fishermen of that area keep on finding Flight 800 metal scraps and personal belongings of passengers in their nets, which are promptly turned over to investigators. Perhaps one day soon a fisherman from Great South Bay will find a fragment of the Boeing 747 which will explain the dynamic of the
incident: mechanical failure, assault or friendly fire? The possibility that the mystery will remain unsolved for years cannot be ruled out, hidden in the 5% of TWA still buried in the ocean. The Jumbo wreckage fell into the sea, to a muddy bottom 30-40 mt deep, swept away by continual storms. This to say that elements decisive for the inquiry may rest in areas very far from the initial area.

An 11-minute flight

On July 17 one TWA Boeing 747-131 (number N93119), just arrived from Athens, leaves the waiting zone at 20.02 and enters the tarmac at NYC's JFK Airport to take off for Paris. There are 230 people on board. After a 17 minute wait, it reaches the runway and takes off at 20.19. The sun has set shortly beforehand, but visibility at high altitude is still good. During the stop it has loaded 84,000 kg of A1 jet fuel in its wing tanks, but in the central one, in the fuselage, there are still 400 lt, from the previous refill in Athens. This fuel distribution is routine for a relatively short flight, compared to the maximum
operating range of the 747.

At 20:25 the TWA 800 receives authorization from the Boston ATC for level 210 (21000 feet); 5 minutes later it is slightly above level 110: the request to maintain level comes from the Boston traffic controllers, because they want a sufficient vertical distance with a USAir approaching Providence, Rhode Island. At 20:31 the TWA disappears from radar, and the last blip from its trasponder places it at 13700 ft.

Boston repeatedly calls the 747, and a few seconds later a "mayday" is launched by an Air National Guard Black Hawk, west on Long Island where it is conducting a "search and rescue" exercise, flanked by a C-130. The Black Hawk crew will later claim to have seen at bow, at a higher altitude, a clear flash at 20:31 followed by a brighter one, 20 secs afterwards. The National Guard pilots clearly see burning pieces falling into the sea, they move to that areas and arrive together with a rain of fragments splashing on the sea surface, where parts of the fuselage and a wing section are already floating, and will continue
burning for the whole night. They are not the only witnesses of the tragedy; the crew of an Ansett 767 (operating for Alitalia), taken off shortly after the TWA towards Rome, reports two explosions, a detail confirmed by the crews from other airplanes flying in the area: a Piedmont commuter approaching from the south at 11000 ft, and a USAir Jet at 16000 ft, landing at Providence, that had the TWA 800 a few miles ahead.

Hundreds of witnesses saw the two bursts from Long Island, 30 miles away, and some also somebody report -a few moments before the accident- a bright track flying upwards in the sky where later the tragedy took place, a detail also confirmed by the Black Hawk crew. Some days later the FBI confirms that 154 credible witnesses reported the bright track, followed by a tuft of smoke.

There is also photographic documentation. Linda Kabot, assistant to a Republican
politician, was having dinner with 270 people that evening at a restaurant with a sea-view terrace, at Shinnecock Bay, close to Southampton, to raise funds for the political campaign. She shoots a series of pictures between 20:00 and 20:45 and when she picks up the prints a few days later she realizes that in one of them a clear flash is visible. She gives both the prints and the negatives to the FBI, but the picture is spread around by NBC.

The FBI receives a second picture from Heidi Krieger, who was with her father on a boat the very evening of July 17. Examination of primary radar records from Islip, on the coast north of the accident site, shows an ascending trace, veering onto the TWA 800 nose to then disappear behind it. Some analysts hastily declare that it could just be a bounced echo, or a blip -electromagnetic "noise"- and that in any case an antiaircraft missile would have such a low reflecting surface that it could not be picked up by the Islip radar system.
These are the initial guesses, when the black box and the debris of the plane have not yet been recovered, since they lay down on the muddy seafloor between 30 and 40 mt. Many people suspect an attack, and this hypothesis gains support when, a few days later, a pipe bomb placed under the stage at a concert spreads panic, death and injury at the Atlanta Olympic Games. The FBI as well, immediately after the accident, seems to take the same path, and in fact blocks the publication of the TWA 800 passenger list for at least 12 hours, making NYC mayor Rudolph Giuliani angry; this is the length of time necessary to reconstruct the "story", the origin, the final destination of each of the passengers on board. Without results. All the boats in the ports close to the disaster are checked carefully, hunting for suspects for the missile hypothesis. This inquiry too leads to no result, despite the intervention of almost 500 FBI detectives. The thesis of an attack rises from a combination of several elements: Atlanta Olympic Games would be a context apt to amplify the importance of any terroristic act, the TWA plane disintegrated in
flight, and TWA is the company which has suffered the highest number of air attacks during the last years. The flight originated in Athens, an airport with insufficient security measures.

At the disaster site

The American Navy ships start sieving the so-called "debris-field", ten square km wide. The recovery and analysis of the black boxes gives the first results: there is nothing unusual during the 11 minute flight of the 747, aside from a higher fuel consumption with respect to the Apu rules, at a rear turbine linked to an auxiliary power supply. It is a routine flight, with the system parameters recorded by the Flight Data Recorder reporting no abnormality. The detectives' attention focuses on a deep, low-frequency noise, 130 millisec before the TWA cockpit voice recorder sound is interrupted. The comparison with the Pan AM 103 Cvr tape, fallen on Lockerbie, leads
to a virtual overlap between the two traces obtained from computerized acoustic analysis. The 747 PanAm underwent a structural collapse due to explosive decompression caused by the outburst of 400 gr of Semtex, a plastic explosive, hidden inside a Toshiba portable radio. The expansion of the shock wave has unusual characteristics, a kind of signature of the event which destroyed the airplane. But the comparison of the two tracks is not, however, conclusive in establishing the reasons for the TWA 800 accident because such an event, caused by other factors, could have produced the same result.

The subsequent recovery of the TWA 800 engines allows the exclusion of the hypothesis that "unducted engine failure", the explosive collapse of the turbine, could have "launched" fragments at very high speed so as to lead to the fire and the explosion of the fuel inside the wing. On the other hand, this event is widely described in the literature, and it doesn't seem (as some specialists stressed) to have ever taken in such a sudden and devastating form. Meanwhile, the
comparison between tracks -coming from different radar stations- allows the NTSB technitians to reconstruct fairly precisely the dynamics of the events following the disappearance of the TWA from the air traffic control screens.

At 20:31, at 13700 ft, there is the first weak explosion reported by eyewitnesses, and the Jumbo, which in the meantime has suffered severe structural damage, begins a 24 second dive -with a falling speed of 13000 ft/min- when at 8500 ft a second very strong burst occurs. The remains of the 747, by now split apart into at least 4 sections plus a stream of debris of lighter mass, fall for 17 more seconds until they reach the ocean surface. The sea distribution of the 747 wreckage helps in clarifying other aspects of this accident: the map of the debris field shows that the cockpit, once separated from the fuselage by the first explosion, and weighed down by the galley water tank, falls vertically, whereas the rest falls ahead following a typical "feather" model, in which heavier parts of the structure follow a more tightened path, and the smaller and lighter
fragments take a bent curve.

The first approximate reconstruction of what has been recovered from the sea, in a hangar formerly property of Grumman, Calverton, confirms the detectives' first suspicion: looking at the jumbo map, the bursting event which made the structure collapse happened between seats 17 and 25, roughly the level of the second exit - the 747 has 5 exits from bow to stern, and the first and last ones are used for boarding - close to the wing. Looking at the lower level map, the event takes place between the front cargo hold and the central fuel tank. In this case too, similarities with Lockerbie attempt may influence the ideas: the Semtex explosion happened on the left side of the forward cargo hold. According to the British Air Accident Investigation Branch, the explosion produced a large hole in the forward fuselage, from which large cracks spread, influenced by the large pressure differential, and the explosive
decompression led to the collapse of the entire structure. For the detectives, the next step is to analyze the scraps to find possible traces of explosive. In a first phase, two traces are found, particularly in the carpet which covers the area around seats 23J and 23K- where analysis shows residues of PETN and RDX. The second trace is found in a spot fairly far from the center of the explosion, thus not interesting for the inquires, then a third one in proximity to the auxiliary tank on the right wing, which is considered a false positive according to later analysis. The PETN is pentaerythritol tetranitate, C(CH2ONO2)4, the RDX is cyclonite, (CH2)3N3(NO2)3. These two crystal-like, white compounds are commonly used for priming explosives, in particular in Composition Four and Three, known to the public as C-4 and C-3, but also in Semtex, a plastic widely used in terrorist attacks and in the M-6 used by the demolition companies, and also in the warheads of ground-to-air and air-to-air missiles.

To make things even more complicated arrives another
revelation: the TWA airplane not only had shuttled between the Gulf and the USA at the time of the Gulf War -carrying troops and weapons to the front- but had been used in an FAA program in which dogs are trained to smell explosives on board. The 747 was thus highly contaminated, so that the discovery of the PETN and RDX traces was not considered relevant for the investigations, unless supported by further elements: an unmistakable marking of the origin and propagation of the shock wave, phenomena of microfusion inside the metals, unmistakable trajectories of fragments inside the seats cover and in the passengers' bodies, since gas expansion speed at the time of priming has a well-known value for both of the two compounds (8000 m/sec for RDX and 7000 for PETN). The hypotheses still under examination by the detectives -according to the FBI spokesman- were three: attack, missile, failure, but for none of these was evidence such as to allow considering the other two of secondary importance. In any case each of the three hypotheses, based on the data acquired so far, leaves much in the
The missile

The theory of a Stinger launched from the sea is fairly weak. Its maximum operating altitude is 10000 ft, and at greater heights it doesn't have enough energy to chase an airplane as manufacturers' instructions (Raytheon) warn, so that its use above this altitude is not advised. An English publication -Jane's- states that its operational ceiling is 13700 ft. In any case, the Stinger's seeker uses infrared rays, and tends to localize heat sources (the engine mufflers) where it explodes at close range, but warhead fragments leave visible traces on the airplane hit, not found in the case of TWA. Anyway, the Stinger's mass seems insufficient to cause similar damage. In the past, civilian airplanes have been hit by "hand-held" ground-to-air missiles, but in the majority of the cases they have maintained control and landed at the nearest airport, despite injuries. The same considerations are valid for missiles of the same class produced in the former USSR.
A Standard Missile -SM-1 and SM-2- mounted on Aegis guided missile cruisers- has an operating range which allows it to hit an airplane even from great distance, and a warhead charge powerful enough to completely destroy it. In contrast to the Stinger, it utilizes a drive-system with semi-active radar, but the power of the head would have produced damages far worse than those found on the TWA.

Another hypothesis has been made, that the Standard launched by mistake from a US Navy ship while training was a dummy warhead: in this case it would have hit the fuselage like a bullet, but the hypothesis seems weak for several reasons.

Aegis cruises have 230 people on board and it is unlikely that not even anonymous information has leaked out. If the USS Normandy (CG60) was conducting real drills with a radio target 185 miles away, it is unlikely that its radar system could have mistaken it with an climbing 747, in an area highly congested by civilian traffic, near Kennedy Airport. To make the hypothesis acceptable, a "triangulation" is
necessary in which the Normandy's radar system works as a platform for other training units in that area. The same evening of the accident a Lockheed P3 was performing 38 launches of sonobuoys, in an area close to that where the TWA was flying, evidently to detect a submarine. Performing an elusive manoeuvre, it would have launched the missile against a radiotarget "tracked" by Normandy's radar. The missile, not equipped with the highly sophisticated software of the Aegis, would have received two radar tracks: a weak one from the radio target, and a more evident one from the 747, which it would have followed and hit with an inert warhead. This reconstruction, widely diffused by the media, seems the final short circuit of a series of information: The first newspaper to report the missile blunder is the Jerusalem Post, dated July 21, in a report from Paris. The sources seem to be the French secret service for whom the TWA accident was caused by a missile launched by mistake from an American Navy ship. On July 17, the area Whiskey 105, an aviation target range, was "on alert" for a level of 6000 ft, but not for a specific
purpose, as subsequently confirmed a US Navy spokesman, because no unit had explicitly requested it. Exercises were indicated also on a Coast Guard memo for the month of July, and by an Aviation Week newsletter (Aviation Daily of Aug. 28). In section 3-43 of the Airman Information Manual, the zone "denotes the existence of unusual, often invisible hazards to aircraft, such as artillery firing, aerial gunnery, or guided missiles". The same warning appears in the Jeppesen manual.

A Lockheed P3 which was conducting anti-sub training (with sonobuoys), the transponder shut off at the moment of the disaster, offered the assistance units to help patrol the accident area. The US Normandy was in Whiskey 105, 185 miles from the accident, according to US Navy's declarations. More than 100 eye-witnesses on Long Island and on the water report the bright trail crossing the TWA 800 path before the two explosions. This detail is also supported by the Black Hawk crew on training. A plausible explanation of the track -of which two pictures spread by the press
exist- is that it could have been the USAir landing lights, that at 16000 ft was heading to Providence, and whose landing path led to the TWA 800's bow, before the subsequent turn. Boston's ATC asks the TWA 800 to fly "levelled" to avoid a traffic conflict with the USAir, and gives authorization to climb to level 210 a few moments before it disappears from radar.

For about three weeks, a document written by a former 747 Commander of United -Richard Russell- is diffused on Internet. In this document the thesis of a "friendly fire" responsible for the TWA 800 crash is proposed. The same thesis is offered in November by Pierre Salinger -former press officer to President Kennedy - but it is considered not credible by the FBI, because not supported by any objective data. There is an illustrious precedent: on April 23, 1987 an Aegis class unit -the Vincennes- knocked down by mistake an Iranian Airbus 300 which had taken off from Bandar Abbas. On that occasion, a radar operator at the command center of the Vincennes had detected an Iranian fighter in the
process of taking off and had given it a code. When his turn was off, he passed the duty to another operator who, by mistake, linked the fighter code to the Airbus. Some minutes later the automatic target acquisition system on the Vincennes launched an SM-1, because it considered the Airbus path to be that of a potential enemy. The highly sophisticated radar software "phase synthesis" of the Aegis, the SPY-1D, has operator interface problems, and requires specific training courses, as determined by the Report of the US Navy Inquiry Commission on the '87 accident, which censured the crew's behaviour. The SPY-1D command center is able to track 22 enemy airplanes at the same time and to automatically knock them to the ground in groups of four, if they trespass the ship's security zone.

The bomb

To push for this hypothesis there were many analogies with the attack to the PanAm 103 of Lockerbie. The peculiar distribution over the sea of the TWA 800 wreckage has much in common with the Scottish accident:
the debris path, in fact, covers a distance of over 12 Km, with specific clusters. The great majority of heavy structures are aligned with the line taken from the transponder signals, apart from the front right cargo hold door and the conditioning system, both to the south and behind the rest (the TWA was flying ENE). These are thus the first-to-fall pieces (area n.3), because they are closer to the epicenter of the explosion, while the front part of the fuselage splashes immediately afterwards, followed by the aft portion of fuselage three km ahead, whose displacement from the rest is diagonal with respect to the airplane direction (probably because of the second explosion).

Obviously, the altitude difference between the PanAm 103 and the TWA 800 implies notable differences among the bursting forces involved, if both the accidents are due to a plastic bomb: the decompression inside the PanAm took place at 31,000 feet -therefore with an 8 lb per square inch difference between the internal and external pressure- and this value is exactly half in the TWA which flies
at 13,700 ft.

That is, with the same amount of explosive, the higher the altitude the more devastating the effect of the charge exploding on board. Yet, already a few days after the accident, some experts cited the fact that, if the TWA disaster had been caused by a bomb, it would have required a sizable amount of explosive to exert such an effect. The problem is well explained by the three phases of the reconstruction of the sequence of the events in PanAm 103: 400 gr of Semtex caused a 60 cm diameter hole in the left side of the forward fuselage. Inside the aircraft the high pressure gas bubble from the explosion was prevented from expanding spherically by the aircraft structure. Pressure on the frame caused it to buckle, fail and vent gas into the next bay, leading to a sequential chain of failures, and also disrupted the main cabin floor. Explosive overpressure combined with a shock wave overpressure produced a gross enlargement of the initially small hole. The combined effect of direct and indirect explosive forces destroyed
the structural integrity of the forward fuselage of PanAm 103, and allowed the nose and flight deck area to separate from the fuselage within a period of 2-3 seconds. (Air Investigation Branch Report, Issued Aug 6, 1990). Inside the PanAm 103, even if the explosive wad placed close to the main tank, there was not a fuel explosion, which instead happened inside the TWA 800.

In order for all this to have been caused by an explosive charge, it must have had a large dimension, but paradoxically, no traces are found which correspond to the required theoretical value. Some experts doubt that a bomb inside the front cargo hold, if we must work with the data taken from previous attacks, could cause the fuel deflagration: the A-1 Jet fuel has a low volatility index and requires a very high temperature priming. This is to say that the bomb hypothesis requires evident traces, apparently non existent.

Mechanical failure

A few days after the accident, already nobody seemed to believe
in a structural collapse, which paradoxically has more credibility with the press than among the detectives of an airplane accident. The possibility that such an event takes place is very low, but has been tracked for more than 10 years, as part of the monitoring programs for "aging aircrafts". The operative life of a 747 is certified by its manufacturer, and guaranteed for a maximum of 20,000 cycles (a cycle corresponding to one compression and decompression). The Boeing has tested a retired Jumbo with an additional test including an extra 20,000 cycles, and section 41, where several operators had previously pointed out microlesions due to metal stress, to a further 20,000 cycles, without recording those typical signs predicting a structural collapse. Extensive analysis has already been performed over a phenomenon called "widespread fatigue damage" which occurs whenever the microlesions, present on single areas of the fuselage, branch out in a more generalized cracking pattern, which could lead to the disintegration of the whole structure.
But these studies too have not led so far to evidence requiring the modification of that set of inspections, verifications and extraordinary maintenance, which marks the operational life of every working engine. If the investigations following an airplane accident do not lead to the certain discovery of the reasons for it, the detectives' attention shifts to similar events occurred in the past. Using the available literature allows, when possible, to resuscitate a seemingly dead investigation and to prompt a new approach to a problem not totally understood. In these cases, all the data gathered are re-examined, but with the aid of a new working hypothesis, with the hope of finding previously ignored clues which can help unravel the dynamics of the disaster. In the case of the TWA 800, two accidents from the '90s which caused the explosion in the main tank have been re-examined. One event involved a Grumman E2-C Hawkeye, crashed on the ground at its home base in Puerto Rico, and the other in a Philippines Airlines 737-300 on the tarmac at the Manila airport.
In the first case, the suspicion is that the accident was caused by a voltaic arc produced inside a deteriorated electric cable, close to the central tank. In the second, the hypothesis is that the deflagration of the 737 central tank was caused by the overheating of a pump or by a short circuit. It is worth repeating that these are working hypothesis without supporting evidence. In the National Transportation Safety Board database, from 1983-95, 27 failures in electric cables in commercial airplanes are recorded, and they have caused the fires or smoke in the cockpit. In passenger airplanes, the monitor power cables in the fuel tanks work at a low voltage (28 volts) in order to avoid exactly this problem. Other systems require cables working at 115 volts, while the power lines of the engines carry high ampere values. Because of the weight, the core of these cables, marketed under the name Poly X, is made of alluminum, which tends to flare in the presence of short circuits, whereas the insulating sheath is made of plastic material. Obviously, the cables which sustain the various systems are kept separate to avoid problems, but they
can suffer some forms of friction and abrasion in those areas subjected to intense vibrations. In the early 80s the US Navy experienced so many problems in the power cables Poly X of its Grumman F-14 Tomcat that it ordered a new series with military specifications. As a matter of fact, friction and abrasion caused sparks and energy loss which interfered with the sophisticated electronic systems on board. An anonymous TWA source reports that between '72 and '81, in the company's Lockheed L-1011 fleet, 22 cases of voltaic arc occurred inside Kapton cables (not used in the 747 Boeing). The cables problem has thus been studied for a long time, especially in airplanes belonging to older generations, even if it is necessary to emphasize that that a 747 contains 6 million parts and a thousand systems, for which a highly technical literature is available.

In other words, such a complex technological system doesn't need to be perfect in every component, but certainly within the tolerance limits (MEL). If a breakdown caused the explosion of the TWA 800
central tank, it is automatic that, according to previous reports, the cables are suspected. The NTSB detectives have found traces of fire in two out of seven tanks of the 747: mainly in the central one, and in another stock one on the right wing. The most visible damages are on this wing, where the duct necessary to maintain the pressure in the fuel-tank shows signs of fire from the edge of the wing to the joint with the fuselage. The remains of the central tank- made of caotchou like the other 6, clearly show that it has suffered an explosion. But what caused it? The cables recovered so far do not show any sign of damage, two out of three pumps in the central system do not appear damaged -the third one has not been recovered yet- and the same is true for the probes which measure the fuel level. The NTSB wants to blow up a tank with the same amount of fuel as the central tank on the TWA, because it is unlikely that 100 gallons of gas can explode due to a failure in the electric circuit so sudden as to not activate any of the alarm systems.

Aviation Week's readers -among
whom there are highly specialized technicians - propose a new working hypothesis: "according to my long experience as head mechanic," writes Stan Martin of Little Canada, Minnesota, "the mixture of air and fuel in the tank is far too rich to explode". Stan Martin says that a leak in the tank could have driven some gases to a "dry bay" (a bulkhead which separates contiguous tanks), and that excessively heated by an air conditioning duct could have reached the conditions for the explosion. There are also other technicians and experts in this subject who remember previous accidents: for example one on the Iranian 747 cargo, which blew up in midair in '76. The accident investigator concluded that the likely cause of the accident was a short circuit in a valve of tank no. 1, responsible for the explosion and collapse of the left wing. The event would have been caused by lightning which ran along the entire airplane from the nose to the tail, where it "stuck." If this was the case, we are facing a very rare event, because as everyone knows, an airplane, like a car, can be
compared to a Faraday Cage. In any case, on July 17 the weather conditions late in the afternoon, like the visibility, were good, and the forecasts did not mention any threatening activity. Maybe, the unknown reader was quoting Murphy's law "whatever event, even extremely unlikely to happen, will happen one day or another," since metaphorically it is certain that what destroyed the TWA came "like lightning out of a clear sky" (as we say in Italy). The need to overcome the standstill of the inquiries must have induced the FBI's chief investigator Kallstrom to consider even more extreme possibilities.

During a press release at the end of November, he declared that his agents were checking all those who had an opportunity to get close to the TWA 747 when in NY and Athens, in an attempt to find evidence of past political activity or support of terroristic groups. The FBI is actually reconsidering the possibility that it was a bomb that knocked down the TWA, driven by an organization whose members have a high skill level. The suspicion is that a tiny device inside the tank
was responsible for the blast of the central tank in the 747, something similar to the "vietcong trick," consisting in introducing inside the american truck a grenade without the security ring, whose handle is kept in place by a few elastics. The fuel inside the tank after many hours melted the elastics and the grenade blew up in a position far from the original one. As we can see, the FBI is hunting for the so called "needle in the haystack", unless this idea of Kallstrom is inspired by the need to justify the presence of his agency in the investigations. The disagreements between the NTSB and the FBI are long well known; Aviation Week, in its November 11 issue reported on the many problems due to this forced collaboration. The FBI seems to have covered this case under the maximum security, so as to complicate NTSB's investigation of the wreckage of the airplane in Calverton's hangar.

There is something else: classifying the damaged airplane debris is a very critical operation during the investigations, to establish the reasons for the disaster. Much
"evidence" from the TWA 800 collected from the sea has been catalogued by the FBI in an approximative way, and some others have been sent to Washington for the analysis. Evidently, the needs of a criminal investigation are quite different from the priorities of the National Transportation Safety Board. The NTSB team is generally limited, but open to external consultants with the specific technical skills required for the single case. This leads to the formation of a high mobility group and to the diffusion of data among many people. The Safety Board didn't want to comment on Kallstrom's hypothesis, because -as spokesman Peter Goelz has declared - "the agency has no monitoring of the FBI's investigations". In any case, notes Goelz diplomatically, "we encourage them to investigate every aspect". Maybe in the not distant future we will add another chapter- no less important than the previous ones-telling the real history of the investigation.

Disagreements in the hangar in Calverton
The investigation about the cables, lead by the Safety Board team, as we said, didn't lead to any concrete results. That is why, in mid December, a new theory leaked out. In an official release by the Federal Aviation Administration, the Board writes that the reconstruction of the airplane debris strongly suggests that the first explosion took place inside the central tank. This buries, now officially, the missile hypothesis as well as the bomb in the cargo hold. The central tank held less than 100 gallons fuel; for the Board this means there was enough room for gas formation. The tank is close to an air conditioning system which could have heated the jet fuel vapors, at the specific temperature required for an explosive event. But if the analysis of the cables didn't show any traces of voltaic arc in the central room, what event could prompt the tank explosion? Some investigators from the Board think that there were some electrostatic charges due to fuel flow through the complex network of tubes that connect the several tanks. Obviously, this theory is not considered adequate by many
experts, especially for the high intensity required to ignite an explosive process. Many airplanes have tolerated lightning of million volts flashing over the fuselage without particular problems.

For others, the Board's theory is anyhow unprovable, because an electrostatic charge doesn't leave any traces. Then there are the side effects on the industrial front, because the Board suggests that the FAA to issue regulations to prevent overheating of the conditioning system, to install cooling systems for the fuel in the central tank, and to study a system which injects inert gas in the tanks. The Boeing Company issues a press release, affirming that there is no such proof to sustain this hypothesis and therefore they do not understand upon what basis they ask for retrofit which would cost million dollars for every 747 on duty. This is not the whole story, because this time the legendary secrecy which surrounds the experts' analysis in Calverton's hangar wreckage fails (which never happened before). Anonymous sources quoted by CNN on December 17th state that the Board
-specifically the central office in Washington- wants to turn off the lights and get out of the investigation.

Some technicians of the investigation group in Calverston say they were never consulted; in any case, the high pressure tubes nearest the central tank are at least a meter away, they say referring to the probable electrostatic event. "Probably -one source states- the Board wants to prepare the way for an abandoning of the case, proposing a theory which can neither be confirmed nor disproved". Bernard Loeb, NTSB Air Security Director, despite being a strong supporter of the mechanical breakdown, tries to soften the rhetoric. "The static electricity hypothesis -he reports to Newsday- is one of the five possibilities we are still following". The rules of the Board assume that the drafting of the final report is the responsibility of the chief investigator -in the case of TWA Al Dickson- who collects the technical memos written by the experts called in to solve the case.

Whenever contrasting theories
arise from the preliminary documents the staff calls informal meetings to reconcile the disagreements; whenever these meetings do not solve the problem, a group of five supervisors is appointed, to draft a final report, accepting also minority theories. For TWA 800 this seems to be the final solution, and it is a defeat for the National Transportation Safety Board which, up to now -after having analyzed hundreds of accidents- counts only five unresolved cases, but in none of these has there been such a disagreement among the investigators.

On January 17th, precisely six months after the accident, they sum up the situation at the White House, in the presence of vicepresident Al Gore. The case is, by now, a political emergency because the victims' families claim to know what was the reason for their relatives' death, and furthermore there is the old issue of compensation which cannot get started until the technical inquiry is closed. In the meantime, the FBI has conducted some tests in total secrecy. In the US Navy target
range at China Lake, near Death Valley, they ran tests shooting air-to-air missiles against static targets, to study the characteristic impact signs. The experiment confirms that the signature of the missile warhead is given by a typical series of entrance holes and by metal deformation. We do not know much about these tests, which are classified, but according to some leaks even an unarmed warhead would have left unmistakable fingerprints. In any case, the FBI keeps on working, and some press reports tell about another test to be performed in the future: this time, an air-to-air missile will be launched against the fuselage of a real 747. It is likely that the target will be the central section, and it is obvious that the tank will contain about 100 gallons fuel, just as in the TWA 800.

The question which comes to mind is the following: since the NTSB technicians are convinced that it was not a missile to shoot down the TWA Jumbo, why all the tests by the FBI? Are they only distractions to keep the inquiries going, or there are doubts to be clarified? If the Safety Board has long ago
abandoned the attack hypothesis or those of the friendly fire, why does the FBI keeps them in play by systematically denying any new hypothesis brought in by the National Transportation Safety Board? We cannot answer these questions, by now, but one can suspect that mere rivalry between the two investigating agencies is not enough to explain such divergent hypotheses about the event that, on July 17 last year, caused the explosion of the TWA 800 in mid-air.

For further information

In John Barry Smith's home page the thesis of the cargo hatch giving in of Twa 800 and of other past crashes is presented

Deepseeker recalls all the physical arguments involved in the various hypotheses about the causes of the disaster

Max Kennedy analyses a long list of strange facts in Twa 800 flight

The thesis of friendly fire argumented by Michael Rivero
The missile hypothesis according to Ian Goddard

The Flying Dutchman Harro Ranter is the "early warning" of plane crashes. His Aviation Safety Web Page is very up-to-date, provides a huge database and one page entirely dedicated to TWA 800

Update

From: John Barry Smith <barry@corazon.com>
Date: March 20, 1997 1:34:50 PM PST
To: jeffroot@pop.macon.mindspring.com
Subject: cargo door/missile

Now if we let N=2+X then we would like to know the range of X before
examining that case.
Me too. My mechanic source tells me there have been other cargo door openings that caused no damage and the plane landed safely. He can not give me an exact number or dates. But let X be two, then N is UAL 811 plus PA 125 plus his two plus my three of PA 103, AI 182 and TWA 800, plus the UAL preflight opening so now N of inadvertent opened cargo doors is up to eight. N=8.
Gravity is a vector whose magnitude is defined by the relation: F = G*m*1/M/r^2 and is directed radially inward toward an objects center of mass.
Gravity is a vector. Ah, got it. And a vector is...
You can feel it, you can describe it and its effects, you can measure it, you can reproduce it, but you can't see it. And really, why does a speck of dust in the middle of nowhere have a pulling affect on another piece of dust in the middle of nowhere? What is inside the speck of dust that pulls others toward it?
Dust particles of a statistically dominant length reflect a specific wavelength of light, namely blue.
I thought that was why the sky is orange, at dusk, as sun slants through dust of earth..and bounces off the metal skin of a 747 and into the eyes of observers who see a streak as large part of shiny fuselage peels away.
So, if dust were physically shorter or longer, the sky would be a different color? Longer dust particles, redder sky? Because the magnitude of the gravitational force that acts on the atmosphere is greater than the force of the pressure of the atmosphere Small gravity force less keeping force and less dense atmosphere. If oxygen producing apparatus were on moon, O2 might stay put and would have thin atmosphere balanced by gravity of moon versus lightness of atoms.
Sure, but recall that I have not posited a "missile theory". For some reason, readers seem to repeatedly read that into what I wrote, something I still don't understand. Tell me about it. My readers read what they want, think what they want, and write they want and once in a while it reveals they understood what I was saying. I do need help though in a concrete way you can help, I think. Explain later. Then you say a piece of real evidence we both agree is a piece of real evidence. Define 'real' (your meaning). Your call. Some would day a blip is real, others not, some would say a noise on a tape is real, others not. So we have to agree on real and the real evidence and then get to conclusions drawn and build on that. I would be glad to discuss your ideas and evidence, but I am not looking for a debate, just a civilized discussion. Civilized discussion, I know, I've lost friends because of email, it is a potent medium unsoftened by body language. Let's agree we are both idiots starting out so we don't have to tell the other that when the comprehension gets tough. We both have web sites and I will review yours for ammo for the missile explanation. Why? Pun on ammo and missile and the idea was to present two explanations for one piece of evidence. I've got the cargo door down but am vague on missile. What matters is the probability that a statement, call it A, is 'true' by some commonly
agreed
upon measure of 'truth'.
I agree. You and I make up the 'common' in this case.
I have never asserted that a missile struck TWA 800
I agree and I have always said it could have been a bomb that
blew the doors of AI 182, PA103, UAL 811, and TWA 800.
I have not explicitly, and never intended implicitly, to impugn your
integrity or slight the conclusions you reached. In other words, I have not
*necessarily* disagreed with your premises.
Agreed, that was just an ardent supporter of mine reading an insult into your writings.
What we need is an umbrella organization to look at all probabilities. The NSTB is prosecuting the center tank, the FBI the bomb, the guys like you and me offer door and missile and another natural gas, but no one of authority is open, just narrow for their point of view.
discussion of probabilities
Well, for 20000 airplanes crashes there are 20000 causes. The large groups are mechanical, crew error, weather, ground control, and last of all, sabotage to include, intentional FOD, cutting wires, bomb, fire, putting sugar in gas tank etc.
For commercial airline service, the largest cause of crashes is mechanical fault of plane, for little planes it is pilot error.
I have examined pilot error and rule it out but it should be discussed as it is the number two reason and it may be possible for a suicidal pilot to do something that fits the evidence although I don't see how. He could fly it into the ocean but that does not fit the evidence and the evidence has to fit the theory and the theory fit the evidence, can't change the evidence. As in, plane was in pieces before it hit water, not after.
So, door and tank fire fit the most common cause of airline
crashes, bomb and missile fit the least common. You use
numbers, me too. You use probability, me too. I've got a good
one for you. Two 747s crashed and killed everyone. The cause
was the number three engine coming off in flight. The number
three engine comes off when the cargo door allowed baggage
fods the engine, it vibrates, and cuts loose from the pins which
are designed to break loose when engine is about to undergo
catastrophic failure.
The official cause was corroded fuse pins holding engines to
wings. Well, it had to be, that pesky number three.
Of all the engines to fall off, why both number 3? The odds are
15 to one that it would be the cargo door explanation for 3 and 3.
Could have been 1 and 1 and 1 and 2 and 4 and 4 etc for the
engines on the two airplanes. But no it was 3 and 3.
So that's two planes not mentioned as cargo door caused crashes,
don't have the reports, can't get them, and not enough news
report evidence. They were the El Al Amsterdam crash and a
China airlines 747 out of Taiwan.
I love statistics, the true god.
My whole case is built on probability. Four accidents with such
similar evidence, it has to be one cause. Unlikely it was bomb,
bomb, cargo door, center tank fire/missile/bomb.
I respect odds, numbers, probability, statistics, databases, and
reasoned logic. And that's why I'm right! Yeah, big deal.
So, one mystery I can't solve is the 'relatively mild blast' that
looked like a 'shotgun' that left a 'directed' destruction zone. All
quotes form observer writing in UK PA 103 report. It was not a
huge blast that looked like a spherical bomb. The length of the
directed mild blast was 25 inches, the hole made was 18 to 20
inches. This blast happened after door went and is a huge red
herring. From that mild blast came huge plastic explosive bomb
that blew nose off. Complete nonsense contrary to the evidence.
And now, years later the FBI investigator on scene has been
removed for mismanagement, the traces of explosive can be benign, and there is a reasonable alternative, the door. But, what I can't do so far is offer an object that would give the destruction as described in the PA 103 accident report. It must fit the evidence. There were diplomatic pouches in that area. It could have been fireworks. Whatever, I would love to have an object that fits better than 'large shotgun' as described in report. Can you receive pictures? I'm sending some scanned text, total on web site.
Regards, Barry

From: Jeff Root <jeffroot@macon.mindspring.com>
Date: March 20, 1997 3:12:23 PM PST
To: John Barry Smith <barry@corazon.com>
Subject: Re: cargo door/missile

At 01:33 PM 3/20/97 -0800, you wrote:
Now if we let N=2+X then we would like to know the range of X before examining that case.
Me too. My mechanic source tells me there have been other cargo door openings that caused no damage and the plane landed safely. He can not give me an exact number or dates. But let X be two, then N is UAL 811 plus PA 125 plus his two plus my three of PA 103, AI 182 and TWA 800, plus the UAL preflight opening so now N of inadvertent opened cargo doors is up to eight. N=8.

Gravity is a vector whose magnitude is defined by the relation: \( F = G\frac{mM}{r^2} \) and is directed radially inward toward an object's center of mass.

Gravity is a vector. Ah, got it. And a vector is...

Enroll in a physics 101 course.

You can feel it, you can describe it and its effects, you can measure it, you can reproduce it, but you can't see it.

So. If you jump off a building and fall 50 meters you don't have to see gravity to know that it is very 'real'. Just because you can't 'see' something doesn't mean that it is undefined.

And really, why does a speck of dust in the middle of nowhere have a pulling affect on another piece of dust in the middle of nowhere? What is inside the speck of dust that pulls
others toward it?

Why do you fall from the top of the building?

Dust particles of a statistically dominant length reflect a specific wavelength of light, namely blue. I thought that was why the sky is orange, at dusk, as sun slants through dust of earth..and bounces off the metal skin of a 747 and into the eyes of observers who see a streak as large part of shiny fuselage peels away. So, if dust were physically shorter or longer, the sky would be a different color? Longer dust particles, redder sky?

Partly.

Because the magnitude of the gravitational force that acts on the atmosphere is greater than the force of the pressure of the atmosphere Small gravity force less keeping force and less dense atmosphere. If oxygen producing apparatus were on moon, O2 might stay put and would have thin atmosphere balanced by gravity of moon versus lightness of atoms.

Yes, in principle.

Sure, but recall that I have not posited a "missile theory". For some reason, readers seem to repeatedly read that into what I wrote, something I
still don't understand.
Tell me about it. My readers read what they want, think what they want, and write they want and once in a while it reveals they understood what I was saying.
I do need help though in a concrete way you can help, I think. Explain later.
Then you say a piece of real evidence we both agree is a piece of real evidence.
Define 'real' (your meaning).
Your call. Some would day a blip is real, others not, some would say a noise on a tape is real, others not. So we have to agree on real and the real evidence and then get to conclusions drawn and build on that.

Real, to me, means that the 'real' event is one that, through a physical experiment (in principle), can be shown to have a cause that is both solely necessary and sufficient for the event to exist. In other words, a radar blip may be *correlated* with a particular event, but we must be satisfied that, given a particular radar blip, the *only* possible cause is the cause you/I posit. This makes evidence a tough thing to come by, which is why I stuck to well established physical principles in my article and tried to
steer away from any one hypothesis.

I would be glad to discuss your ideas and evidence, but I am not looking for a debate, just a civilized discussion. Civilized discussion, I know, I've lost friends because of email, it is a potent medium unsoftened by body language. Let's agree we are both idiots starting out so we don't have to tell the other that when the comprehension gets tough.

Good idea. You have written of a difficulty with mathematics. Let me make this offer: If I should write something that is unclear, let me know and I will begin 'from the ground up' and do everything I can to get the idea across without the jargon and requisite background knowledge. I return, if there is something not clear to me regarding aviation related facts, do the same for me.

We both have web sites and I will review yours for ammo for the missile explanation. Why? Pun on ammo and missile and the idea was to present two explanations for one piece of evidence. I've got the cargo door down but am vague on missile.
What matters is the probability that a statement, call it A, is 'true' by some commonly agreed upon measure of 'truth'.

I agree. You and I make up the 'common' in this case.

I have never asserted that a missile struck TWA 800.

I agree and I have always said it could have been a bomb that blew the doors of AI 182, PA 103, UAL 811, and TWA 800.

I have not explicitly, and never intended implicitly, to impugn your integrity or slight the conclusions you reached. In other words, I have not *necessarily* disagreed with your premises.

Agreed, that was just an ardent supporter of mine reading an insult into your writings.

Oh, good.

What we need is an umbrella organization to look at all probabilities. The NSTB is prosecuting the center tank, the FBI the bomb, the guys like you and me offer door and missile and another natural gas, but no one of authority is open, just narrow for their point of view.

Discussion of probabilities

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is a huge red herring. From that mild blast came huge plastic
explosive
bomb that blew nose off. Complete nonsense contrary to the
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now, years later the FBI investigator on scene has been removed
for
mismanagement, the traces of explosive can be benign, and there
is a
reasonable alternative, the door.
But, what I can't do so far is offer an object that would give the
destruction as described in the PA 103 accident report. It must fit
the
evidence. There were diplomatic pouches in that area. It could
have been
fireworks. Whatever, I would love to have an object that fits
better than
'large shotgun' as described in report.
Can you receive pictures?

Yes, I have them. Thanks.

I'm sending some scanned text, total on web site.
Regards, Barry
thanks, will check out your site shortly.
VGER
Subject: INTEREST IN AIRCRAFT DISASTERS

BARRY,

HI FROM AUSTRALIA

I HAVE JUST FOUND YOUR SITE AND COPIED THE INFORMATION ON THE TWA AND PAN AM FLIGHT DISASTERS.

WOULD YOU HAVE ANY INFORMATION ON THE RECENT AIRCRAFT CRASHES IN THE STATES. OR COULD YOU TELL ME OF SOME SITES ON THE WEB THAT MIGHT HAVE THIS INFORMATION.

THANKS FOR YOUR HELP.

JULIE IN OZ

From: John Barry Smith <barry@corazon.com>
Date: March 20, 1997 10:24:42 PM PST
To: julie@novanet.net.au
Subject: info

WOULD YOU HAVE ANY INFORMATION ON THE RECENT AIRCRAFT CRASHES IN THE STATES. OR COULD YOU TELL ME OF SOME SITES ON THE WEB THAT MIGHT HAVE THIS INFORMATION.

Recent, not really, here's some sites to lead you to anywhere...
http://www1.drive.net/evird.acgi$pass*1115435!_h-
www.landings.com/_landings/pages/overview.html
http://207.48.130.144/links.htm
http://web.inter.NL.net/users/H.Ranter/
Regards, John Barry Smith

From: IndianTrix@aol.com
Date: March 29, 1997 7:53:32 AM PST
To: barry@corazon.com
Subject: FYI... Whaddya think???

Nice Website. Seems thorough. Try this one on for size.

Subj: Another theory on TWA800...
Date: 97-03-21 22:23:44 EST
From: IndianTrix
To: newyork@fbi.gov
CC: IndianTrix

After reading recent articles regarding the operations of a Navy
P-3 Orion
some seven thousand feet above TWA800, it should be noted
that:
   1. The Navy denies any ordnance was aboard any assets in
      the
      vicinity.
   2. The P-3 Orion is designed to jettison, or "drop" sonobuoys
      while
      in flight.
   3. Technically, these dropped devices are not ordnance.
   4. In reality, they could do some real damage to an aircraft
      below
      the P-3.
5. Even if all sonobuoys are "accounted for," one wonders if other objects are
ever routinely jettisoned by crewmembers of P-3's while flying over
open waters.

6. Has anyone bothered to calculate a trajectory for an object that may have fallen or been dropped by the higher-flying P-3, based on the radar tape?

This is not intended to be anything other than a thought-provoking message to some fine folks that have been losing lots of sleep to date. Keep up the good work. Is it possible that someone simply "goofed" and inadvertently caused an object to fall into the path of TWA800? Could this crewmember be just as much "in the dark" about this occurrence as the rest of the world? Check it out.

Thanks. /s/ Larry Bruce

From: "Bill King" <billking@bellsouth.net>
Date: March 31, 1997 6:45:32 AM PST
To: <barry@corazon.com>
Subject: Re: It's not a coincidence cargo door fits evidence

--------

From: barry@corazon.com
Newsgroups: sci.aeronautics.airliners
Subject: It's not a coincidence cargo door fits evidence
Date: Saturday, March 29, 1997 10:54 PM

This is my reply to a reporter which applies to newsgroup also:
Am not entirely convinced of your cargo door scenario,
So right, I understand, how can a guy in a converted garage with a personal computer and....

I admire the depth of your understanding AND the passion of your arguments.
As you state that you have "time" you might enjoy the following exercise
(either precisely or a variant): create a Spreadsheet; left(1st) column =
facts known to be true; subsequent cols (1 per) each popular theory;
intersection cells (where fact meets theory) relative probability of occurrence (4=strong probability, 3=feasible, 2=not really applicable,
1=unlikely, 0=impossible). In addition to your assigned probability you could add a very brief annotation supporting the probability.
Final column:
for each fact show (all you can think of) OTHER REASONS/CAUSES for this fact/event (Be truthful here- show 'em all- even if silly). It would be very interesting to see what the final column yields (especially to see if there is a thread). It would also be interesting to see where a fact/event might lend itself to being explained by "high probability of mis-observed, mis-reported, LIE, coverup (Boeing, FBI, TWA, etc)". If you
take the time
to set-to-paper AND logically organize/pattern what you have in
your head I
would be very interested in the result. I compliment you on what
you have
already done.

From: John Barry Smith <barry@corazon.com>
Date: March 31, 1997 8:05:24 AM PST
To: billking@bellsouth.net
Subject: Two inputs?

So, Bill, did you get to my site through the RA5C and then later
the newsgroup sci.aeronautics airliners? Two independent trails
led to me?
And I like the idea of spreadsheet, I did it already sort of and it's
called crashchart0 and crashchart 1 under Debriefing on front
contents page. I see the bigger picture of having competing
theories listed and probability of each. The truth of the
evidence is my strongest weapon, I should use it more.
I hate spreadsheets. But, I bought Pagemill2.0 just to do tables
so I could redo the crash chart but now I should do comparative
study in a big table.
The phase for me mentally is the evidence is there so why re do
it over and over again. It's plain to see for the people willing to
see it was the cargo door. Security people will always see bomb,
their job is on the line.
Cargo door explanation hurts everyone...manufacturer,
government, airline, while helping only one category, passenger,
the one who dies. I asked NTSB to be passenger rep on TWA 800
and they said I had to be actively involved. So to be represented
in crash investigation for NTSB as passenger you have to be
dead. I told them that, no comment.
So the thought is, get pumped up to do hours of meticulous
paperwork showing the obvious. Yeah, ...
Thanks for email, John Barry Smith

From: "Bill King" <billking@bellsouth.net>
Date: March 31, 1997 9:41:15 AM PST
To: "John Barry Smith" <barry@corazon.com>
Subject: Re: Two inputs?

So, Bill, did you get to my site through the RA5C and then later
the
newsgroup sci.aeronautics airliners?....... 

Truth is I didn't connect you (TWA800) this morning with the
Vigilante
until you brought it up. You are obviously involved with aviation
on many
different levels - I am just curious and fascinated. (I, too,
intensely
dislike spreadsheets - but occasionally I see true value in them as
a tool
- I have used Lotus123 a few times and now MSExcel when
forced). I urge
you, under any circumstances, not to deduct credibility from your
position
by thinking/declaring that the cargo door is absolutely/
unquestionably the
only possibility. Continue promoting it as the most likely theory -
but
maintain an open mind and allow for other possibilities. (In the
final
analysis the cargo door could be both a cause and an effect - for example:
rapid decompression around the door initiated the series of events which
brought the plane down (cause) - but, improper latching by the ground
crew, intentional but extremely subtle weakening of structural support by a
terrorist(what the hell's a terrorist?), shifting cargo, etc (effect of another influence) may be the answer. It's even possible to combine
multiple theories: suppose a no-warhead missile glanced off the fuselage
near the cargo door, bent/damaged a structural component without exploding
but causing a vibration or other significant weakening which then caused
the door or skin around the door to fail. I guess there are just endless
combinations/permutations in the universe of speculation.
Bottom line, and
I wish it could be THE universal value: take a stand- but don't close your mind!

Back to the A5......what happened to North American Aviation (I don't know the actual name of the company) ? bankrupt, bought out, taken over, etc ?
From: "Bill King" <billking@bellsouth.net>
Date: March 31, 1997 11:29:21 AM PST
To: <barry@corazon.com>
Subject: Visited your page.....

and had no idea you were so involved/committed. Piece on your accident well
written and very interesting!

___
< BK =
billking@bellsouth.net

From: John Barry Smith <barry@corazon.com>
Date: March 31, 1997 6:14:24 PM PST
To: billking@bellsouth.net
Subject: Rockwell

.what happened to North American Aviation (I don't know the actual name of the company) ? bankrupt, bought out, taken over, etc ?
Bought by Rockwell, who now make modem chips.
Cheers, John Barry Smith

From: Jim Ebright <ebright@coil.com>
Date: April 1, 1997 3:07:17 PM PST
To: barry@corazon.com
Subject: Re: It's not a coincidence cargo door fits evidence

Best explanation yet... may not be true but has the highest probability
of being true!
Tnx!

/Jim

--
((0 0))________ mailto:ebright@coil.com  "I used to hunt elephants but I
\ /  the \ don't do that anymore. There aren't enough of them"
- Newt
(--)\  OSU | Gingrich to Andy Lodge, Theo.Roosevelt Cons. Award winner.

From: GerdeBoer@aol.com
Date: April 1, 1997 8:18:09 PM PST
To: barry@corazon.com
Subject: 747's

Since I fly internationally a lot I found this very interesting.

Why do details?

Would appreciate them.

Thanks

From: John Barry Smith <barry@corazon.com>
Date: April 2, 1997 6:29:06 AM PST
To: GerdeBoer@aol.com
Subject: Details

Why do details?

Would appreciate them.
Hi, details, and lots of them are on the 1000 page web site
www.corazon.com
Regards, John Barry Smith

From: A.R.Eaglesham@iaea.org
Date: April 3, 1997 4:41:17 AM PST
To: <barry@corazon.com>
Subject: TWA 800

Dear Mr. Smith:

I am reading with great interest your Cargo Door Website.
Thank you for
it - it is quite persuasive.

You predicted that the cargo door of TWA 800 would be found broken in
half and unlatched - was it so found?

From the start of the investigation into the tragedy, I have felt that
the FBI and NTSB reps have worded their reports strangely - as if hiding
something - therefore I give some weight to the "friendly fire" hypothesis. Assuming your theory is correct, is there an obvious reason
why the authorities would be reluctant to admit it?

I hope to hear from you.

With kind regards -

Allan Eaglesham Ph.D.

From: John Barry Smith <barry@corazon.com>
Date: April 3, 1997 7:06:01 AM PST
To: A.R.Eaglesham@iaea.org
Subject: persuasive

Persuasive, usually it's compelling.
You predicted that the cargo door of TWA 800 would be found broken in half and unlatched - was it so found?
Broken yes, specific status of forward cargo door unreported but very important. You ask the NSTB if it was latched. Email them. They won't answer me.

From the start of the investigation into the tragedy, I have felt that the FBI and NTSB reps have worded their reports strangely - as if hiding something - therefore I give some weight to the "friendly fire" hypothesis. Assuming your theory is correct, is there an obvious reason why the authorities would be reluctant to admit it?
Well, I say no conspiracy, just normal regular reticence and misinformation from ignorant, scared, non creative government career bureaucrats. To ask a government entity to solve a mystery is satire.
Feel free to inquire yourself to the FBI and other agencies. We are both just citizens.
Regards, John Barry Smith

From: A.R.Eaglesham@iaea.org
Date: April 3, 1997 7:18:51 AM PST
To: <barry@corazon.com>
Subject: RE: persuasive

Mr. Smith:

Thank you for your response.

"Persuasive" is but one notch down from "convincing," in my book.

Allan Eaglesham

From: John Barry Smith <barry@corazon.com>
Date: April 3, 1997 7:53:55 AM PST
To: A.R.Eaglesham@iaea.org
Subject: convincing

Yeah, well, thanks, even though 39 people were convinced that comet spaceship would take them away. How can people believe fantasy and rebuff facts?

The big picture is the four crash similarities. The picture may be too big, they can only see the one fallen tree in the forest, TWA 800 and ignore the other three fallen trees with the same
mysterious gashes on the trunks.
Here is an email I just sent to authorities, media etc. Regards,
John Barry Smith
To: DICKINA@ntsb.gov
From: John Barry Smith <barry@corazon.com>
Subject: Stone unturned. Turn it over.
Cc: 
Bcc: 
X-Attachments:

Dear Appropriate Person,
A stone of TWA 800 crash cause is exposed and unturned. Turn it over. "Forward door of the aircraft popping open."
To turn over stone go to www.corazon.com and you will always be able to say, "I turned over every stone, I exhausted every possibility, I checked out every chance, I tried everything."
Cheers, John Barry Smith

"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." Aviation Week and Space Technology, 10 Mar 97 Page 35.

Mr. Dickinson, form letter to authorities. Barry

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possibility that still intrigues investigators, the second official said." Aviation Week and Space Technology, 10 Mar 97 Page 35.

Mr. Dickinson, form letter to authorities. Barry

From: John Barry Smith <barry@corazon.com>
Date: April 4, 1997 9:45:06 AM PST
To: 96008754@taper.georcoll.on.ca
Subject: It's all on web site

I've got a thousand pages on info on B 747 on web site www.corazon.com
Of particular interest to you might be the knowledge that Air India Flight 182 that killed many Canadians was not caused by a bomb but by the inadvertent opening of the forward cargo door. It's all on web site. Go there.
Regards, John Barry Smith

From: Trmptjock <Trmptjock@aol.com>
Date: April 4, 1997 9:16:03 PM PST
To: barry@corazon.com
Subject: Very interesting
Reply-To: Trmptjock@aol.com

Your theory is very convincing. Have you tried to contact Pierre Salinger?

From: GerdeBoer@aol.com
Date: April 6, 1997 1:58:10 PM PDT
To: barry@corazon.com
Subject: Re: Details
Thanks very much
I appreciate it.

From: "Bob Olson, Mayor of Olsonville" <troutguy@lunaweb.net>
Date: April 6, 1997 3:35:03 PM PDT
To: barry@corazon.com
Subject: passenger list for 103

Barry,
Do you by chance know of an online passenger list for 103 that you could
direct me to?

Thanks,
Bob O

From: "Bob Olson, Mayor of Olsonville" <troutguy@lunaweb.net>
Date: April 6, 1997 3:53:22 PM PDT
To: barry@corazon.com
Subject: pass list

Found one. Never mind. Thanks.

From: John Barry Smith <barry@corazon.com>
Date: April 6, 1997 9:00:47 PM PDT
To: troutguy@lunaweb.net
Subject: Send a copy to me please
Send a copy of PA 103 pass list to me, please, I'll keep it. So then I'll have 103 and 800 and need AI 182 for complete cargo door set of victims. John Barry Smith

From: "Bob Olson, Mayor of Olsonville http://www.lunaweb.com/olson/" <troutguy@lunaweb.net>
Date: April 7, 1997 8:24:31 PM PDT
To: John Barry Smith <barry@corazon.com>
Subject: Re: Send a copy to me please

John Barry Smith wrote:

Send a copy of PA 103 pass list to me, please, I'll keep it. So then I'll have 103 and 800 and need AI 182 for complete cargo door set of victims.
John Barry Smith

Email: barry@corazon.com
Page: http://www.corazon.com/

Sure, Barry, here it is:
http://www.geocities.com/CapitolHill/5260/passlist.html

I had to to a little searching as it didn't bkmk it, but finally remembered 'lockerbie' via Yahoo.

Regards,
Bob O

From: John Barry Smith <barry@corazon.com>
Well, Bob O, I went to the geocities place and it turns out the PanAm 103 page from which the passenger list was extracted has links to my site and in fact uses my 103 accident report. I love it. Interlinking sites. Thanks for the tip. Barry

Thanks for links to my pages. You are right in your scepticism about the bomb, it didn't exist, although there was a blast...after the door went. The description of the explosion is directed, short and mild, not spherical, big, and severe, like a bomb. It may be thermite flare, fireworks or other device only set off when explosive decompression occurs nearby, as it did when door popped at 31000 feet. A good defense for anyone in the 103 crash is: It was a mechanical problem, not a human one. Only hindsight and the similar crash of TWA 800 allows a fresh look at 103. Add in the benign explanation for explosive residue, discredited FBI explosive expert, Tom Thurman, and a reasonable alternative explanation, cargo door, and a reopened investigation is warranted.
Sincerely, John Barry Smith

Thank You
Barry,
I can't even beging to imagine how many hours that you have committed to gathering this information. I can't help but to think that perhaps you have some first hand knowledge of the flight 800 investigation. Whatever the case may be, I am as sickened of the tragedy of flight 800 today as I was when I first heard of it .... watching a live feed on satellite by accident.

It seems like yesterday that KAL 007 was shot down during a "Cat and Mouse" game between the United States Millitary and the Russians. Of course in the latter, no one would make truthful claim as to what happened. Enough rambling on.... I will probably spend very very much time trying to comprehend all this data.

John Ryba
jryba@theramp.net
LaSalle Illinois

From: Lovoy <lovoy@online.no>
Date: April 8, 1997 11:45:59 PM PDT
To: barry@corazon.com
Subject: Aviation Accidents.
Dear Sirs.
I am developing a Crew Resource Management course for airline pilots.
Accident reports is an important part of the syllabus. These are as you now available from various governments. It is however more difficult to find accident pictures and illustrations. I have seen your cargo door page on the net, and would be very grateful for any information or advise that you might be able to give about where to search for aviation accident pictures in general.
Sincerely, Terje Lovoy.

From: John Barry Smith <barry@corazon.com>
Date: April 9, 1997 12:01:09 AM PDT
To: lovoy@online.no
Subject: Search engines

information or advise that you might be able to give about where to search for aviation accident pictures in general.
The world wide web has many sites with pictures, just use your search engines to look for 'aircraft accidents.' Lycos search engine will look for pictures only if you ask it.
Sincerely, John Barry Smith
Hello, my name is Paul Bohus, I live in North Canton, Ohio. I am doing a term paper on terrorism and I am using some information from the TWA Flight 800 plane crash. I need to use your web site-
I'm not sure but I do not see your full name on the page. Could you please tell it to me so I can site your webpage properly on my bibliography. Please write back to me as soon as possible. Thank you very much.

Paul Bohus

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Name: pbohus
E-mail: pbohus <pbohus@-bihus.neo.lrun.com>
Date: 4/9/97
Time: 4:47:41 PM

This message was sent by Chameleon
-------------------------------------
Could you please tell it to me so I can site your webpage properly on my bibliography
John Barry Smith, barry@corazon.com www.corazon.com
I am the non conspiracy person, the low terrorism threat person, not very exciting but true, there are terrorists but they are not everywhere trying to blow us out of the sky. It's a hard sell.
Sincerely, John Barry Smith

From: "K.Nisbet" <nezz@ldn2.execulink.com>
Date: April 10, 1997 12:25:13 AM PDT
To: barry@corazon.com
Subject: Great Web Page
Reply-To: none@execulink.com

Dear Barry,
Great web page!!! My name is Kevin Nisbet, I live in London Ontario, Canada.
I am not a professional in the aviation field by no means, but have a strong interest in aviation crashes and synopsis. I've read your web page throughout and agree, alot of the 747 crashes seem similar. But, why haven't the NTSB and FBI figured this out yet? Remember the DC-9 crashes caused by cargo doors (PARIS WINDSOR ONTARIO incident)? They were quick to solve that problem. And wouldn't
it ease the minds of the world that this was malfunction and not terrorism?

These are the things I don't understand. I think if I were heading up the investigation into a major crash like this, I would focus on these areas.

Again, I really enjoyed your page and will look forward to any new information you might add. Also, if you know where I could find CVR recordings of crashes, please drop me a line.

keep up the diggin', Kevin Nisbet nezz@execulink.com

From: John Barry Smith <barry@corazon.com>
Date: April 10, 1997 12:18:19 PM PDT
To: nezz@ldn2.execulink.com
Subject: CVR

Also, if you know where I could find CVR recordings of crashes, please drop me a line.
http://WWW.CAM.ORG/~gilmour/
gives some.
But, why haven't the NTSB and FBI figured this out yet?
I don't know, ask them, email them. SCHLEDR@ntsb.gov
I have visited your Web and i'm very interested.
Do you have the flight data recorder tapes of the 747's crashed?
Would you send me, by the net, this? or information about where find this?
I'm very interested in the failures of the USA Defense forces, excuse me,
but i know few situations and i want to investigate this in the net
or use
the net to know where i need to write for information.
I can remmber the USS FFG Stark "Gulf's strike". Two missiles (one blow up
and the propelent without Blowing up of the other missile), one
plane which
only can carry one EXOCET misil, an error of the AWACS
systems or a new
system to carry two EXOCET in a Mirage?
The USS CGN Vicennes Gulf's "air strike". An "hostile" plane
without
identification and flying to "fast" (like an combat plane i thought remember
i read) was blow up of the sky by a missile, the plane was an
civil airbus
climbing to cruise altitude at cruise velocity (0,8 mach, the fast velocity
for an airbus plane). An human error (somepeople remember the
Stark at this
time) or and newest record of velocity for a civil plane?
The Gulf War, uffffff!!!! Friendly fire!!! so friendly for the tanks
soldiers!!! Was wrong in the IFF identification frecuencies, the
common
named "bannana"? and the infrared coloured identifications of
aliance tanks?
Well, better don't go back. (The low radiactive uranium
proyectiles of the
A-10, the chemisch attacks of Scuds to air base, the ills of the
Gulf
syndrome -petrochemisch contamination of the human body-, a
lot of situations)
And now "the missiles over Manhathan", Twa800, i'm sorry but i
think that
somebody wantn't the true. The cargo door was one of the
possibilities but
not the FINAL posibility of the destruction of twa800. If you
have some
information of this kind of situations, please send me by the net.

From: John Barry Smith <barry@corazon.com>
Date: April 10, 1997 8:37:18 PM PDT
To: victordiloy@futurnet.futurnet.es
Subject: cargo door

I understand your interest in military errors causing casualties but
in TWA 800 it was not a missile or bomb but door popping open.
There are many sites that do the missile theory for TWA 800, try
Ian Goddard in your search engine, he has a big site on missile.
Sincerely, John Barry Smith
From: Stu Hannah <tidbits@ridgecrest.ca.us>
Date: April 14, 1997 2:24:54 AM PDT
To: barry@corazon.com
Subject: your theory

just read "your theory". One question - are you a member of a paranoid
militia group too?
--
MZÆ

From: BrianM24@aol.com
Date: April 14, 1997 7:58:43 PM PDT
To: barry@corazon.com
Subject: Pan Am Flight 103 Web Page

Barry,

I was just checking out your site relating to the Pam Am disaster. I found
it very informative and intriguing. I showed it to a friend of mine whose
sister perished in the disaster. We were interested in knowing what source
you used for your information. If you could please e-mail me the name of the
book the information came from, we would be very happy!
Thank you for posting all this invaluable information. Keep up the good work!
Sincerely,

Brian Muench & Jeff Klein

PS> My email address is BrianM24@AOL.COM

From: John Barry Smith <barry@corazon.com>
Date: April 14, 1997 10:22:41 PM PDT
To: BrianM24@aol.com
Subject: AAIB report PA 103

I showed it to a friend of mine whose sister perished in the disaster. A personal connection. I will explain to your friend at length what happened to his sister. Have him contact me if you wish. We were interested in knowing what source you used for your information. United Kingdom Aircraft Accident Investigation Board report on PA 103 issued by the British government. The actual evidence supports the cargo door explanation more that the bomb explanation. The political explanation is bomb and only through the last nine years and two other similar accidents is the real cause clear, cargo door. I will stick to facts to use as evidence, not secret conspiracy of Libyan agents putting bombs on planes etc. It's mechanical and common sense, door popped. You can get a report too, AAIB is on web and you can order report or use my scanned text version on my web site. Keep up the good work!
The good work is to fix the forward cargo door and I am failing in that and need help. Prove to yourself if the door opened or not. Use the evidence of the report coupled with other reports. It will require reading and critical analysis by you. Or not, skip it and
go on about your business. The connection is your friend. Help your friend navigate the web site of PA 103. Show him the page on Pan Am 103 not a bomb? in contents.

By the way, the other forgotten cargo door crash, AI 182 is currently under new investigation too. That door has not been found but the subsequent twelve years and three other similar crashes connect to AI 182.
The difficulty in cargo door explanation investigated and accepted is destroying a myth, PA 103 bombing is now a myth and debunking a myth is a hard thing to do.

Your friend may prefer to think of his sister lost in evil plot by the evil in the world, not some stupid door popping open. The bombing makes sense of a tragedy in emotional terms, cargo door trivializes her death and is emotionally unacceptable, even if true.

So we shall see if a brother who lost a sister in plane crash is willing to hear out new explanation for the killer crash.
The internet speeds everything up and connects much more.
The cargo door opened for unknown reasons on PA 103, there was a blast but after door popped. In TWA 800 there was a fireball center tank fire but after door popped, consistent with evidence.

I will go through the evidence of why not bomb for 103 and why door for 103 with your friend via email if you wish. I encourage him to read the web site analysis of 103 crash first and familiarize himself with the other three crashes, 182, 811 and 800.

TWA 800 has been described as Pan Am 103 under water, and it's true.

Sincerely, John Barry Smith
Howdy!

Just wanted to drop a line to say hi, and to ask if you've taken the pages of email between you and a "person in the know?"

Also wanted to pass along this tidbit. I previously wrote that I printed several of you web pages to give to my dad, whom flys for TWA, for him to take to work & pass around/discuss. He says that most of the pilots believe the missile theory. He said that there are a bunch of (ex)military pilots who are convinced of this due to their own experience/that of friend/friend of a friend. He and a lot of the guys still believe that Boeing builds good airplanes, and that if there really were a problem, that the NTSB, TWA ALPA reps, or Boeing inspectors would bring it to everyone's attention and fix the problem. I say Ha! A classic example of this is Hoot Gibson's (The TWA captain, not the shuttle pilot) incident in a Boeing 727. He was flying along, suddenly aircraft rolls violently, goes into steep dive, got to Mach .9, at ~8000 feet, extended landing gear, saved plane and everyone on-board. He was hailed as a hero. NTSB couldn't or wouldn't figure out
what happened, handed investigation over to Boeing! Boeing came back, said that air crew was monkeying with switches, circuit breakers, etc to extend slats at altitude to get more altitude, airspeed, etc. Of course, the things Boeing said air crew was doing were the sort of things that only a Boeing engineer would know to do in order to bypass slat safety interlocks.

I took a look at the Paris Match animated gif you did, backs up your theory. Good luck and happy landings.

Dan Savage
savage@sure.net

From: John Barry Smith <barry@corazon.com>
Date: April 15, 1997 4:00:55 PM PDT
To: savagd2@MAISYSTEMS.COM
Subject: Mental defense

ask if you've taken the pages of email between you and a "person in the know?"
What does that refer to?
He says that most of the pilots believe the missile theory.
Yes, mental defense, a pilot must have total trust in his machine.
To consider cargo door is to sow doubt and that's bad. Trouble
must come from outside like bomb planted by terrorist or missile. Center tank exploding randomly is tough to believe too. Well, all the cargo door explanation has going for it is the facts, the evidence, is it enough? Wasn't enough against OJ. People believe what they want to believe, it's so depressing when you're trying to sell something they don't want. And cargo door is pain not pleasure. I followed the Hoot Gibson story and Airframe by Michael Chrichton has that angle as premise. I will be willing to correspond and discuss cargo door with any TWA pilot. I am a pilot, I talk facts and airplanes, not conspiracy of bombs and plots and missiles, just mechanical stuff, the real stuff. Grass roots is where ideas start and either fail or grow based on truth, I hope. Cheers, John Barry Smith

From: Starwhiz1@aol.com
Date: April 17, 1997 1:42:00 PM PDT
To: barry@corazon.com
Subject: well done page

Have you presented the info to the NTSB? I have a feeling that they may find your theory as a probable cause.

From: "Michael J. Bacon" <mbacon@dfw.net>
Date: April 18, 1997 3:25:51 AM PDT
To: barry@corazon.com
Subject: 747
Interesting theory. Could very well be accurate.

I enjoyed reading your site but found it difficult due to the poor grammar and sentence structure. Maybe you could get someone to translate it into English?

From: John Barry Smith <barry@corazon.com>  
Date: April 18, 1997 9:39:34 AM PDT  
To: mbacon@dfw.net  
Subject: Re: 747

Interesting theory. Could very well be accurate.

I enjoyed reading your site but found it difficult due to the poor grammar and sentence structure. Maybe you could get someone to translate it into English?

Well, problem:  
If you enjoyed it, you read it OK.  
If sarcasm, 'English' is capitalized.  
If for real, please explain, I'm interested, what language was it in? Cut and paste a difficult section into email and I will translate it for you.  
Sincerely, John Barry Smith
Yea, you were right, I was being sarcastic.

Not about your general theory though - it sounds quite probable and realistic. Much more so than some of the other theories. You've heard about the meteorite theory now I assume? Hilarious.

Anyway, my only problem with your web site was it was kinda hard to read, not organized very coherently. I am a web designer for my company (MCI) - I would be happy to assist you in designing your site so that it looks a bit more professional (right or wrong, people will be more likely to listen seriously if the site looks serious.) No charge of course, I'll do it in my spare time because I feel the theory needs to be seriously looked into by the NTSB.

Cheers,
Michael.
Subject: Disganorized

Yea, it is. The site just started and then grew. To me it makes sense; intro, background, reference, cases, links. The first page with poof bang pop is the right brain approach and the contents page is the left brain no fooling around part. I think it looks serious except for pun on website.

My problem is download time. My scanned pages are huge and take many minutes to download. I picked scan instead of OCR because I wanted electronic footnotes of the actual source, not paraphrases. I figure the people who are interested will wait and then save page. Those surfers who click by are OK by me, I'm not trying to persuade them. My animated gifs download for the four animations takes many minutes but then once in cache they flip by as planned.

I feel the theory needs to be seriously looked into by the NTSB.

Me, too. My main thrust is to persuade that the cargo door explanation is a worthy line of investigation, not that it is correct or not. I think it is correct but then so does every theorist; the explanation needs more corroboration only available through the professional investigators on site.

Thanks for offer to restructure site, I'll pass only because I prefer a less than perfect job that I did instead of a perfect job of another. I think that's part of the personality of a person who finds things others miss.

All my links are accurate and current. Few if any spelling errors in text. Color. Animation. Pictures. Extensive reference materials. The weak spot is the boilerplate that varies from page to page depending upon development. My templates change. Oh, well.

Thanks for offer again and interest. John Barry Smith
From: JetMechNWA@aol.com  
Date: April 19, 1997 8:36:28 AM PDT  
To: barry@corazon.com  
Subject: Re: Knowledge

In a message dated 97-04-18 23:17:58 EDT, you write:

<< Knowledge. I will give as much as I take too. >>

This is where we disagree. You give hypothesis out as knowledge while refusing to accept what is knowledge. Knowledge by definition is understanding gained by experience and range of information. The reports on the different events is both a range of information and an understanding gained by the experience of those who have examined first hand the evidence. Hypothesis is assumptions made in order to test its consequences, and theory is plausible or scientifically acceptable explanation. Theory is not proof but in many cases it is the best "knowledge" that can be obtained. In the cases of 182, 103 and 811 the causes and effects are not theory but are knowledge. Flight 800 has numerous theories. What you present is hypothesis of which the assumptions made are somewhat valid but are coincidental and easily explainable and therefore do not make a case to be "theory". In
order for your case to gain credence among the aviation community you would have to factually undo the knowledge of the first 3 accidents and then gain physical proof and not coincidental relationships between your assumptions and what actually has occurred. By the tone of the letter to disbelievers you had posted it is quite obvious that you are not succeeding. The above explanation is why.

Later,

Stan

From: magnetix@ix.netcom.com (Peter Rooney)
Date: April 19, 1997 9:40:37 PM PDT
To: barry@corazon.com
Subject: NY Times

I emailed you a couple of times in the past months, and also cc'd to The New York Times, "newspaper of record". Just last week, for the first time ever, I saw in its pages mention of "a man who writes once a week about the cargo door blowing off, causing a catastrophic chain of events". This nameless man is presumably you! Sorry to say that the thrust of the article is about "far-out theories". Still, it IS the
first time that I have seen the cargo-door hypothesis in print in a major publication, brief though it was.

I think your Web site is getting a little incoherent - and too huge - and too many pictures.

Suggest you should keep a simple online diary of what you did and learned, what is the latest news, what people have written to you - and keep the diary up to date. Then well-wishers could open it, go to the end, and read the latest. (Maybe you do have such a page, but it is buried).

Your persistence is admirable, and emulatable!

Regards.

From: John Barry Smith <barry@corazon.com>
Date: April 19, 1997 11:52:25 PM PDT
To: magnetix@ix.netcom.com
Subject: Yeah, unwieldly

I am the cargo door guy in NY times, wacky guy on net but look at what the NTSB says about door in Aviation Week of 10 Mar 97: "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."

I think your Web site is getting a little incoherent - and too huge - and too many pictures.

I'm afraid of breaking the links if I move anything.

Suggest you should keep a simple online diary of what you did and learned, what is the latest news, what people have written to you - and keep the diary up to date.

Like a little newspaper, newsletter. Yeah. I added new page, newer page, and newest page and keep them current. My latest is animated gifs of four events, three for 103 and one for 800, the radar images which show the door as primary return. Thanks for tip, Barry.

From: "John W. Willmott" <tiojuan@flinet.com>
Date: April 24, 1997 10:23:22 AM PDT
To: barry@corazon.com
Cc: owlshead@sover.net
Subject: TWA800 and Pan Am 103

Barry: I enjoyed our page. Lot to read so will come back. However, you're dead wrong on the Pan Am 103 ref door causing the crash.
Proof -
not contrived was a bomb. AS for TWA 800 - I claim "God did it!" which
you will have to dig out from my websites at http://flinet.com/~tiojuan
and at http://sover.net/~owlshead/ You will also find proof up to a point that 103 was bombed by Israel - not by the alleged two Libyans. I
am a retired airline pilot and was involved in writing on these disasters from the beginning - and before. Also, I flew an identical
Douglas DC8-63 with JT-3D PW engines into and out of gander for years
under identical conditions that Arrow Air encountered and it did not
happen as the U.S. government claimed and quickly bulldozed away all
evidence. Check it. Check my pages and get back with comments if you
wish. Thanks for the good read. I'll be back. John W. Willmott,
224
Pershing Way, WPB, FL 33401 on April 25 at 0123 EDT

From: "Bruce Perry" <brperry1@themall.net>
Date: April 25, 1997 9:07:41 PM PDT
To: <barry@corazon.com>
Subject: TWA800

Hi.

I'm Bruce Perry. Not related to the crash investigation in any way. Just
got curious about the missile theory and started checking websites.

An interesting theory about the cargo door coming off of TWA800, causing its destruction. I do have a few questions. In the other websites that have shown this 'door' it has appeared in at least 3 separate frames of the radar tape and in each successive frame, the door has been significantly closer to TWA800 in terms of lateral (horizontal) separation. Since the 'door' does not report altitude information no one can really say what the vertical separation was in each frame.

What would be your explanation for the 'door' making its first appearance in the radar tape at its greatest displayed horizontal separation from the aircraft? Shouldn't we expect the door to show increasing horizontal separation from TWA800 if anything?

I was under the impression (can't remember my website source) that the TWA800 transponder quit working at exactly the same instant as the cockpit voice and instrument recorders. Yet the three frames of the radar tape that show the 'door' blip clearly show transponder information coming from
the aircraft. I believe you stated the 'door' was visible on radar for 12
seconds prior to the disintegration of the aircraft. This means the
transponder, voice and instrument recorders should all have been
functional for those 12 seconds following the separation of the door. If a
cargo door had blown off the plane and the cockpit recorders were still working I
think there would have been some indication of a problem in the last 12
seconds on the tapes.

Your thoughts?

- Bruce
brerry1@themall.net

From: John Barry Smith <barry@corazon.com>
Date: April 26, 1997 12:35:01 AM PDT
To: brerry1@themall.net
Subject: Good questions.

Hi, Bruce. Good questions.
Where did you see the three frames with blip? I only have two frames with blip. The blip moves south and away from 800. Yes, the blip if door should coincide with destruction. Why on tapes is there no breakup of the plane evident? Many many questions and I've got thousands of hours watching scopes.
Here is my analysis sent to some friends who are trying to determine glide ration of broken door. It's essentially impossible
to make any firm conclusions with the loose numbers available at this time.

Possible explanation if door goes and transponder keeps replying: door goes, nose comes off, plane slowly disintegrates all the while the transponder is sending signals for the sixteen seconds or so. Unlikely as transponder antenna is near bottom cargo hold. If transponder ceasing and fireball at 7500 feet coincide then it could be possible transponder worked until explosion. The point is until timing sequence of destruction is determined, who knows what is going on. It's just another hell of a coincidence that metal object appears and disappears just about where metal door should be if torn off, aft and starboard of track of 800, according to my radar images.

Cheers, Barry Smith

I say big door part of unknown shape descends in parabola to ocean in unknown time at unknown distance.

Analysis: It goes from 300 knots horizontally to zero in an unknown time. It goes from zero vertically to terminal velocity (unknown speed) in unknown time. It travels in that unknown time from the unknown event location to an unknown splashdown location which is an unknown distance from the event location. The glide characteristics of the unknown shape are unknown.

Conclusion: Based upon the above numbers, subject to confirmation, I say the door probability location ranges from directly under the event location to about oh, say, ballpark, in the vicinity of about... eight miles. Eight miles! I knew you would argue my numbers.

Here's why eight miles. If a F-104 has a glide ratio of four, which it does, and can glide deadstick eight miles from two miles up, then this goddamn door with its aerodynamic lifting body
shape and initial high speed can do the same, no sweat.

From: "Bruce Perry" <brperry1@themall.net>
Date: April 26, 1997 7:50:06 PM PDT
To: <barry@corazon.com>
Subject: http://www.accessone.com/~rivero/CRASH/TWA/twa.html

Here's a link to a website that has a couple of different radar display sequences from the accident. The text claims that both radar sequences are from the FAA, so I don't know what's going on there. One of the displays doesn't seem to show any blip(s) at all. Go figure. The text on the other display claims the blip is visible in 4 successive sweeps of the radar (12 seconds total), but I'm danged if I could find four images with blips in it. Maybe they decided it was getting too repetitive and edited one of the blip frames out? It does look like the blip goes south slightly (thus getting a little farther away from TWA800) in the 5 seconds between the first 2 images. But then the blip appears to sweep far to the east (closing dramatically with TWA800) in the next available image (about half a minute after the 2nd blip image, BTW). Unfortunately, the radar sweep on that pass seems to have caught the military P3, the US Air flight heading
in to Rhode Island and the blip all in about the same horizontal location.

Of course, it's possible to say that the last blip image has nothing to do with the first 2 images, but then that would open up the possibility that none of the blip images had anything to do with each other. That would make the blips, just so much random noise as claimed by the FBI. The behaviour of the blips shown does seem to correlate closely with the radar images one would expect to see if a missile had indeed been launched from ground level below the AC and had risen on a parabolic intercept course with the AC. A *large* number of very credible witnesses have claimed to have seen such a missile.

Supposedly there was a satellite in orbit that has provided more definitive evidence of the behaviour of this blip. Guess we'll have to wait to see what comes from that.

- Bruce
From: John Barry Smith <barry@corazon.com>
Date: April 27, 1997 12:20:34 PM PDT
To: brperry1@themall.net
Subject: Thanks new blips

Thanks for the link to new set of blips, very interesting. I'm analyzing them. The first problem is why a primary raw blip of USAir plane and P3 plane show up but not disintegrating 747? The big pieces of 800 should show up and don't.
Barry

From: "Bruce Perry" <brperry1@themall.net>
Date: April 27, 1997 6:42:35 PM PDT
To: "John Barry Smith" <barry@corazon.com>
Subject: http://www.erols.com/igoddard/f04.htm

Thanks for the link to new set of blips, very interesting. I'm analyzing them. The first problem is why a primary raw blip of USAir plane and P3 plane show up but not disintegrating 747? The big pieces of 800 should show up and don't.

Not sure why radar didn't pick up pieces of AC. Maybe it did, but they were sort of following the same heading and therefore there wasn't enough
horizontal separation between the pieces to display as separate blips?

Two pieces of information and one supposition are key.

1> There is nothing out of the ordinary in the voice/instrument recorders.
   We'll have to take FBI/NTSB word on that.

2> Did the transponder quit at the same instant as the black boxes (voice/instrument cockpit recorders)? Here's that reference (URL in subject line) I've been searching for. The cited source is the New York Times.
   The claim is that the transponder stopped at almost the 'same instant' as the black boxes.

The 'big' supposition: If the plane started to break up (even just losing a cargo door) even a few seconds prior to loss of voice/instrument recorders there would be some sort of indication on the instruments at least. (sudden loss of airspeed, altitude, depressurization alarms, etc)

Putting all of this info together would lead me to believe that the AC breakup did not start till around the time the transponder info disappears (or changes to 'coast' as in the one display) from the radar
displays.
This would be long after the first appearance of the mysterious blip(s).

- Bruce

Content-Type: application/octet-stream; name="TWA 800 Crash Analysis Fact 4.url"
Content-Transfer-Encoding: 7bit
Content-Description: TWA 800 Crash Analysis Fact 4 (Internet Shortcut)
Content-Disposition: attachment; filename="TWA 800 Crash Analysis Fact 4.url"

Attachment converted: Master:TWA 800 Crash Analysis Fact 4.u (????/----) (000209A1)

From: John Barry Smith <barry@corazon.com>
Date: April 28, 1997 8:10:50 AM PDT
To: brperry1@themall.net
Subject: Discussion door

1. I'm not getting any of the attachements you are sending to open for me. I have a mac and can open tiff gif jpeg wav but not what you are sending.

Attachment converted: Master:TWA 800 Crash Analysis Fact 4.u (????/----) (000209A1)
Didn't get it.
2. there wasn't enough horizontal separation between the pieces to display as separate blips?
Well, a P3 was picked up and the wing of a 747 is as big as a P3. The 747 primary should be there, unless the display scope blanks out any primary around a transponder return, even in coast.

3. There is nothing out of the ordinary in the voice/instrument recorders.

   We'll have to take FBI/NTSB word on that.

Naw, not true at all. and NTSB says there is interesting stuff.
Anytime the CVR and FDR come to an abrupt halt, that's out of the ordinary. The CVR had the same sound as three other crashes, a sudden loud sound.

4. Did the transponder quit at the same instant as the black boxes (voice/instrument cockpit recorders)?

Good question and need hard numbers now unavailable.

5. The 'big' supposition: If the plane started to break up (even just losing a cargo door) even a few seconds prior to loss of voice/instrument recorders there would be some sort of indication on the instruments at least. (sudden loss of airspeed, altitude, depressurization alarms, etc)

Naw, as shown by UAL 811, abrupt power cut when door goes so all those alarms don't go off. And the events that followed, sudden loss of airspeed, altitude, did happen but unrecorded. The tremendous force of 300 knots is underestimated. 811 is the model, what happened to it happened to the other three except for nose coming off.

This would be long after the first appearance of the mysterious blip(s).

Too soon for conclusion without hard numbers.

I say big door part of unknown shape descends in parabola to
ocean in unknown time at unknown distance.
Analysis: It goes from 300 knots horizontally to zero in an unknown time. It goes from zero vertically to terminal velocity (unknown speed) in unknown time. It travels in that unknown time from the unknown event location to an unknown splashdown location which is an unknown distance from the event location. The glide characteristics of the unknown shape are unknown.

Content-Type: application/octet-stream; name="TWA 800 Crash Analysis Fact 4.url"
Content-Transfer-Encoding: 7bit
Content-Description: TWA 800 Crash Analysis Fact 4 (Internet Shortcut)
Didn't get any of the above.
There is a new set of radar images as you said and I am animating them. Still need more data.
By the way, did you see the radar blip for PA 103 just before it destructed? Same place, same distance, same 'anomaly'.
Barry

Content-Disposition: attachment; filename="TWA 800 Crash Analysis Fact 4.url"

From: "Bruce Perry" <brperry1@themall.net>
Date: April 28, 1997 10:47:31 AM PDT
To: "John Barry Smith" <barry@corazon.com>
Subject: Re: Discussion door

1. I'm not getting any of the attachments you are sending to open for me. I have a mac and can open tiff gif jpeg wav but not what you are sending.

Sorry about that. The attachments are just MS Explorer links to the sites listed in the subject lines of those messages. MS Explorer allows email to send web links as attachments of some arcane format. Thought it might have been MIME, but I guess not. Oh well, you'll just have to type or cut and paste the URLs from the subject line into your own web browser to check them out.

2. there wasn't enough horizontal separation between the pieces to display as separate blips?

Well, a P3 was picked up and the wing of a 747 is as big as a P3. The 747 primary should be there, unless the display scope blanks out any primary around a transponder return, even in coast.

I'm not claiming to be an expert on the FAA's ATC radar displays, but it looks to me like the radar displays use predetermined 'shapes' for
the various types of items picked up by the radar. In other words, a commercial international flight might always be displayed as a circle with a tag line leading to the transponder info block. A commercial US flight may always be a large dot. Unknown items might be diagonal lines or diamond shapes. At least that's what I'm seeing. I do not know the horizontal scale of the radar displays, but the 'circle' pattern used to represent TWA800 may scale up to cover an actual area a couple of hundred feet across. Also, it looks like the display just stacks patterns on top of each other when objects have little horizontal separation, with each new display pattern obscuring those 'painted' on the display earlier. You can see this effect in the image where the P3 and the USAir flight are coincident with the mystery blip.

To make a long story short... maybe the TWA800 circle is stacked on top of smaller blips for the separating pieces of the AC, thus preventing them from being displayed.

1> There is nothing out of the ordinary in the voice/instrument recorders. We'll have to take FBI/NTSB word on that.
Naw, not true at all. and NTSB says there is interesting stuff. Anytime the CVR and FDR come to an abrupt halt, that's out of the ordinary. The CVR had the same sound as three other crashes, a sudden loud sound.

Guess I should have been more specific <g>. I meant there was no apparent problem indicated in either the CVR or the FDR prior to the sudden loud noise (0.13 seconds duration) and then termination of function of both devices.

By this I mean no 'out of the ordinary' instrument indications and no unusual conversation/sound from the flight crew/cockpit (prior to loud noise).

Obviously, the loud noise and termination of function are in and of themselves, unusual.

When you say the NTSB says there is 'interesting stuff', could you be more specific? Do you mean the loud noise? Or something else, that I may not be aware of?

4. Did the transponder quit at the same instant as the black boxes
(voice/instrument cockpit recorders)?
Good question and need hard numbers now unavailable.

This was referenced in the URL link. That website cites an article in the New York Times, claiming that the transponder quit at almost the 'same instant' as the black boxes. Haven't read the Times article and couldn't begin to say who their sources would be, except the NTSB.

5. The 'big' supposition: If the plane started to break up (even just losing a cargo door) even a few seconds prior to loss of voice/instrument recorders there would be some sort of indication on the instruments at least. (sudden loss of airspeed, altitude, depressurization alarms, etc)
Naw, as shown by UAL 811, abrupt power cut when door goes so all those alarms don't go off. And the events that followed, sudden loss of airspeed, altitude, did happen but unrecorded.

This is my problem. If I believe the power is lost at the time the door comes off and if I believe the NY Times indication that transponder quits at the same instant, how can I reconcile transponder info showing up on radar display for at least half a minute after door appears on radar display?
The tremendous force of 300 knots is underestimated.

300 knots is hurricane force winds.

811 is the model, what happened to it happened to the other three except for nose coming off. This would be long after the first appearance of the mysterious blip(s). Too soon for conclusion without hard numbers.

There is a new set of radar images as you said and I am animating them. Still need more data. By the way, did you see the radar blip for PA 103 just before it destructed? Same place, same distance, same 'anomaly'.

Barry

No I did not see them. Is there a website you could refer me too?

Unverified rumors, have a US (not Russian - see Salinger) spy satellite in orbit over Brookhaven area. Supposedly, the satellite imagery clearly shows something on an intercept course with TWA800. The object misses on first pass, and then circles back around and merges at the time of the crash. Course, whether we'll ever get to see spy satellite imagery, is
I meant there was no apparent problem indicated in either the CVR or the FDR prior to the sudden loud noise (0.13 seconds duration) and then termination of function of both devices.
Right, exactly. Looking back though I have found something. All four planes had EPR gripes before or during fatal flight. The last words of the 800 crew were about a 'pesky oil gauge' and 'climb' a pressure changing event. The erratic gauge may be indicator of trouble.
By this I mean no 'out of the ordinary' instrument indications and no unusual conversation/sound from the flight crew/cockpit (prior to loud noise).
Well, they did issue pressure change just before pressurized vessel ruptured. They did complain about gauge which other fatal crashes had problem with.

But before sound nothing, exactly what you would expect leading to a sudden door pop.
Regarding ATC radar analysis I have requests in to analyze that and explain the questions. I tend to agree that the ATC display blanks out primary returns around transponder returns to avoid confusion.

That website cites an article in the New York Times, claiming that the transponder quit at almost the 'same instant' as the black boxes. Need time in minutes and seconds to correlate with radar data. I assume the time was instantaneous because of abrupt power cut which occurs when door goes, as in 811, the model.

How can I reconcile transponder info showing up on radar display for at least half a minute after door appears on radar display?

The ATC display goes into CST which is coast and plots data dead reckoning. So transponder data is there yet received no input to put it there. Or, nose comes off but transponder keeps firing from backup power for a few seconds.

The destruction sequence is unknown and may last many seconds. Power cut is not the same as destruction. Door goes, power cut, nose crumples, engine 3 falls, nose off, disintegration as rest falls into fireball. Door could have catapulted launched at 300 knots thousands of feet up or down to zero speed but let's say up, then glides down. That would take many seconds even a minute.

The best answer at this time for blip is metal object that appears and disappears aft and starboard of track just where a door would be. Nothing else fits.

By the way, did you see the radar blip for PA 103 just before it destructed? Same place, same distance, same 'anomaly'.
No I did not see them. Is there a website you could refer me too? Yeah, my thousand page site with PA 103 entire report on site, scanned in and uploaded, the green diamond is the door blip. The 103 essentials should give the highlights. 811, 103 and now 800 all had radar blips before destruction. Well, I can tell your are a missile guy. I'm not. There are lots of missile guys to talk to, Rivero and Goddard. Center tank guys are NTSB. Bomb guys are FBI. I'm the cargo door guy. I only have facts to back me up.

Cheers, Barry
the master lock because his ladder was too far away.
While he got down to move the ladder, the door opened on it's own. All
the way from completely closed to completely open.
The NTSB found a wiring short which bypassed the S2 switch and ran the motor open.
Do you have the NTSB report number for that incident? I want some details for a book I'm writing.
If you can give me any help I'd appreciate it.
Steve

From: John Barry Smith <barry@corazon.com>
Date: May 3, 1997 7:55:25 AM PDT
To: rocketman@sprynet.com
Subject: Uncommanded opening

Dear Steve,
I'm interested in an incident on of United Airlines Flight 844, June 21, 1991 at Kennedy Airport, involved the uncommanded opening of a B-747 cargo door. In that instance, a 747-200 had been loaded and the ramp agents attempted to close the rear cargo door.
All I have is on the web site. It's from the UAL 811 report which gives background on door openings. It's on pages 65 to 68 of the NTSB report on 811 on web site. The date is June 13 not June 21 as you state. If these two incidents are different please let me know immediately so I can include it on inadvertent door openings. If they are the same please let me know so I can add
your details to the NSTB details. This was another near miss. UAL still pulls circuit breakers for door power, they are edgy. What is the book, out of curiousity, fiction or non fiction? I have all the door openings on FAA incidents on web site under various door openings. A new one is 11 of 12 latches opened on main cargo door on 747 and plane landed safely. Where did you get your info on the aft door opening? It adds to the NSTB if they are the same. If different, very important because so close together in time.

Cheers, Barry

From: "Steven C. Brenessel" <rocketman@sprynet.com>
Date: May 4, 1997 10:43:16 AM PDT
To: Barry <Barry@corazon.com>
Subject: Re: Uncommanded opening

-- [ From: Steven C. Brenessel * EMC.Ver #2.5.02 ] --

Barry,
Thanks. I got the date June 21 from an article in the Seattle Times called Terror in The Sky. Byron Acohido wrote the story of Flight 811 and did a fabulous job. But the section of the 811 report confirms he made an error and dated that incident June 21 when it was June 13. I'm downloading the report from your page. I had the original but had to give it back. Thanks a lot.

Steve.
Only because your name is RocketMan will I deign to answer your question... >you think Pan Am 103 was a cargo door event also? What about the terrorist bomb, etc.? Yes, cargo door 103, no terrorist bomb 103. And it's on front page of web site, hundreds and thousands of words explaining, Pan Am 103 not a bomb?, but OK, I will attach below my explanation, as thin it is, that door not bomb, brought down 103.

And TWA 800, and AI 182, and 103, and of course 811. All similar events as shown by evidence, not wishful thinking. If you would review site at www.corazon.com and give me your opinion if 811 is model for the other three. Sincerely, Barry Smith

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.

Based on the new research discovery that traces of explosive residue on aircraft fragments can be benign, the investigation into Pan Am 103 should be reopened on that information alone. If the traces are not from a bomb, then no bomb evidence. A small piece of plastic may give timer evidence, but no bomb evidence. There is no such thing as a stealth bomb which leaves no residue and makes no sound unless explosive decompression is accepted which makes a loud sound, causes loose items to crash into each other, leaves no residue, and is not a bomb.

After all is said and done, it could have been a small blast which forced the door open, however, based on other accidents where the door opening led to destruction, the likely cause of the door opening is not a small blast in the forward cargo compartment but an electrical short which caused the door open motor to turn on, forcing the door to open past the cam locks, just like it did previously in three other instances of inadvertent cargo door openings.

OK, what about the wonderful spy story with foreign governments, CIA, coverups, bombs, timers, pants bought in Malta, etc, hey, great story, make a great movie, but not true; just entertaining fiction. That story has so many holes in it that it is incoherent. The tellers disagree among themselves every time
they tell it. The exaggeration of the warning, the non explosion on the way from Frankfurt to London, the bad luck of flight course deviation, the exaggeration of the too small blast into reverberating around air conditioning ducts would all be funny, if not so serious consequences occurred later on. Pan Am 103 looked like AI 182, and so it should, the cause is the same. But the wrong conclusion of AI 182 led to the wrong conclusion of PA 103 which almost led to the wrong conclusion of TWA 800 as all being bombs.

Comment: How can so many experts be wrong? You'll have to ask the experts. There is no conspiracy, no coverup and no plot. Administrative errors are made and administrative errors get corrected. There was a small blast, but not a bomb. There was an explosion, explosive decompression, which makes a loud sound and mimics a bomb in consequences. Wishful thinking, blaming others, and avoiding responsibility leads to errors of fact. The explanation may end up with sequence in dispute: door opened then small blast, or small blast then door opened. PA 103 door with cam lock evidence resides in hangar in UK. AI 182 door at bottom of sea. TWA 800 door in hangar in USA. 27 Mar 97
From: Nathan Boal <nathan.boal@virgin.net>
Date: May 7, 1997 11:36:48 AM PDT
To: barry@corazon.com
Subject: Request
Reply-To: nathan.boal@virgin.net

Would I be able to use your image on my home page (http://freepsace.virgin.net/nathan.boal/index.html). Its for personal use and I would be very grateful
Regards,
Nathan Boal (13 yrs.old.)

From: John Barry Smith <barry@corazon.com>
Date: May 7, 1997 11:55:36 AM PDT
To: nathan.boal@virgin.net
Subject: what image?

Would I be able to use your image on my home page
What image? Describe it.
Barry Smith

From: Marcron@aol.com
Date: May 8, 1997 7:16:13 PM PDT
To: barry@corazon.com
Subject: PAN AM 03

SIR,
I UNDERSTAND WHAT YOU ARE TRYING TO GET ACROSS BUT THERE ARE A FEW THINGS THAT WILL BE MADE PUBLIC WHEN MY BOOK IS RELEASED EARLY NEXT YEAR.THE ABOVE MENTIONED FLIGHT,WHICH WAS BROUGHT DOWN BY A BOMB, ORCHESTRATED BY MONZER AL - KASSAR ,FROM SYRIA, AND NOT AL MEGRAHI AND ABDEL BASSET ALI FROM LIBYA .THE BOMBING OF THIS PLANE INVOLVED THE IRAN / CONTRA DEALS AND A HOSTAGE DRAMA NEVER RELEASED IN THE USA.I FOUND ALL YOUR WORK
As a former TWA flt. Attendant who has worked flt. 800 often, my first impression when I heard of flt. 800 accident was a mechanical failure. Most TWA friends also felt accordingly at first. Currently I am with American as a flt. attendant and I am surprised by how many of our pilots thought it was a bomb or missile w/TWA800. Listening to and reading reports, I disagreed w/missile theory based on "eye-witness" reports. How many miles was the a/c off the coast and at what altitude.. any people in their backyards, at restaurants, etc. just happened to look out over the ocean and see this... hmmm.

Most likely, their perip. vision caught a "flash" of light from 800. They saw part of the a/c falling away - door? - and then heard the sound of "explosion". Light travels faster than sound... they probably assumed the part was
moving "toward" (not away) from the a/c and caused the "sound"...

(explosion)

AA Pilots and some TWA empl. tried to say that terrorist bombed TWA w/intent it would fall into ocean just to upset/scare US. Terrorist aren't going to plan years/months/weeks and then keep quiet if they're successful. If anything, they'd be boasting to their friends...and someone would report it.

As far as a USNvy msl - you'd nvr keep a seaman 1st cl. quiet with all the money available from news rags for info. Someone would tell for money.

The door theory sounds very plausible. But what caused the center fuel tank to explode? Could have been triggered by door.. chain of events....

I imagined that the older, very sr flt. engnr may have been showing his trainee some "tricks". Pilots/flt. egns have told me they like to keep fuel in wings, use cntr tanks first - a/c flies better - balances. Sr. egnr could have been showing newbie how to get the last bit of fuel out of center tank... one to many flipping of switches may have caused a build up charge on one pump...?? Unfortunate accident? Will we ever know?
I looked at the site on Boeing 747 history and specifications for which you provided the contents. I did this for my mother-in-law who wishes to know how fast they fly. Nowhere could I find this mentioned. Would you please enlighten us? Thank you.

Dominic Toon & Grace Baker (the MIL), Auckland, New Zealand.
I did this for my mother-in-law who wishes to know how fast they fly. Nowhere could I find this mentioned. Would you please enlighten us?

Up high and cruising, they go 300 knots or about 330 miles per hour through the air as measured by their instruments. But the air is thin so they are actually going 480 knots through the air or about 550 mph. If there is wind behind them of 100 mph, then the plane goes over the ground at 650 miles per hour. So they go less than the speed of sound, 760 mph through air, but still fast.

Sincerely,
John Barry Smith

Hi barry,
I've written you a long time ago in regards to your web site on TWA800.
I was wondering if you have had any inquiries from major news sources or gov't agencies and if they have honestly considered your synopsis. Also, in regards to the latest news reports from CNN, do you still consider what you have presented to be a viable conclusion to the
possibility of
the door coming off in flight?

btw: is Northwest safe? :-)

I'm flything them to Guam later this month.

---

From: John Barry Smith <barry@corazon.com>
Date: May 12, 1997 7:45:48 PM PDT
To: bucpo@mci2000.com
Subject: Safe?

Tell me something that is safe. Stuff is just less dangerous.
I was wondering if you have had any inquiries from major news
sources or
gov't agencies and if they have honestly considered your
synopsis.
No. Still no in depth investigation into door.
Northwest safe
Safe as any of the majors.
do you still consider
what you have presented to be a viable conclusion to the
possibility of
the door coming off in flight?
Yes.
Sincerely,
John Barry Smith

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From: Skip Heller <heller@nv.doe.gov>
Date: May 14, 1997 9:03:17 AM PDT
To: barry@corazon.com
Subject: Gander crash

do you have any recollection of news comments regarding radiation being detected at the Gander site?
Skip Heller

From: John Barry Smith <barry@corazon.com>
Date: May 14, 1997 10:11:18 AM PDT
To: heller@nv.doe.gov
Subject: Nothing on Gander

do you have any recollection of news comments regarding radiation being detected at the Gander site?
No.
I know nothing about the Gander crash, it's out of my area.
John Barry Smith

From: "Heller, Samuel R." <heller@nv.doe.gov>
Date: May 14, 1997 10:23:00 AM PDT
To: John Barry Smith <barry@corazon.com>
Subject: RE: Nothing on Gander

John:
Do you know of anyone who might have any data on this? Skip Heller

--------
From: John Barry Smith
To: heller
Subject: Nothing on Gander
do you have any recollection of news comments regarding radiation being detected at the Gander site?
No.
I know nothing about the Gander crash, it's out of my area.
John Barry Smith

Email: barry@corazon.com
Page: http://www.corazon.com/

From: John Barry Smith <barry@corazon.com>
Date: May 14, 1997 10:23:45 AM PDT
To: "Heller, Samuel R." <heller@nv.doe.gov>
Subject: Gander website

Sorry, no one, there is a Gander page...http://mason.gmu.edu/~jsandfor/gander/
John Barry Smith

John:
Do you know of anyone who might have any data on this? Skip
Heller
---------
do you have any recollection of news comments regarding radiation being detected at the Gander site?
No.
I know nothing about the Gander crash, it's out of my area.
John Barry Smith

Email: barry@corazon.com
Page: http://www.corazon.com/

Thanks, I have tried it. Skip Heller
----------
From: John Barry Smith
To: Heller, Samuel R.
Subject: Gander website
Date: Wednesday, May 14, 1997 10:22AM

Sorry, no one, there is a Gander page...http://mason.gmu.edu/~jsandfor/gander/
John Barry Smith
John:
Do you know of anyone who might have any data on this? Skip Heller

-------------
From: John Barry Smith
To: heller
Subject: Nothing on Gander
Date: Wednesday, May 14, 1997 10:10AM

do you have any recollection of news comments regarding radiation being detected at the Gander site?
No.
I know nothing about the Gander crash, it's out of my area.
John Barry Smith

Email: barry@corazon.com
Page: http://www.corazon.com/

Email: barry@corazon.com
Page: http://www.corazon.com/
From: JLGloer@aol.com  
Date: May 19, 1997 1:13:51 PM PDT  
To: barry@corazon.com  
Subject: TWA 800 Crash Thesis

Dear Sir,

I am writing a thesis on the TWA 800 crash and have accessed many of your websites regarding this and other similar crashes. I really would like to know a little about your background and how you know so much in this area. This will help me determine how to use your information in my thesis. I would appreciate a response as quickly as possible because I am in the middle of writing this already. Thank you.

JLGloer@aol.com

P.S. Any information of where else I could look would be very helpful also.

From: John Barry Smith <barry@corazon.com>  
Date: May 20, 1997 8:27:53 AM PDT  
To: JLGloer@aol.com  
Subject: Thesis

I really would like to know a little about your background and how you know so much in this area. Navy aircrewman, Navy jet navigator, civilian commercial pilot
instrument rated, Mooney aircraft owner, air intelligence officer.

Any information of where else I could look would be very helpful also.
Search engines under keywords will get a lot. 747, Boeing crash, PA 103, cargo door, bombs etc.

Good luck with thesis. My web site is deep, it has a thousand pages if printed out. Cheers, John Barry Smith

From: Michael Stevens <spike@earthnet.net>
Date: May 21, 1997 11:04:01 AM PDT
To: barry@corazon.com
Subject: TWA

Interesting site but I really have to differ. My father was a TWA pilot for 30+ years, and he flew 747s for much of his career. Bombs DO destroy planes, and quite easily. Have you seen the footage of that 747 they blew up in England a few days ago? Decimated the airframe, to say the least. Tell me that plane could've landed.

The only thing that will bring a 747 down as quickly at Flight 800 is a bomb or a non-warhead missile that tears through the fuselage just forward of the wing. The structural damage is catastrophic.

Anyway, good site.

-Michael Stevens
Will your page have references to the book from Zebra press by Jim Saunders that the TWA Flight 800 was downed by friendly fire? I think your thesis is more plausible, by the way.

John Barry Smith <barry@corazon.com>

Will your page have references to the book from Zebra press by Jim Saunders

Naw, he's a missile guy, I'm the cargo door guy, never the twain shall meet. Center tank guy and door guy can. Tank explosion after cargo door. No missile, no bomb, just ordinary event, door popped.

From: "Vincent J. Mooney Jr." <vincentj@pop.erols.com>
Date: May 24, 1997 8:26:58 AM PDT
To: John Barry Smith <barry@corazon.com>
Subject: Nice short reply
Thanks for your reply
Are you near the DC area. I'd be interested in hearing you speak if you are and if you give speaches.

At 08:02 PM 5/23/97 -0700, you wrote:
Will your page have references to the book from Zebra press by Jim Saunders
Naw, he's a missile guy, I'm the cargo door guy, never the twain shall meet. Center tank guy and door guy can. Tank explosion after cargo door. No missile, no bomb, just ordinary event, door popped.

Email: barry@corazon.com
Page: http://www.corazon.com/

Vincent J. Mooney Jr.  vincentj@erols.com

From: John Barry Smith <barry@corazon.com>
Date: May 24, 1997 9:57:51 AM PDT
To: vincentj@pop.erols.com
Subject: In Calif

Are you near the DC area.
In Ca
The speech idea is good though, my web site is really my message.
Cheers, John Barry Smith
From: "Mark L. Holman" <holmanm@teas.eglin.af.mil>
Date: June 3, 1997 10:14:32 AM PDT
To: <barry@corazon.com>
Subject: TWA800

Barry,

Looks like you are the only one who has gotten it right.

Mark.

From: John Barry Smith <barry@corazon.com>
Date: June 3, 1997 12:07:35 PM PDT
To: holmanm@teas.eglin.af.mil
Subject: Eglin

Ah Eglin, May 1965, I did several days at the survival course for Navy cadets at Eglin. Ate snakes and squirrels and lived in a TeePee.
Great fun. And of course the missiles out in front, the Bomarc, what a beauty.
Well, the fuselage rupture will happen again unfortunately, let's hope they check out that door before then.
Sincerely,
John Barry Smith

From: Rohan Sikri <sikri@giascl01.vsnl.net.in>
Date: June 4, 1997 3:34:03 AM PDT
To: barry@corazon.com
Subject: air disasters
Any new info?? am really interested - send me some, thanks Rohan

From: John Barry Smith <barry@corazon.com>
Date: June 4, 1997 1:47:44 PM PDT
To: sikri@giascl01.vsnl.net.in
Subject: new info

Any new info?? am really interested - send me some, thanks Rohan
Not much, TWA 800 hearing set for this summer but it looks like the center tank will get the blame. Cargo door explanation is still not explored.
John Barry Smith

From: Ric Johnson <ricjohnson@perego.com>
Date: June 4, 1997 9:09:22 PM PDT
To: "barry@corazon.com" <barry@corazon.com>
Subject: Flight 800
Reply-To: "ric@techie.com" <ric@techie.com>

Barry,

Your site on the 747 cargo door problem is the most fascinating I've read on the net in a long time.
I've just finished Michael Crichton's "Airframe" which is about an "Uncommanded Slats Deploy" problem on a fictional aircraft, but could have just as easily been about front cargo doors on 747's. You should
read it if you haven't.

One has to wonder why Pan Am 103 and TWA 800 have never been reported, even by so-called "investigative" journalists, as a cargo door problem. *Especially* when you have two AD's out on the problem, and confirmed incidents. The first place I would look is maintenance records for that craft...

Where's Mike Wallace? Where's Diane Sawyer? Where's Waldo?

I especially like the very subtle tongue-in-cheek mockery that permeates your site:

"12. House door that shut when it shouldn't. Hot day and doors open to let in air and breeze came up. Air flow started closing door which accelerated and slammed shut with loud bang waking baby."

and

"...a four window American sedan at 70 knots..."

Classic stuff.

Your presentation leaves a bit to be desired, but your content is smack on. Your site needs more than 8000 visits...
Ric

From: John Barry Smith <barry@corazon.com>
Date: June 4, 1997 10:07:21 PM PDT
To: ric@techie.com
Subject: cargo door

Read Crichton's Airframe, at least it puts the public out of the way of scary terrorists and into the mundane world of reality. One has to wonder why Pan Am 103 and TWA 800 have never been reported,
Me too, all the time. Your presentation leaves a bit to be desired,
Like many things, it just grew and grew. I'm now afraid to break off parts and put links to them because the links may not work. It's a house of cards that's balanced now but altered may fall. Your site needs more than 8000 visits...
8000 since Super Bowl. My counters from ISP kept freezing and restarting. Total approximate since July 96 about 44000 on main page. During Salinger's missile event, there were 200 hits an hour for several days.
My push now is to get recreation of streak and blip by pushing doors out of C 130 at same time of day and position as 800. Thanks for email, John Barry Smith

From: Gary Clarke <gary@acp-syme.com.au>
Date: June 5, 1997 11:30:17 AM PDT
To: barry@corazon.com
Subject: What do you think?
Hi Barry,

Earlier this year I emailed and you were kind enough to reply re TWA Flight 800.

I was wondering if you think that this latest report that suggests that the centre fuel tank exploded, is in fact, the cause of the disaster. I notice Boeing has issued service warning to all operators.

I find your comments interesting.

Kind regards

Gary

Work e-mail: mailto:gary@acp-syme.com.au
Private e-mail: mailto:gaz@pobox.com

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

From: John Barry Smith <barry@corazon.com>
Date: June 5, 1997 9:20:03 AM PDT
To: gary@acp-syme.com.au
Subject: My response to NTSB

Mr. Dickinson,
The first anniversary of the crash of TWA 800 is less than two months away. Many will be looking at the spot in the sky in which the 747 destructed. I suggest a recreation to test a
hypothesis that a piece of the plane came off and reflected evening sunlight as it spun away appearing as a streak to ground observers and to also confirm the metal piece could be picked up on primary ATC radar.

The security guys are very good at recreating what they believe happened, bombs and missiles. Planes are being blown up and missiles fired at other planes. Let the mechanical proponents have an exercise in recreation.

Based upon the TWA 800 streak and mysterious blip at the same time, both could be related. What hypothesis could explain both? Cargo door could. It would be cheap, safe, and easy to test that idea. In the evenings before the anniversary, observations could be made of regular 747s taking off from Kennedy and passing the event spot at 13700 feet at 300 IAS. The large, short duration, sun reflective flash can be observed off the 747's forward fuselage, moving to engines, aft fuselage, vertical stabilizer, and winglets if 747-400. I have observed this flash many time from my vantage point living under a heavily travelled airway from SF to LA.

On the anniversary evening a C-130 carrying spare old 747 cargo doors or metal object of same size and shapes could fly at 13700 feet as fast as it could go, about 220 IAS, and at 8:31 PM on 17 July, lower the C-130 inward opening aft door and the crew could push out the eight foot by nine foot pieces of shiny radar and sun reflective metal. ATC radar and ground observers could watch to see the track of the object as it slows down horizontally land speeds up vertically in a parabolic curve to the ocean surface. Radar tapes could then be analyzed to see if the object matches the blips before TWA 800 disappearance off scope. Ground observers can be queried to see if observed streak matches the TWA 800 streak. Several passes could be made in the sun reflective window between 8:20 to 8:50 PM.

A mechanical hypothesis would have been tested in a non
destructive, safe, cheap, repeatable manner, inadvertent fuselage rupture forward of the wing on the right side. When the streak and radar blip are recreated at the same time and place as TWA 800, a strong case can be made that some part of the airframe flew off just before destruction and two mysteries solved.

We are dealing with life and death here so any effort is worth it to stop the death from happening again.

My goal is easier than yours. My goal is to persuade you that a worthy line of investigation for crash cause of TWA 800 is hull rupture forward of the wing on right side around cargo door. Your difficult task, if you were persuaded to investigate rupture area, would be to prove or disprove that explanation.

The big picture: From identifying the forest, individual trees make sense. A single tree examined alone does not reveal much. Here are the Boeing 747 trees and the forest they belong to:

- TWA 800 was a solo ruptured pressurized hull event.
- PA 103 was a solo ruptured pressurized hull event.
- AI 182 was a solo ruptured pressurized hull event.
- UAL 811 was a solo ruptured pressurized hull event.

There are other high time Boeing 747 ruptured hull crashes but they were not solo and they involved getting hit by lightning or flying into the water, the ground, or another airplane.

The only three that match TWA 800 are the above alone, sudden, and fatal hull ruptures.

You are on the scene and have seen two of the planes involved, TWA 800 and UAL 811. I contend that had UAL 811 had its weakened nose torn off the sequence of destruction would match TWA 800. Could the weakened nose of 811 have torn off from the 300 knots IAS?

My cargo door explanation is based on the central intelligence of the similarities in solo pressurized hull ruptures. They all have common consequences and leave similar evidence. I included for background reference in my research the three DC-10 cargo door
events. Also included in research was PA 125, a Boeing 747 leaking pressurized hull event.

The DC-10 hull ruptures occurred in the aft fuselage as shown by the evidence after the crashes.

The four Boeing 747 hull ruptures and the one leaking hull have all been located to a small area on the large 747: Forward of the wing on the right side, exactly where a huge square hole has been cut into the pressurized hull; the outward opening cargo door.

Let's get specific:
UAL 811, NTSB report states location of rupture was forward of the wing on right side.
AI 182, Indian report states location of rupture was forward of the wing on the right side.
PA 103, AAIB report states location of rupture was forward of the wing on left side followed immediately by right side rupture.
TWA 800, early New York Times article stated computer simulation located rupture forward of the wing on the right side.
(Documentation of sources is on web site www.corazon.com)

Now to the causes of the solo pressurized hull ruptures of the four planes above: Ah, the causes. It seems that such similar events would have a similar cause but that is not the official position.

The causes have been stated in reports as:
AI 182 as bomb in forward cargo hold or door.
PA 103 as bomb in forward cargo hold.
UAL 811 as bomb or door.
TWA 800 as bomb in forward cargo hold, missile striking forward of the wing on right side, fuel tank explosion severing nose forward of wing, or door.

If TWA 800 had been shown to be bomb then all would be right in the aircraft investigation world. Four catastrophic solo ruptures of 747s; three bombs and one door.
But TWA 800 has been shown not to be a bomb and all is not
right in the aircraft investigation world. It doesn't make sense. Something's wrong. If 800 not a bomb, then maybe 103 and 183 not bombs? If not bomb, what?

Let's back up to big picture. The large forest of wide body solo hull ruptures includes three DC-10s and four Boeing 747s. The three DC-10s are definitely in the forest, but are the four Boeing 747s? What else is there to link them to include them as hull ruptures?

If the four Boeing 747 hull ruptures over eleven years can be shown to be extremely similar then they can be assumed to have one common cause. What is it?

I contend they are so similar that they have one common cause. The common cause is a hull rupture forward of the wing on the right side. It sounds like a circle but that is an important point for us to agree on. Were there hull ruptures on the four planes and did they cause the accident? I say yes.

What caused the hull rupture at that location?

Well, every inch of that area must be examined closely. It is already a dangerous area. Section 41 retrofit was done to correct cracks near the rupture area. Several ADs were issued to correct faults in a door which may lead or did lead to a rupture in that area. The pear design at rupture location is not as strong as a circle or oval found aft, near identical door which has not failed in flight. Historically, hull ruptures have been near squarish corners of holes cut in the pressurized hull; there are squarish corners of a big hole in the rupture area.

Regarding TWA 800, I am assuming the fireball and center tank explosion occurred after hull rupture, not before, based on eyewitness accounts of streak and altitude of fireball lower than that at rupture event. Radar data also supports hull rupture first, then, later and lower, center tank explosion. There was a hull rupture forward of the wing, severing the nose, the time and cause is unknown as this time. If the cause of the hull rupture for
TWA 800, the streak, and the radar blip anomaly could all be explained by center tank explosion, and if the ignition source were known, then you would not have emailed me in exasperation about the latches being latched on the 800 door. Center tank explosion does not answer all the questions nor explain all the evidence and as an investigator you would like to have all the loose ends tied up. Me too.

NTSB has been right all along to say mechanical and center tank explosion. NTSB is still right and will be right, it was mechanical and there was a center tank explosion. There is no incompatibility.

Let's assume for purposes of this thoughtful reply, the fireball occurred later and lower than initial hull rupture.

A hull rupture would cause an explosive decompression which means a sudden loud sound.

1. There was a sudden loud sound on the four 747s CVRs.
2. There was a large hole on the right side, forward of the wing on the four 747s; the door hole and torn away associated fuselage skin.

At that rupture spot, a weakened nose could be torn off by the tremendous 300 knot slipstream and start a sequence after sudden loud decompression sound:

3. Power abruptly cut at main equipment compartment. All four had abrupt power cut.
4. Passengers sucked out of large hole and ingested into number three engine. All four had at least nine missing, never recovered bodies.
5. Nose falls in dense area on surface. Nose fell in dense area on three planes, on other plane the nose stayed on.
6. Rest of plane disintegrates as it falls leaving wider spread debris pattern. Three had wide debris pattern for noseless planes,
other plane kept nose on.
7. Engine number three FODs, catches fire and falls away to land alone. Three number three engines fell away to land separately, two were on fire. Number three engine FODDED on other plane but engine stayed on wing.
8. Inflight damage by debris more severe on right side. Three planes had more severe right side damage and maybe the fourth too.
9. All four planes had ground radar information at time of rupture. Three had nearby lone primary radar blip, the other might have had but was out of primary radar range.
Discussion: The abrupt power cut would prevent most information about the cause of the rupture from reaching alert lights, the FDR, ground control, or the crew. The streak of 800 was only because the light was such to reflect off the fuselage to ground observers. The other hull ruptures all occurred out of sight of land or at pitch dark.
(There are other similarities of the four not immediately connected to hull rupture: all were high time and took off at night, running behind schedule and with EPR gripes.)
I believe that that is enough significant similarities to state that the four high time Boeing 747 accidents were caused by hull rupture forward of the wing on right side.
If we agree on that, (and I'm sure we do for UAL 811 and AI 182, close on PA 103, and unknown on TWA 800,) then let us consider very closely what needs to be done to determine why hull ruptured.
What causes pressurized hulls to rupture? Lots of reasons.
Overpressure caused by bomb or malfunctioning airconditioning, structural defects, design errors, pressure miscalculations, missile penetration, midair collision, faulty windows or doors, and metal fatigue. The evidence must match the exact explanation to be satisfactory.
Submarines and planes are similar in that pressure is a huge consideration and often underestimated. Subs sink when valves are installed backwards. Planes crash when windows pop. Ruptured hulls have been around as long as they have been pressurized. The Comet lesson was not learned by the 747. The DC-10 lesson was not learned by the 747. Do not cut outward opening large square holes in pressurized hulls. If they are cut then the incredible pressure will eventually force it open or the continued use will weaken the structure to failure.

To say a solo hull rupture is caused by large door opening inadvertently or metal fatigue is just to refer to precedent. It's happened before. It's a normal working hypothesis. To say hull rupture was caused by center tank explosion by unknown ignition source is to be speculative.

A 747 has never had a center tank explosion of unknown origin in good weather. A 747 has had a hull rupture forward of the wing on the right side by an inadvertently opened cargo door. There have been three other very similar accidents and none was a center tank explosion. They all could be structural failure at the rupture zone.

If a worthy line of investigation into the hull rupture of TWA 800 is a center tank explosion, or a bomb, or a missile, then it is certainly a worthy line of investigation to rule in or rule out inadvertent door opening, or metal fatigue, or structural failure at rupture location, forward of wing on right side.

To rule in or rule out rupture cause requires close examination of fuselage metal at corners of door to see if it matches the metal failure pattern of the corners of the squarish windows of the Comet. It requires close examination of the door latching mechanism to confirm the cam latches were latched around the locking pins. It requires examination of stringers, bulkheads, floor beams, skin, and panels for any preexisting failures. It requires close examination around lone mid span latch of door
for failure. It requires examination of door seals for leaking and door frame for previous damage or out of rig condition.

Regarding the complex latching system of the forward cargo door: The problem is subtle. It is possible to say that the locking sectors of the door were in the locked position and yet, the door to be unlatched. The cam sectors around pins is the key item.

Was the bottom of the 800 door sill attached to the door latches? Was the door found broken in pieces but unattached to any fuselage? Did the door break at the mid span point? Did the hinge at top of door tear away at corners? Were the locking sectors steel or aluminum?

The rupture evidence of the other crashes now becomes a help. The evidence at the rupture location of 800 can be compared with the evidence of 182, 103, and 811. For instance, the tearing pattern of the rupture location on right side of fuselage for 811 and 103 match almost perfectly, it may match 800 too.

The latch status of FCD of 182 and 103 were unreported, it needs to be determined.

Regarding TWA 800 specifically before fireball: All revealed evidence is consistent with hull rupture forward of wing caused by door failure:
1. Streak is shiny door departing in evening sun.
2. Radar blip is metal door reflecting primary radar energy.
3. Sudden loud sound is sudden loud decompression after door goes.
4. Engine number three would ignite disintegrating wing and fuselage into fireball.

After fireball, evidence is consistent with center tank explosion. Soon to be revealed public docket should be very interesting to contemplate:
1. Engine breakdown report. (FOD on three?)
2. Item wreckage plot. (Door found where?)
3. CVR data. (Frequency match 103?)
4. FDR data. (Any EPR problems?)
5. Radar plots. (Blip close enough to be door?)
6. Photographs of reconstructed fuselage. (Pattern match 103?)
7. Crew conversation. (The last words of the 800 pilot were to initiate a pressure changing event just before his pressurized hull ruptured, "Climb.")

To summarize: A worthy line of investigation into the crash of TWA 800 is the examination of the rupture area forward of the wing on the right side; specifically the forward cargo door area, to rule out failure of door latching mechanism, or door frame at corners, or blow out at mid span, or other structural failure in fuselage. This recommendation is based upon striking similarities to three other solo ruptured fuselage accidents, none of which was a center tank explosion.

Please check out the cargo door area thoroughly for mechanical failures. Use hindsight and compare all aspects of the similar earlier crashes of AI 182, PA 103, and UAL 811 to TWA 800. Use history to refer to similar Comet crashes and DC-10 crashes.

Sudden catastrophic airplane crash: New boss same as the old boss: pressurized hull rupture.

Is it possible to determine in your mind, Mr. Dickinson, that TWA 800 had a hull rupture? Can you locate it? Can you offer some explanations? What needs to be done to confirm or rule out your explanations?

Let's talk by email or phone about airplane crashes, not necessarily TWA 800. That's certainly appropriate after a public appeal for information by the NTSB. There is much to discuss. I am vitally interested in this probably because of my own military RA-5C crash in which my pilot died and I survived a night fatal fiery sudden jet crash.

We both have the same goal. Success has many fathers while failure is an orphan. Let us succeed and everyone will be happy up and down the line.
Sincerely,

John Barry Smith

06JUN97

BARRY,

MY NAME IS JEREMY STRAUSS, WHILE "SURFIN THE NET" UNDER THE SEARCH OF "AIRCRAFT ACCIDENTS" I CAME ACROSS SOME INFORMATION ABOUT FOREIGN OBJECT DAMAGE (FOD) TO AIRCRAFT ENGINES. IF AT POSSIBLE COULD YOU E-MAIL ME SOME INFORMATION ON FOD, AND THE CONSEQUENCES OF IT (REPORTS, INVESTIGATIONS, OPINIONS, ETC.) IF YOUR WONDERING WHY I'M ASKING YOU FOR THIS INFORMATION.
THE REASON IS I'M IN THE NAVY, STATIONED OVERSEAS IN SPAIN. PEOPLE HERE DON'T SEEM TO COMPREHEND THE IMPORTANCE OF FOD PREVENTION. WITH FACTUAL INFORMATION FROM YOU MAYBE I CAN HELP OUR FOD PROGRAMS. OUR CURRENT LECTURES ARE VERY DRY AND WERE POSSIBLY EFFECTIVE THE FIRST TIME WHEN IT WAS PUT ACROSS IN 1970'S, SO I'M TELLING YOU THE LECTURES WE HAVE ARE GROSSLY INEFFECTIVE. CURRENTLY OUR POWER PLANTS ENGINE SHOP WORKS ON F-402/404, T-56-AND TF-30 ENGINES. ANY TYPE OF FOD INFORMATION WOULD BE GREATLY APPRECIATED.

JEREMY STRAUSS
PSC 819 BOX 15
FPO AE 09645-2100

boitnott@aircadiz.net

From: John Barry Smith <barry@corazon.com>
Date: June 5, 1997 10:00:07 PM PDT  
To: boitnott@aircadiz.net  
Subject: FOD

IF AT POSSIBLE COULD YOU E-MAIL ME SOME INFORMATION ON FOD, AND THE CONSEQUENCES OF IT (REPORTS, INVESTIGATIONS, OPINIONS, ETC.)

Well, my crash was caused by FOD, it was titanium bolt which was ingested into engine and ended up killing a pilot and crashing plane.
I don't know of other sources though.
We did ramp walkthrough all the time at Rota. FOD is bad for props too, nicks them and gets props out of balance. It's bad stuff.
Search engines on web should help.
Sincerely,
John Barry Smith

From: "Gary Munson" <jeffdill@totcon.com>  
Date: May 12, 1997 4:24:38 PM PDT  
To: <barry@corazon.com>  
Subject: ???

wondering what happened to your Flight 800 site???

From: John Barry Smith <barry@corazon.com>  
Date: June 11, 1997 8:34:00 AM PDT  
To: "Gary Munson" <jeffdill@totcon.com>  
Subject: Still trying

wondering what happened to your Flight 800 site???
Cheers, John Barry Smith

From: BUSIMART@livjm.ac.uk
Date: June 12, 1997 11:44:57 AM PDT
To: barry@corazon.com
Subject: TWA800 Theory

I've just been reading your website, in particular regarding the destruction of Flight 800 (TWA). The idea of the cargo door is interesting, however you say that it would appear on the radar scope - naturally it has, but it was travelling towards the aircraft and not away and also at about 300knots. I have had loads of correspondance from people in the USA including ex pilots, who are convinced that TWA was brought down by a missile. Have you heard any of this theory - what do you make of it all?

Iain

From: John Barry Smith <barry@corazon.com>
Date: June 12, 1997 8:13:43 AM PDT
To: BUSIMART@livjm.ac.uk
Subject: need evidence.
brought down by a missile. Have you heard any of this theory - what do you make of it all?
Good story, no evidence for reality.
Cargo door, boring story, much evidence for reality.
Pilots must have faith in their plane and can't fly thinking the door is going to pop so think outside enemy did it.
but it was travelling towards the aircraft and not away
As streak is by definition fast and it was unexpected, the viewer puts direction. And appearance of direction is dependent on viewer position, as plane coming toward you far away appears to you to be climbing but could be descending.

Cheers, John Barry Smith

From: BUSIMART@livjm.ac.uk
Date: June 12, 1997 9:30:29 AM PDT
To: barry@corazon.com
Subject: Re: need evidence.

Say it's the cargo door right - it's one hell of a catastrophic inflight breakup and doesn't justify the immediate loss of info on the FDR/CVR - I mean there would be all sorts of wooshing noises and alarms going off, not to mention screams in the background coupled with the flight crew talking about what was happening. Still convinced it's the door?

Iain
OK, facts. Let's assume we don't know exact time of initial event. Transponders keep on giving signals with emergency power, ATC scopes keep on giving information based upon previous plot, it's called coast and is the'CST' in the images. Radar antennas scan in rotation every few seconds and are blind, all exact times of events are in the hands of the NTSB and have not been released.

So, no exact times, no exact answer. But we can guess. The object you describe was on the radar scope for 12 seconds at approximately 8:30.31 to 8:30.43. It was approximately 3 miles from TWA 800, heading SW, flying at approximately 350 mph, altitude unknown. It disappeared a full 33-34 seconds before TWA had any interruption of normal operation and conversation.

The above is a good guess. A cargo door is in the shape of an airfoil lifting body, once loose it flies up and out and away, starting at 300 knots and decelerating to zero horizontally and accelerating from zero to terminal about 220 vertically. The fast moving door appears as streak to eyeball and blip to radar which has finer discrimination. Blip is aft and south of TWA 800 exactly were a door would be that left on starboard side of plane and wind from north.

The ATC tapes may be approach radar and not Center radar with different distances between curved lines on scope. Scan rates of radars are different so blip seen three times may be in air for much longer than thought.
My point is for exactness, the data is too flimsy.
For generality, a blip and streak and plane destruction occur with
seconds of each other. I say they are related. And in three other
high time 747 fatal accidents, all had radar blip at time of
destruction. All.
All. One blip was door tracked and retrieved from ocean. Other
two are unexplained. I explain them. Door.
I suggest you look at the frames of the radar tapes at the Paris
Match site
yourself. What I am telling you is there for you to analyse.
Yeah, I was the first to animate them into .gifs for viewing
months ago.

Cheers,
Barry

From: "Gary Munson" <jeffdill@totcon.com>
Date: May 14, 1997 4:18:53 AM PDT
To: "John Barry Smith" <barry@corazon.com>
Subject: Re: Still trying

It must have been temp. down the day I looked. I'm
convinced....Lockerbie
must be the reason they don't want to look at the cargo
door...they don't
want to admit their mistake there.....keep on! Thanks, Gary

From: BUSIMART@livjm.ac.uk
Date: June 13, 1997 2:28:14 AM PDT
To: barry@corazon.com
Subject: Re: need evidence.

Yeah but that's what I'm saying - there are no noises on that tape that suggest that it was a scenario such as the door coming off. Do you believe in the possibility that it was a missile, but that the missile was not armed - it didn't blow up on impact, it merely tore through the side of the aircraft?

From: "Marilyn Brady (Net)" <marilyn@siservices.net>
Date: June 15, 1997 4:20:15 PM PDT
To: John Barry Smith <barry@corazon.com>
Subject: Re: Facts, I love facts.

-- [ From: Marilyn Brady (Net) * EMC.Ver #3.1a ] --

If you studied the radar tapes you know that the object you refer to appeared and disappeared long before there was any problem with TWA 800. If the door had flown off, they would have known it, yet they kept talking to ATC until right before everything stopped - 8:31:17. Whatever happened was at that point in time, as evidenced by the loud noise that was heard for a milisecond. The object you think is a door was miles away from TWA 800 at that time.

I stand by my analysis that it could not possibly be the cargo
door.

-------- REPLY, Original message follows --------

Date: Thursday, 12-Jun-97 12:43 PM

From: John Barry Smith     \ Internet:  (barry@corazon.com)
To:  Marilyn Brady (Net)     \ Internet:
     (marilyn@siservices.net)

Subject: Facts, I love facts.

OK, facts. Let's assume we don't know exact time of initial event. Transponders keep on giving signals with emergency power, ATC scopes keep on giving information based upon previous plot, it's called coast and is the'CST' in the images. Radar antennas scan in rotation every few seconds and are blind, all exact times of events are in the hands of the NTSB and have not been released. So, no exact times, no exact answer. But we can guess. The object you describe was on the radar scope for 12 seconds at approximately 8:30.31 to 8:30.43. It was approximately 3 miles from TWA 800, heading SW, flying at approximately 350 mph, altitude unknown. It disappeared a full 33-34 seconds before TWA had any interruption of normal operation and conversation. The above is a good guess.
A cargo door is in the shape of an airfoil lifting body, once loose it flies up and out and away, starting at 300 knots and decelerating to zero horizontally and accelerating from zero to terminal about 220 vertically. The fast moving door appears as streak to eyeball and blip to radar which has finer discrimination. Blip is aft and south of TWA 800 exactly were a door would be that left on starboard side of plane and wind from north. The ATC tapes may be approach radar and not Center radar with different distances between curved lines on scope. Scan rates of radars are different so blip seen three times may be in air for much longer than thought. My point is for exactness, the data is too flimsy. For generality, a blip and streak and plane destruction occur with seconds of each other. I say they are related. And in three other high time 747 fatal accidents, all had radar blip at time of destruction. All. All. One blip was door tracked and retrieved from ocean. Other two are unexplained. I explain them. Door. I suggest you look at the frames of the radar tapes at the Paris Match site yourself. What I am telling you is there for you to analyse. Yeah, I was the first to animate them into .gifs for viewing months ago.
Dear John,

I'm involved as you are with the citizen investigation of Flt 800. I'm looking for pictures and line drawings of 747 nose gear in both the extended and retracted modes. I notice that you presented some line drawings of 747 cargo doors on your wweb page. Can you point me in the direction where I might find that type of info?
regards,

Richard Hirsch

From: John Barry Smith <barry@corazon.com>
Date: June 15, 1997 9:47:12 PM PDT
To: marilyn@siservices.net
Subject: Too many unknowns.

If you studied the radar tapes you know that the object you refer to appeared and disappeared long before there was any problem with TWA 800.
Not true. The blip altitude is unknown. The speed and trajectory of shaped cargo door is unknown. Too many unknowns to say as you do it was not door.
I have explanation for blip and streak at same time, door spinning away. Give me better.
Sincerely, John Barry Smith

From: John Barry Smith <barry@corazon.com>
Date: June 15, 1997 9:52:11 PM PDT
To: neteagle@spotcom.com
Subject: Line drawings.

They came from the 747 official mechanics repair manual. They came from a 747 mechanic using his textbooks. So, I suggest finding a mechanic who will share nose gear drawings with you. Mine will not and disagrees with me strongly as to cargo door
cause and used the drawings to show me I'm wrong. Nose gear should be easy. Well, nothing is easy in this case.

Good luck,
John Barry Smith
I'm involved as you are with the citizen investigation of Flt 800. What does that mean?

From: neteagle@spotcom.com
Date: June 15, 1997 10:01:16 PM PDT
To: barry@corazon.com
Subject: Re: Line drawings.
Reply-To: neteagle@spotcom.com

barry@corazon.com wrote:

They came from the 747 official mechanics repair manual. They came from a 747 mechanic using his textbooks. So, I suggest finding a mechanic who will share nose gear drawings with you. Mine will not and disagrees with me strongly as to cargo door cause and used the drawings to show me I'm wrong. Nose gear should be easy. Well, nothing is easy in this case.

Good luck,
John Barry Smith
I'm involved as you are with the citizen investigation of Flt 800. What does that mean?

Email: barry@corazon.com
Page: http://www.corazon.com/
Thanks for the quick reply.

I merely meant that I am interested in finding the cause of the Flt 800 disaster and that I am doing this as a private citizen. I assume that you are investigating the cargo door accidents in the same manner.

From: John Barry Smith <barry@corazon.com>
Date: June 15, 1997 10:10:22 PM PDT
To: neteagle@spotcom.com
Subject: nose gear

I am as private citizen which therefore to many means safe to ignore. How does nose gear figure into TWA 800?
Sincerely,
John Barry Smith

From: neteagle@spotcom.com
Date: June 15, 1997 10:24:07 PM PDT
To: barry@corazon.com
Subject: Re: nose gear
Reply-To: neteagle@spotcom.com

barry@corazon.com wrote:

I am as private citizen which therefore to many means safe to ignore. How does nose gear figure into TWA 800?
Sincerely,
John Barry Smith

Email: barry@corazon.com
Page: http://www.corazon.com/

Please go to
http://home.dc.lsoft.com/scripts/wa.exe?
A2=ind9706&L=flight-800&D=1&O=D&P=10561
and read.

Also read
http://home.dc.lsoft.com/scripts/wa.exe?
A2=ind9706&L=flight-800&D=1&O=D&P=10676

regards,

Rich Hirsch

From: "Marilyn (Net)" <marilyn@siservices.net>
Date: June 16, 1997 12:57:12 PM PDT
To: John Barry Smith <barry@corazon.com>
Subject: Re: Too many unknowns.

-- [ From: Marilyn (Net) * EMC.Ver #3.1 ] --

This is getting silly.

If you believe the door was showing on the radar screen, a few miles away
from TWA 800, a full 34 seconds before there was any problem with the plane, then you have your mind made up, closed, etc.

As I told you, the crew was talking to ATC just before the explosion and cutoff of all systems. Nothing was wrong as far as anyone knew; yet you claim the door had been seen floating through the air 34 seconds earlier and the crew just didn't know it???

Huh???

------- REPL Y, Original message follows -------

Date: Sunday, 15-Jun-97 09:45 PM

From: John Barry Smith \ Internet: (barry@corazon.com)
To: Marilyn (Net) \ Internet: (marilyn@siservices.net)

Subject: Too many unknowns.

If you studied the radar tapes you know that the object you refer to appeared and disappeared long before there was any problem with TWA 800. Not true. The blip altitude is unknown. The speed and trajectory of shaped cargo door is unknown. Too many unknowns to say as you do it was not door. I have explanation for blip and streak at same time, door spinning away. Give me better.
Sincerely, John Barry Smith

Email: barry@corazon.com
Page: http://www.corazon.com/

-------- REPLY, End of original message --------

From: John Barry Smith <barry@corazon.com>
Date: June 16, 1997 1:26:06 PM PDT
To: marilyn@siservices.net
Subject: your numbers, not my numbers.

If you believe the door was showing on the radar screen, a few miles away from TWA 800, a full 34 seconds before there was any problem with the plane, Your 34 seconds based upon flimsy numbers. Why not 33 or 63 seconds, where did you get this 34 seconds. I was in a jet crash and the accident investigation revealed the tower clock, which was the most important clock near the accident, was two minutes off. 120 seconds off. Every accident report you will read will show how far off all the timing clocks are. Even the clock for the CVR and FDR on same plane will not agree. There have been no released numbers for timing at event for cvr, time at fdr, time at transponder cease, time of radar blip seen and time disappeared, time of last crew transmission to
ground, time on wrist watches of passengers etc.
You want 34 seconds so cargo door theory is wrong so missile with dud warhead hits nose gear and cuts off nose. Fine. All I have for evidence for starters is streak, blip, sudden sound of cvr and ten other items.
 Where's your evidence? A nose gear falling from 13700 feet to surface of ocean is like concrete and will explode metal items, the fact the gear held together as well as it did is amazing. Missile is a better fiction story, I agree, coverups, plots etc for missile, boring mechanical for door.

then you have your mind made up, closed, etc.
See the technique use? It's my fault.

As I told you,
See the technique you use? I'm stupid and need to be told again. Good luck with your missile idea, it's a great movie.
Sincerely,
John Barry Smith

From: "Marilyn (Net)" <marilyn@siservices.net>
Date: June 18, 1997 10:14:53 AM PDT
To: John Barry Smith <barry@corazon.com>
Subject: Re: your numbers, not my numbers.

-- [ From: Marilyn (Net) * EMC.Ver #3.1 ] --

I have done some reading on the cargo door theory, and have not completely discounted it, although I think it would have been obvious to the NTSB by now. It is not exactly an unknown trigger for accidents. It would certainly
simplify things, and there would be no reason to cover it up, as it has been implicated in other accidents.

I am open to any theory, although I suspect it may well have been a bomb or missile, based upon eye witness reports, Pentagon leaks, and the total lack of any indication of a problem until all systems quit in an instant. Personally, I have not even discounted the Philadelphia Experiment theory, as crazy as that sounds. Why? Because I don't know what happened and I've learned never to say never.

All I am saying is that the "door" that you described was on and off the radar screen a full 34 seconds before there was any problem with TWA 800. The proof is in the radar photos, which have times on them - every frame has a time on it. Even if the clock had been "off", it would not have affected the sequence of events. What difference does it make if the clock read 8:30.31 when the correct time was 8:29.31? The point is that the object was seen and then disappeared well before TWA 800's problem.

You can argue any theory you want, but if the timing proves it could not have been, how can you continue to argue that the object in question was a
cargo door? Are you saying that the door could have come off and the crew not known about it? Or are you saying the the times on the radar frames have been altered?

Note the "C" next to the TWA designation on the radar frames. That means they were talking to ATC. According to information released by the NTSB, everything was normal until right up until the event. The captain had just given the order to climb when everything went dead. Now, if the door had appeared on the screen at this time, I would say you have some evidence.

-------- REPLY, Original message follows --------

From: CABBYCAC@atw.net
Date: June 23, 1997 6:16:07 PM PDT
To: barry@corazon.com
Subject: No Subject

Dear Barry,

I have visited your site on Flight 103. My best friend was on that plane, and since the tragedy, I am haunted and almost driven in finding out exactly what happened. If you can supply me with any information or further reading
as to my friends death, I would certainly appreciate it. My e-mail address is Cabbycab@aol.com.

From: John Barry Smith <barry@corazon.com>
Date: June 23, 1997 8:13:54 PM PDT
To: CABBYCAB@aol.com
Subject: I know exactly what happened.

I am haunted and almost driven in finding out exactly what happened.
I know exactly what happened.
Ask your questions starting with number one.
Sincerely,
John Barry Smith

From: Alexio Rolle <dizz@grouper.BATELNET.BS>
Date: June 23, 1997 6:26:15 PM PDT
To: barry@corazon.com
Subject: field interest

hi barry,
just a note to say thanks for some pretty informative data. i'm just a lowly caa avionic maint engineer, but i constantly try to stay informed. keep it up!

From: CABBYCAB@aol.com
Date: June 24, 1997 9:59:11 AM PDT
To: barry@corazon.com
Subject: Re: I know exactly what happened.

Well, for Number One:

Who actually bombed the airline, there is alternative explanations, which ones should the public believe now?

Number Two:

Before the bombing, who actually knew of the terrorist bombing, and why were only a handful told not to go on that flight?

Thanking you in advance,

Cabbycab
P.S. if I have more questions regarding this, will you mind if I send my questions over e-mail?

From: John Barry Smith <barry@corazon.com>
Date: June 24, 1997 10:30:41 AM PDT
To: CABBYCAB@aol.com
Subject: Email is fine for questions.

OK, here's the problem...no bombing. There was a 'mild blast' after the door popped and explosive decompression started but the mild blast was weak and directed, unlike a strong spherical bomb was too small to tear nose off. The small sooting on a small piece of frame was caused by unknown item but not big enough for bomb and not big enough to bring plane down.
I know that's a big change of mind to make and if you can't, like most people, then continue on the bomb trail of confusing conspiracy theories of CIA and Libyans and who knows who else.

If you want facts and reality and things you can hold onto and look at and touch and hear then mechanical cause of door popping explains the crash.

Your questions indicate you are firmly in the bomb belief, well, fine believe what you want to believe. Me too, and I believe cargo door caused the crash of PA 103.

A good start is to read the entire AAIB report on the PA 103 crash, it's on the web site www.corazon.com. All the British accident board pages of the official report have been scanned in. Read them and make up your own mind. Read the evidence, not the conclusions. Make your own conclusions based on the evidence presented. And then match that evidence with the other high time 747 crashes that match 103.

It comes down to you reading the evidence and then making up your own mind.

Your friend did not die from some world wide conspiracy of evil people plotting against a great power and lots of excitement. Your friend died because of a trivial mechanical fault that happens every day in homes, cars and sheds and often in planes too, door popped open when it shouldn't. In planes the consequences of a trivial error are severe. In 103 the nose came off and plane disintegrated.

Most 103 victim's families want to believe their friends died for some important reason and it makes sense that way. To die for nothing is even worse and is.

So I'll understand if you want to continue with the 'bomb' thing, most do.

Sincerely,
I'm looking for information about Boeing 707s losing engines, in particular on the aircraft that crashlanded near Marseille on March 31, 1992. Registration No.5N-MAS. Can you help?
Angelika

Sorry, nothing about 707s losing engines. I'm interested in 747s losing engines, especially number 3. But nothing on a 707 near Marsielle in '92.
Cheers, Barry Smith
John,

WOW! That's a lot to swallow. For so long we have been hearing about terrorists bring down the airliner. But I would like to know the truth, and I am trying to be as objective as possible, even 8 1/2 years later. I will read over those notes you suggested. Were the victims conscious as the plane was crashing, if there was only a small explosion? The TWA crash sounds errily similar to the PA crash too.

Cab

The TWA crash sounds errily similar to the PA crash too.

Exactly, they are similar. The cause is the same, the evidence is
the same, the consequences are the same. As you research, you'll find Air India 182 is exactly similar too. And UAL 811 up until the nose stays on is exactly similar too.
Four crashes, one cause.

Were the victims conscious as the plane was crashing, if there was only a small explosion? I don't know, probably not as the air at 31000 is so thin, they suffocated, plus the deceleration from 300 knots to zero was so sudden they may have broken their necks. But the answer to your question is unknown. There's a time to say 'I don't know' and I just said it. There's a time to say, "I know it," and I'll say it, "Inadvertent opening of the forward cargo door in flight has crashed four high time Boeing 747s, AI 182, PA 103, UAL 811, and TWA 800.
Cheers,
John Barry Smith

From: Joe Scanlon <jocool@earthlink.net>
Date: June 30, 1997 8:42:49 PM PDT
To: barry@corazon.com
Subject: Flt 811 damage report
Reply-To: jocool@earthlink.net

I found one page of this report on the internet (pg 8). Where can I find the complete report?
Thanks,
Joe Scanlon
From: John Barry Smith <barry@corazon.com>
Date: July 1, 1997 12:22:55 AM PDT
To: jocool@earthlink.net
Subject: Re: Flt 811 damage report

I found one page of this report on the internet (pg 8). Where can I find the complete report?
Thanks,
Joe Scanlon
www.corazon.com is home page,
http://www.corazon.com/crashcontentspagelinks.html then
http://www.corazon.com/811reportcontentpage.html is entire report.
Cheers,
John Barry Smith

From: "Art Thurber" <art@pcbs.mv.com>
Date: July 2, 1997 4:34:16 PM PDT
To: <barry@corazon.com>
Subject: TWA 800

What do you think of " load cooler fuel " ?

From: John Barry Smith <barry@corazon.com>
Date: July 2, 1997 5:37:13 PM PDT
To: "Art Thurber" <art@pcbs.mv.com>
Subject: Re: TWA 800

What do you think of " load cooler fuel " ?
Load cooler passengers OK.
The fuel or the temperature of it has nothing to do with the crash of TWA 800. It's like blaming the gas tank of a car when it explodes, after it hits a wall.
Door popped, nose came off, rest of plane disintegrated and spinning number 3 engine ignited fuel vapor from center tank. TWA 800 fate sealed after door went.
Sincerely,
John Barry Smith

From: "Art Thurber" <art@pcbs.mv.com>
Date: July 2, 1997 5:56:26 PM PDT
To: "John Barry Smith" <barry@corazon.com>
Subject: Re: TWA 800

Thanks - I knew that. Just wondered if you had heard this latest crap. I caught it a few minutes ago on CNN.
I guess Boeing has really spent a lot to hush this
Art

--------
: From: John Barry Smith <barry@corazon.com>
: To: Art Thurber <art@pcbs.mv.com>
: Subject: Re: TWA 800
: Date: Wednesday, July 02, 1997 8:35 PM
:
: >What do you think of " load cooler fuel " ?
: :
: Load cooler passengers OK.
: The fuel or the temperature of it has nothing to do with the crash of TWA
It's like blaming the gas tank of a car when it explodes, after it hits a wall.

Door popped, nose came off, rest of plane disintegrated and spinning. Number 3 engine ignited fuel vapor from center tank. TWA 800 fate sealed after door went.

Sincerely,

John Barry Smith

Email: barry@corazon.com
Page: http://www.corazon.com/

I guess Boeing has really spent a lot to hush this Art

Why do you believe that? I have no evidence. If true, it's terrible. I still say no conspiracy.

And loading cooler fuel must be interesting to the African 747
operators who operate in a lot hotter climes than New York in July.
Cheers,
Barry Smith

From: "Art Thurber" <art@pcbs.mv.com>
Date: July 2, 1997 7:55:37 PM PDT
To: "John Barry Smith" <barry@corazon.com>
Subject: Re: TWA 800

I have no evidence either but will not be surprised when it turns out to be
the case. I am not suggesting a conspiracy either - just relating my
intuitive feeling regarding this.

Very nicely done web site by the way.

Art

----------
: From: John Barry Smith <barry@corazon.com>
: To: Art Thurber <art@pcbs.mv.com>
: Subject: Re: TWA 800
: Date: Wednesday, July 02, 1997 9:11 PM
: :
: :
: >I guess Boeing has really spent a lot to hush this
: > Art
: :
: Why do you believe that? I have no evidence. If true, it's terrible. I
: still say no conspiracy.
And loading cooler fuel must be interesting to the African 747 operators who operate in a lot hotter climes than New York in July.

Cheers,
Barry Smith

Email: barry@corazon.com
Page: http://www.corazon.com/

From: jerry.williamson@amd.com
Date: July 3, 1997 4:18:52 PM PDT
To: barry@corazon.com, jerry.williamson@amd.com
Subject: Cargo Door Failures

Barry,

I must disagree with a couple of your claims. I absolutely agree (as do investigators at the NTSB, United Airlines, Boeing, and the FAA) that the 9 lives lost on United 811 was the result of a partially non-functional door latch mechanism on the forward cargo bay door. I also agree with your conclusions regarding the DC-10 crash in Paris.
Unfortunately, red-herrings or not, sometimes large commercial aircraft ARE destroyed in flight by a man-made explosive device or causes other than cargo bay door latches.

There were significant quantities of Semtex (a Czechoslovakian manufactured plastic explosive similar to C-4) found on debris on section L-12 of the 747; this debris was among the first items to hit the ground just prior to the nose section impacting. Semtex is the explosive residue confirmed to be present on Pan Am 103 based on findings by chemists at Scotland Yard and the FBI in late 1989.

Second, regarding TWA 800, investigators at the NTSB and FBI had already determined that initial failure mechanism to be the explosion of the main body center fuel tank.

You keep saying "explosive decompression mimics bomb blast" which is absolutely untrue. First, TWA 800 had completed its initial climbout at 13000. You cannot have a catastrophic explosive decompression below 16000. Second, explosive decompressions DON'T mimic bomb blasts. Your trivial comparisons to the
two exhibit a basic lack of either aviation OR engineering knowledge or expertise.

You also keep saying "door in hangar, ignored". Unless you were absolutely present through these investigations and participated in the analysis and have personally interviewed the scientists and investigators who worked hard in determining the causes of these crashes, I would refrain from making such irresponsible assumptions without knowing more information.

The theories make interesting reading and a plausible theory on the surface, but in truth they are an insult to the many investigators who spend hundreds of hours in laboratories and on site analyzing evidence. The triviality of the comparisons is also an insult to the victims.

An exploding bomb, fuel tank, and mechanical failure all have a distinct signature or pattern of clues that a competent team of investigators will be able to identify.

Products liability lawyers love door latch mechanism failures because you have a nice big airline to sue and a nice big airline maker (in this
case Boeing) you can sue.

If life were only that simple.

**************************************************************************************
**********
**
* Jerry Williamson @ Advanced Micro Devices | "It is logical. The needs
* 
*       jerry.williamson@amd.com | of the many outweigh
* 
*       TEL: (512) 602-6825, (800) 538-8450 | x56825l the needs of
the few --
* 
*       FAX: (512) 602-4490 Austin, TX | or the one." -- Spock
* 
**************************************************************************************
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From: John Barry Smith <barry@corazon.com>
Date: July 3, 1997 9:30:50 PM PDT
To: jerry.williamson@amd.com
Subject: Re: Cargo Door Failures

I absolutely agree (as do
investigators at the NTSB, United Airlines, Boeing, and the
FAA) that
the 9 lives lost on United 811 was the result of a partially
non-functional door latch mechanism on the forward cargo bay
door. I
also agree with your conclusions regarding the DC-10 crash in Paris.
Well, based on that agreement above everything that follows leads to cargo door for TWA 800. But let's stick to the above agreement to come back for rock solid agreement. sometimes large commercial aircraft ARE destroyed in flight by a man-made explosive device or causes other than cargo bay door latches.

Well, now, Jerry, that's a pretty strong statement. It's stating the obvious. Is it because you think I'm stupid, ignorant, or what? What have I done to lead you to believe that that statement is necessary? Planes crash for other than cargo bay door latches. Duh? That statement was true to me as a modeler at age 13 when an airplane I had designed, built and flew had defects coupled with pilot error resulted in crash, caused by other than cargo bay door latches.
Well, anyway the statement was taken as an insult, an internally generated emotion on my part. I could have laughed but didn't. We are talking about life and death.

There were significant quantities of Semtex (a Czechoslovakian manufactured plastic explosive similar to C-4) found on debris on section L-12 of the 747; this debris was among the first items to hit the ground just prior to the nose section impacting. Semtex is the explosive residue confirmed to be present on Pan Am 103 based on findings by chemists at Scotland Yard and the FBI in late 1989.
Define 'significant.' Can we agree that any explosive residue found on PA 103 was in quantities, called, 'traces' and never seen by human eyes but detected by sensitive machines? And now, after TWA 800, that the presence of explosive residue may be benign as in troop movement or dog sniffing test? So in reality very tiny invisible molecules of something were found on pieces of something. And the reason for them being there could be totally innocent? I said could be. You read explosive residue as bomb and I read explosive residue as heart medicine spilled in turbulence by sick passenger. Or not, but not conclusive either way. Your offered proof of non cargo door is rebuffed and, and, it could have been bomb that blew door open anyway. I don't know why door opened and led to sequence of destruction.

Second, regarding TWA 800, investigators at the NTSB and FBI had already determined that initial failure mechanism to be the explosion of the main body center fuel tank. Gee, all they lack is the ignition source. Sort of important think to be missing, don't you think? And there was a center tank explosion, just happened after door went and the ignition source was the only burnt engine, number 3 as it spun around into disintegrating fuselage and wing.

You keep saying "explosive decompression mimics bomb blast" which is absolutely untrue. Well, Jerry, you used the word 'absolutely' above. If you are wrong on that will you admit you could be wrong elsewhere? I said "explosive decompression mimics bomb blast" which is absolutely correct when the mimic aspect is...noise. A sudden
loud sound was heard on all the four CVRS. Living eyewitnesses in explosive decompression events all say there was a sudden loud sound and then it got very noisy with rushing wind. It also mimics bomb in causing stationary objects to fly into motion and if the object strikes something, it leaves a dent. It mimics a bomb in starting and reaching peak very suddenly. It's not a gradual thing, explosive decompression or bomb, and it's not quiet, bomb or explosive decompression, and it does makes things move, bomb and explosive decompression. In three very important ways, sight, sound, and movement, it mimics a bomb.
Who put the explosive in explosive decompression?
And you say it's "absolutely" untrue.
So, you're wrong there Jerry, and you are wrong to dismiss cargo door popping open for TWA 800 and others.

First, TWA 800 had completed its initial climbout at 13000. You cannot have a catastrophic explosive decompression below 16000.

Yes, the destructive force was the 300 knot wind entering weakened nose. Door just has to open a few inches to get pulled open and torn off and big hole is left and then 300 knots hits it.

Second, explosive decompressions DON'T mimic bomb blasts.
See above.
Your trivial comparisons to the two exhibit a basic lack of either aviation OR engineering knowledge or expertise.
Attack the messenger, Jerry, that's means you know the door explanation is correct and you are angry at having to change your mental history of plane crashes and mad at the messenger, not at the culprit, the door.

You also keep saying "door in hangar, ignored". Unless you were absolutely present through these investigations and participated in the analysis and have personally interviewed the scientists and investigators who worked hard in determining the causes of these crashes, I would refrain from making such irresponsible assumptions without knowing more information. Refrain all you want, permission granted.

The theories make interesting reading and a plausible theory on the surface, but in truth they are an insult to the many investigators who spend hundreds of hours in laboratories and on site analyzing evidence. The triviality of the comparisons is also an insult to the victims.
Whoa! Unclear on the concept of intellectual research and scientific investigation. Calm down. I'm the non conspiracy person, everyone is working hard on this, some are right, some
are wrong and some are inbetween. Everybody gets a medal.

An exploding bomb, fuel tank, and mechanical failure all have a distinct signature or pattern of clues that a competent team of investigators will be able to identify.
I love that argument, trust the experts. I do trust experts. And I know they have been wrong in the past are wrong now, will be wrong in the future, but I still trust them, until given evidence to distrust their opinion. In this case I have the evidence only through hindsight, experience, education, luck, and the internet. The evidence is written and shown in pictures on web site.
What does amd mean? Advanced Micro Devices? Tell me about bugs in chips. Yeah, experts. Expert just means wrong less times than novices. I've been an expert in many things in my life. And I know how wrong I can be.

Products liability lawyers love door latch mechanism failures because you have a nice big airline to sue and a nice big airline maker (in this case Boeing) you can sue.

If life were only that simple. The lawyers are not after truth, they are after money because the clients are after money. No problem, but who is after the truth regardless of where the chips may fall? Anybody? Only the passengers.
There is a computer aided design person now doing a simulation of the cargo door crashes using Lightwave or True something. He's also a programmer and modeler. Can you help with that
simulation? Do you have any experience in 3d aviation simulation? And even if you believe one thing or the other it's OK. A simulation helps everybody. Ours is based on the facts of the above agreed, repeated now, I absolutely agree (as do investigators at the NTSB, United Airlines, Boeing, and the FAA) that the 9 lives lost on United 811 was the result of a partially non-functional door latch mechanism on the forward cargo bay door. I also agree with your conclusions regarding the DC-10 crash in Paris.

I hope you don't later, say well, I guess I don't agree with the 811 or Paris DC 10 conclusions. Because the numbers to create a 3d simulation would come from those reports. Anyway, all help is appreciated.

The way to beat the Borg is to allow oneself to be captured, neck injected, stand by the lightning rod thing by the head, allow the eye to be put on, arm replaced and then, when the assimilation process starts, to then attack and dominate. The place to attack would be the assimilation center. I love science fiction. There's a time for fiction and a time for reality. Cargo door is reality, bomb is science fiction. The Borg can be beaten by intelligence.

Sincerely,
John Barry Smith

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* Jerry Williamson @ Advanced Micro Devices  \ "It is logical. The needs

*
Sir,

Lots of interesting stuff! However, please allow a humble correction...

Doors

9. Ferry door that opened when it shouldn't.
An Estonian ferry between Tallin and Helsinki had front cargo door open, sank ferry, high loss of life. Cause was pilot going too fast in heavy seas. Wreck to be encased in concrete on seabed.
That was an Estonian ferry, named also "Estonia" between Tallinn (spelled with 2 n-s, btw) and Stockholm (not Helsinki). Intl. commission investigating cause of accident determined that front cargo doors were ripped open because of its faulty construction (too weak for open seas) and not pilot error. The strength of waves was the primary cause why the outer cargo door (the "nose" of the ferry) was ripped open (speed had only secondary effect). Due to its faulty construction (the outer and the inner cargo doors were actually connected to each other), once the heavy outer door fell off the ferry, it tore the hermetical inner door wide open. After that the open car deck was flooded within a few minutes.

Best regards,
Alo Merilo

From: John Barry Smith <barry@corazon.com>
Date: July 14, 1997 4:35:58 PM PDT
To: merilo@columbia.edu
Subject: Ferry

Sir,

Lots of interesting stuff! However, please allow a humble correction...

Doors
9. Ferry door that opened when it shouldn't.
An Estonian ferry between Tallin and Helsinki had front cargo door open, sank ferry, high loss of life. Cause was pilot going too fast in heavy seas. Wreck to be encased in concrete on seabed.

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Best regards,
Alo Merilo

Thank you, it is amazing. I put the ferry incident as one small example of doors opening when they shouldn't. It is one of a dozen examples. Yet, yet, I continue to receive information about that incident. Something is going on about that ferry crash that is still alive and I don't know what and will never know. But there are people out there, like yourself that feel passionately about the ferry crash, probably as intense as I feel about plane crashes.
Maybe you should pursue it. I have corrected that paragraph about ten times with new information. Maybe two ferry crashes? I was in a plane crash, where you ever in a boat crash? Anyway, thanks for info, it was terrible thing to happen and I hope they fixed it so that it doesn't happen again. I appreciate the design info about the two doors connected, thereby nullifying the whole concept of watertight integrity.

Cheers, Barry Smith

From: Kirk Hays <khays@sequent.com>
Date: July 16, 1997 2:32:47 PM PDT
To: barry@corazon.com
Subject: 747 specs and history

Interesting page, but the line about "carrying more than 1.8 billion passengers more than 24.7 billion miles" puzzled me;

does this mean the average passenger is carried less than 10 miles?

regards,
Kirk Hays

From: John Barry Smith <barry@corazon.com>
Date: July 16, 1997 5:17:20 PM PDT
To: Kirk Hays <khays@sequent.com>
Subject: Re: 747 specs and history
Interesting page, but the line about "carrying more than 1.8 billion passengers more than 24.7 billion miles" puzzled me:

does this mean the average passenger is carried less than 10 miles?

regards,
Kirk Hays

Good question, I don't know, I didn't write that line nor knew it was in there.
Cheers, Barry Smith

From: mark Sanz <mark.sanz@sympatico.ca>
Date: July 25, 1997 5:33:12 AM PDT
To: barry@corazon.com
Subject: Cargo door theory
Reply-To: mark.sanz@sympatico.ca

Barry,

I don't understand your cargo door theory fetish. While 811 had a bad door, Pan Am and Air India were both obviously bombed and proven as such. Contrary to what you say, explosive decompression is not in any way like a bomb blast. Decompression is a "soft explosion" that blows everything out and away from the aircraft. A bomb in the cargo hold, on the otherhand, sends shrapnel and explosive residue out in all directions inside the aircraft.

This is very easy to discern. Pan Am had a cargo pallet that
was torn
open from within with its skin peeled back like a banana. From that
point within the fuselage, the trajectory of explosive residue travelled
out in many directions including up into the cabin. Once the fuselage's
integrity was compromised then, and only then, did the decompression
occur letting the debris out into the sky.

A bomb blast leaves many signatures, Pan Am and Air India had bomb
blast written all over them. As far as TWA is concerned, decompression
is the one theory which doesn't fit the wreckage. While no evidence of a
bomb was found, there was a mountain of evidence that the aircraft was
struck from the lower left side effectively tearing off the front section of the fuselage. Corpses recovered showed severe whiplash-type
injuries. Such injuries would not have been sustained had the aircraft
merely popped its cork. Nobody on 811 got whiplash. TWA victims had
their necks broken as if the aircraft changed direction within milliseconds. Imagine travelling at 300knots in one direction then be
travelling at 300knots in a different direction with no time in between
for course change? That's what I call severe whiplash. A missile impact
from the side would have achieved just this effect. If your body
is travelling at 300 knots and all of a sudden that velocity (speed + direction) changes, the principle of inertia dictates that you will be broken like a rag doll, especially at the neck.

As far as the cargo door coming off and this accounting for the missile sightings just prior to explosion, an object falling away from the aircraft would, even if it did reflect sunlight, create an illusion of a bright object leaving the aircraft. One hundred and fifty eyewitnesses claimed to have seen a flare-like object racing toward the aircraft prior to explosion. In addition, many reported the object leaving a white trail behind it as it ascended to the 747.

How does your cargo door theory explain any of these realities? But more to the point, how do you explain a cargo door cover-up conspiracy? When cargo doors come off as they did at Orly on March 2, 1974 to the Turkish DC-10, it was quite obvious what happened. Nobody could or would try to pass it off as a bomb. Your theory postulates that Men In Black arrive at a crash scene where a door came off and then proceed to tell the world that it was a bomb. Coverups happen but not to protect faulty cargo doors. Coverups protect military incompetence or embarrassing political scandals. Cargo doors are not important enough to
warrant a
coverup. Faulty designs and bad maintenance are always bare
naked. NTSB
files are filled to overflowing with accidents and incidents
resulting
from mechanical failures. Next to pilot error, mechanical failure
is the
number 2 cause of accidents. In fact, coverups, if any, usually use
mechanical failure as a culprit rather than admit poor airport
security
or missiles that go astray when they weren't allowed to be there
in the
first place.
Your coverup cargo door theory is not only technically
implausible, but
the motive aspect to your theory is even more tenuous. So I
return to my
original question. What's this cargo door theory fetish?

Mark
mark.sanz@sympatico.ca

From: Priti Aggarwal <pritia@wam.umd.edu>
Date: July 25, 1997 9:13:53 AM PDT
To: barry@corazon.com
Subject: Help researching 1985 Air India Explosion

I recently visited your site and got some information about the
1985
Air India Explosion over the Atlantic. I, however, need more
detailed
information. Specifically regarding a passenger listing. I have recently come to know that some family friends were passengers aboard that flight. If you have any ideas of where I could look to find such detailed information, I would greatly appreciate your help. Thanks in advance.

____________________________________

Priti Aggarwal
Finance, Decision and Info. Sciences
College of Business and Management
University of Maryland, College Park
pritia@wam.umd.edu
202/321-7748
http://www.wam.umd.edu/~pritia

____________________________________

From: John Barry Smith <barry@corazon.com>
Date: July 25, 1997 10:42:42 AM PDT
To: Priti Aggarwal <pritia@wam.umd.edu>
Subject: Pass List

Specifically regarding a passenger listing. I have recently come to know that some family friends were passengers aboard that flight. If you have any ideas of where I could look to find such detailed information,
I've sent your request to a gentleman who knows about such things and hope he replies to you. What do you think of the cause being cargo door and not bomb? Decision Sciences should be based on fact and not wishful thinking. Cargo door is fact, bomb is wishful thinking. If any of the family members wish to discuss the cause I would be glad to help.

For AI 182, the similarity to PA 103, UAL 811 and TWA 800 is too close to not be a match and must have a common cause, whatever it is.

Sincerely,

John Barry Smith

From: John Barry Smith <barry@corazon.com>
Date: July 25, 1997 10:57:38 AM PDT
To: mark.sanz@sympatico.ca
Subject: Cargo door

I don't understand your cargo door theory fetish. Fetish?
Pan Am and Air India were both obviously bombed and proven as such. Obviously? Proven?
how do you explain a cargo door cover-up conspiracy?
Conspiracy?
What's this cargo door theory fetish?
I'll find out and get back to you as soon as I do.
Thanks for your interest in aviation safety.
John Barry Smith

From: edlivinalb@webtv.net (E Livingston)
Date: July 29, 1997 10:38:33 PM PDT
To: barry@corazon.com
Subject: Info on Flight 800

There are many similarities as you suggest in the two other flights listed.

In the 800 flight I strongly feel that the cause of that tragedy was brought about by the light that many witnessed, but failed to conclude that it was a Lightning strike. The lack of other evidence should support that fact also the lightning grounding out through the Switch in the Central Empty Fuel tank. I have no idea of the compession that took place within that plane, but the temperature change from whatever it was to 18000 degrees in 1/10,000,000 of a second took that plane apart. Can you imagine the internal pressure? And for only that length of time?
I've wondered if they could get a graph of the last sound on the recorder and match it up with the sound of a thunderclap? The
reason
the lightning grounded there was that none of the electric system was charged at the time due to someone ordering that the central tank not be filled as they felt that the flight to Paris would have been faster without the extra weight. The biggest mistake ever.

Sincerely,

Edward E. Livingston

From: "Michael C. Spencer" <fourdm@aloha.net>
Date: July 31, 1997 8:35:18 PM PDT
To: barry@corazon.com
Subject: Improbable Cause
Reply-To: fourdm@aloha.net

Ton was not available but his father, George, came on the line and was very affable. Jon had been pleased to help out with the Transamerica stuff, he said, but unfortunately, he wouldn't be able to come this time. But Harry Weisberg and Humphrey Dawson would be along. I remarked that the Transamerica incidents had been really hair-raising, and George Batchelor recalled other incidents involving live explosives on military charters. On one occasion his daughter-in-law, a former flight attendant, had had to pick up live hand grenades that some young yo-yo had dropped in the aisle.

The next evening, Weisberg called me at home. He and Dawson had just arrived in Ottawa; how about a chat before the meeting? Breakfast tomorrow? No problem. I met the pair in the cafeteria
of the Holiday Inn on Dalhousie Street. I freely admitted my conviction that ice on the wings had had nothing to do with the cause of the crash. (Thorneycroft had, after all, shown no qualms about publicly stating his view of the irrelevance of hydrogen cyanide.) I said I shared Arrow's views about the "muddled thinking" in the draft report, but I pointed out that my interests might not coincide with Arrow's. I wanted to find out what had happened -- regardless of the commercial or other implications. I mentioned Michael Mooney's book on the Hindenburg, and said I didn't think the world should wait twenty-five years before discovering the truth about Gander.

We chatted for a while about the philosophy of accident investigations and the aviation business in general. Then I left for the office. My first chore when I got there was a visit to the chairman. I briefed Thorneycroft on my t\(\Delta e\)-\(\sqrt{-t\Delta e}\) with the Arrow representatives and he listened impassively.

Thorneycroft opened the meeting in the boardroom with his favorite theme. "Premature release of the draft report has caused a lot of anguish and interrupted a process designed to keep things confidential until the final report is out on the street." Arrow Air agreed on the evil of leaks. "All publicity is bad publicity," Weisberg said. But, unlike Thorneycroft, the company didn't see the leaks as the causa sine qua non of all problem. Arrow simply couldn't "understand why a major item like the toxicology report was not mentioned in the report." All the information should have been put into the hands of the interested parties. The disclosures, Weisberg said, cast doubts on the fairness of the CASB's public inquiry.

Dawson added that the report was unacceptable as it stood, and that he could think of only three possible explanations for recent
events:

-- the investigators hadn't considered the hydrogen cyanide findings to be relevant;
-- they had known the results were relevant but had chosen not to investigate;
-- there had been a major attempt to conceal the truth.

He dismissed the first possibility; the fancy footwork at the public hearings showed an awareness of the sensitivity of the toxicology results. The second possibility, suggested by the numerous errors and inconsistencies in the draft report, would flow from a preconceived idea of the cause.

At this stage, Dawson suggested ominously, a rational person could not avoid considering the third possibility. Could national security apply? Was there a political view that the deaths must be attributed to natural causes?

Thorneycroft said he couldn't see that there was a major attempt to conceal the truth, and didn't feel comfortable even looking at the scenario. He left a more substantive answer to Thurston, but it turned out to be the same thing in more words.

The idea of a major attempt to conceal the truth "cannot stand up," Thurston assured us. "It is a fact that political interference is, by law, zero. It's built into the Act." To Thurston's knowledge "there has never been the slightest attempt by anybody in the security business to influence our work in any way at all."

I waited for Frank to comment on attempts by someone in some other business, but he didn't pursue the line. Instead, he gave us his own analysis of the problem at hand.
"It may look from a distance," he sighed, "as if our processes are somewhat ramshackle," No one disagreed. "The thing that went wrong with this procedure is the leakage to the press." The press, it seemed, just didn't understand that from the moment Adam bit the apple, man was doomed to imperfection. "It's almost impossible to find any report in the world's literature," he said sadly, "that you can't find doubts about." It would take "a major research program" to satisfy the skeptics, but "total investigation could delay a report for ever." Frank sighed again. "There's very little in terms of safety to be gained from further work," he concluded. He then passed the ball to Arrow Air. "I would like to elicit from you gentlemen, how much greater depth of investigation would you press for?"

In person, Humphrey Dawson was not the pit bull suggested by his letters -- not quite a lapdog either but a Welsh terrier, say. Thorneycroft's answer to his letter, he said, "raises more questions than it answers." He politely requested all the pathology and toxicology data, which must be reviewed by an independent pathologist. He also asked for the information on the armaments recovered at the crash site and the list of what was thought to be on board. He repeated that all information should be released to all interested parties. Perhaps the outstanding questions could be answered in a two -- or three-day technical review with them.

Thorneycroft promised to send all the information. He denied that the investigators had come to a premature conclusion about ice. He explained that the board had promised to consider further representation from Mrs. Griffin before making a decision on how to proceed.
The Critique

So, as we neared the end of May 1988, the CASB's report on the Gander investigation was just about where it had been a year earlier. The chairman and half the board members were hell-bent on putting out a report that blamed the crash on ice, but external pressures were setting back their plans. Ken Thorneycroft had promised to provide missing information and make appropriate revisions, as had Bernard Deschānes before him. Could we hope that these revisions would address the issues?

The prospects seemed dim. The board members who supported the ice theory clung to their discredited conclusions like a drunk to his bottle, and showed no interest in such things as the number-four engine or the thrust reversers. To some extent, this was our fault; we had not assembled the case against the ice theory in a coherent form. Arguments we advanced at board meetings were not detailed in the minutes. Our memos to the chairmen had not even been put in the Gander file. There were no transcripts of the meetings with the Griffin or Arrow representatives. On the other hand, the conditional draft -- with its numerous references to the dangers of ice, de-icing procedures, alleged computations and spurious assumptions -- was always there for ready reference.

I reflected on this imbalance during the meeting with Dawson and Weisberg on Thursday. Our next meeting was scheduled for Tuesday, May 24. I decided to compile our objections to the ice theory into a single, detailed review. We had been hashing over the arguments for more than a year now; it would be just a matter of consolidating my notes and adding comments.

Bobbitt, Mussallem and Stevenson all agreed it was time to put
the anti-ice arguments on the record, and I said I'd crank out a report over the weekend in all our names.

I wrote in a flat, academic style, with careful citations and cross-references to let the reader check data and challenge the assumptions and logic. There was no need for narrow interpretations or fancy debating tricks. I could afford to bend over backward to acknowledge ambiguities and weak spots. Our case was cast-iron solid.

Ross Stevenson's extensive review of the witness evidence was a valuable source of direct quotes, but I used codes to identify witnesses who had not testified in public. Without the key to the witness names, nothing would be revealed that was not already available to anyone with a copy of the draft report. Of course, by now this included the media and opposition politicians. Compiled into a single report -- equivalent to about fifty single-spaced pages -- the case against the ice theory was devastating. It would have been hard to make a much better case against a mid-air collision with an Unidentified Flying Object.

I finished typing in the early hours of Tuesday morning. I called the report "Critique of the Ice Contamination Hypothesis Presented in Conditional Draft No. 1." The secretaries had copies for the chairman and the board members by ten o'clock. I had no idea how they'd take it, but the critique should help the interested parties -- particularly Lee Levenson, who was preparing the written submission on behalf of Mrs. Griffin. I'd let my fellow board members mull it over before proposing further distribution.

At the same time, they could mull over some other pertinent news. John Sopinka had been appointed to the Supreme Court -- directly, without a berth on the bench of a lesser court. The move
was not unprecedented, but it was unusual nevertheless. I asked a secretary to make each board member a copy of a sound bite from one of the news clips on Deschénes' resignation the month before, in which Sopinka had said, "When they [the appointed board members] came to evaluate a written report by the accident investigators, they were not given the factual underpinnings that they needed to determine whether or not the investigators had got at the true causes of the accident."15

Right after our meeting I took a copy of our critique to Roger Lacroix. He was impressed, and suggested sending copies to the interested parties right away. But I was planning to make a formal motion to that effect in the boardroom. Let those who objected to the exchange of information do it on the record. Still, I confess I had some fear that Thornycroft would find a way to keep our critique under wraps.

Roger then pointed out that some of his former air force colleagues worked in the section of the Transport department that reviewed material from the CASB. Ultimately they would have to prepare the department's formal response to the report on the Gander investigation. They had had legitimate access to the draft report all along, but were constantly bombarded by the pro-ice position. They should know the strength of the case against the ice theory.

That sounded like an good idea; it would be wise to get a reaction to the critique from someone who wasn't known to be predisposed in its favor. I called Jim Stewart, head of the Aviation Safety Analysis section in the Transport department and the department's official point of contact with the CASB. Stewart's groups was responsible for initiating the department's interested party comments to the board's reports. One of his staff
had served as the Transport department representative on the Gander investigation. His staff had reviewed the draft report and would ultimately review the final one.

Jim Stewart was president of the Ottawa chapter of the International Society of Air Safety Investigators and I knew him moderately well. He was surprised to hear from me, but agreed to give a quick reaction to our comments. Tom Hinton often sent stuff to Stewart that the board members hadn't even seen, and I didn't mind turning the tables. I dropped off a copy of the critique at Stewart's office on the way to work the next morning.

Good as his word, Jim Stewart phoned me with his reactions the next day. They were polite generalities. The critique made a very interesting case, he said, but he didn't go into details. I realized that I might have put him into an awkward spot.

I had no idea of the spot I was in myself.

On May 26, just two days after I distributed the critique to the board members, our analysis was the subject of a front-page story in the Ottawa Citizen. I hadn't planned on this, even though I can't say I was surprised or sorry. I hadn't told Roger what he should or shouldn't do with the copy I'd given him, and I never asked him what he had done.

Thorneycroft summoned me to ask what I knew about the leak. When I told him I'd given copies to Lacroix and Stewart, he looked grim but didn't say much. His official reaction arrived a few days later, in the form of a letter expressing disappointment about my giving "a confidential working document" to "persons outside the Board." As the chairman saw it, my "disregard for the basic requirements of procedural fairness . . . compromises a
statutory confidential process approved by Parliament." Not only that but it constituted a "display of attitudinal bias" that had "adversely affected the Arrow Air investigation." I was, moreover, guilty of "extremely poor judgement at best and an illegal act at worst."

It was quite a blast, I wondered about the "illegal act" bit. Rowland Harrison advised me to take the letter seriously; the term "attitudinal bias" carried some rather significant legal repercussions. Thorneycroft's letter looked like the tip of the lever to pry me out of the CASB. Rowland suggested I write back rejecting the allegations and asking for a retraction. I did.

I didn't get a retraction. But my response seemed to turn off that particular plan. And there was more to come.

The next missive from the chairman tried another tack. "As you are aware, the government introduced a new security policy applicable to all federal departments and agencies," he wrote. "Privy Council Office was contacted regarding your respective status on this subject," I was requested to fill in forms to update my security clearance by "the limitation date" of June 30, 1988 -- two weeks hence.

I was not aware of any new security policy, but I certainly knew how J. Robert Oppenheimer had been drummed out of the U.S. Atomic Energy Commission. I'd also heard something about Senator Joseph McCarthy's creative use of security clearance investigations in the 1950s. Talk about recycled rubbish.

I returned Thorneycroft's letter with a handwritten note suggesting that there must be a mistake because my security clearance had been updated when I was appointed to the CASB.
That was the last I heard of the security clearance gambit. But it was clear that Thorneycroft -- or whoever was pulling his strings -- had declared war.

Part 3

Long, Hot Summer

As the Ottawa summer dragged on, the cold war between the pro-ice and anti-ice factions turned scorching hot.

The wire services and other media circulated Robert Lee's stories from the Ottawa Citizen. Revelations about the hydrogen cyanide, Arrow Air's discontent, Bouchard's letter, and the "Critique of the Ice Contamination Hypothesis" all prompted questions in the House of Commons. Sensing a political hot potato, the opposition launched its own investigation of the investigation. Marc Laframboise, an energetic young researcher with the Liberal caucus, flooded Canadian and American agencies with Freedom of Information requests. He had little luck with his own government, but he learned that American agencies had been more curious about the Gander crash than they had let on. Liberal Member of Parliament George Baker, whose riding included the town of Gander, told the House of Commons that a request through the Freedom of Information Act had revealed that "the FBI was sufficiently convinced of the possibility of an on-board explosion that it launched a world wide investigation." 16

"Is the government aware," Baker demanded, "that the FBI conducted this worldwide investigation . . .? Is the government further aware that 239 of the 289 pages of evidence ensuing from
this investigation were withheld, considered too dangerous to the national security of the United States to be released?" For the material that the FBI released to Laframboise was heavily censored -- words, sentences, paragraphs, and complete pages had been crudely obliterated. Whatever information had been protected, the blacked-out pages would prove a potent image on television. But that would come later.

The Canadian government maintained a posture of self-righteous non-involvement. "We have a lawful and legitimate process that takes it out of the political realm and puts it into the hands of professional investigators. . . ." The solution would come through "the next major initiative of the Government, . . . a Transportation Accident Investigation Board for air, rail and marine" with "the appropriate powers and the appropriate division of responsibility between the board and the professional investigators".17

Spokesmen for the government and the CASB's official representatives were singing from the same hymnbook, the phrase "professional investigators" a favorite refrain. The CASB's public relations office declined to answer questions about the Gander investigation on the grounds that the law prevented discussion of the confidential report, while PR wizards scoured the land for friendly reporters to do gee-whiz stories about the neat equipment and international standing of the "professional investigators".

As the publicity increased, reporters started calling us more and more frequently. Curiously, Canada's self-styled national newspaper, the Globe and Mail, didn't follow up its scoops on the Hickling report and Sopinka's study. The Globe didn't even run wire service reports on the questions in Parliament. Between the
time of Desch\'nes' resignation and the publication of the Gander report eight months later, I got only one call from the Globe. It came right after the stories on our critique from Paul Koring, who had recently taken over reporting on military and aviation matters.

At that time I was hewing to the party line of not discussing details of the investigation with reporters. That was no problem, because Koring was only interested in one obscure point of aerodynamic theory -- where would ice first form on an airplane flying through cloud?

Everyone who has driven through winter storms has seen ice collecting on the flat back of a rearview mirror. Our critique suggested that ice formation favored flat surfaces perpendicular to the air stream where the flow separates from the contour. The point I was trying to make was that ice might form on the corner of the windshield before it formed on the wing -- might or might not, depending on the circumstances. I was trying to emphasize the difference between the generally streamlined shape of the airplane and the parts where streamlining is compromised -- the windshield is kept flat for good visibility, landing-gear doors hang out during descent and so on. I was also drawing attention to the testimony of ground handlers like Ted West, who said that when they see ice on the wings they also see it on other parts of the airframe.

I had undoubtedly oversimplified. But the issue was a secondary consideration, an aside to the main point. Yet Koring was insistent. He had heard of experiments that compared ice formation on two streamlined objects of similar shape but different size. The smaller object collected proportionally more ice.*
I tried to explain that the issue of ice buildup on similar streamlined shapes was irrelevant to the comparison between streamlined and blunt shapes -- and that, in any event, the whole question was of marginal significance to our critique. But I wasn't successful. Koring didn't write a story at the time, and I forgot about the call -- for awhile.

Counteroffensive

June 21, 1988. The chairman had called a special meeting to present the investigators' response to our critique, which they had had for about a month. Hinton, Boag and a group of their colleagues were in the boardroom at the appointed hour, along with two strangers. Thorneycroft explained that our guests were consultants who had been retained to assist the investigators. One was an aeronautical engineer from the Department of Defence, the other a scientist from the National Research Council. The investigators' rejoinder, a document somewhat thicker than our critique, was distributed. A glance showed lengthy appendices by the consultants.

For the first time since I had joined the CASB, I was truly and royally browned off. This was just too damn much.

Thorneycroft had consistently blocked all our efforts to obtain outside assistance on contentious technical issues -- the engines, the flight data recorder and so on. The CASB's "professional investigators" hadn't been available to help with any analysis we suggested. Now we learned that they retained outside experts to help rebut members of their own board. Thorneycroft had berated me for giving copies of our critique to Lacroix and Stewart, who had had legitimate access to the draft report. He
had insinuated that I had committed "an illegal act" -- forced me to retain legal counsel to defend myself. At the same time, he condoned the distribution of my paper to these hired guns.

I restrained myself until the chairman finished a syrupy welcome to our "guests". Then I told him I had some important remarks for the ears of board members only, and wanted everyone else out of the room. Thorneycroft balked, but saw I meant business. He asked everyone but board members to clear the room, and investigators, secretaries, guests and hangers-on trooped out.

I reminded Thorneycroft of his reprimands about giving a "confidential working document" to persons outside the board, asked if he was going to give a similar reprimand to whoever had given copies of the same document to these outsiders. He retorted that it was quite proper for the investigators to seek assistance with their review. He refused to say whether he had approved the hiring of the consultants, and wouldn't say whether he knew the investigators had given out the document when he berated me.

I demanded he withdraw the accusations in his letter. He stolidly refused.

He was sullen and defiant, but also rattled and inarticulate. It seemed to me that he was defending a strategy -- the refusal to extend the investigation, the "illegal act" letter, hiring these consultants -- that he didn't understand himself. There was no point going on.

It had taken a month and the aid of outsiders to get this response. Did he expect us to discuss the material that had just been handed out before we even had a chance to look at it? This, at
least, Thorneycroft could deal with. He agreed to postpone the discussion until the following week.

In the meantime we could study the investigators' response. It leaned heavily on the "independent assistance" of the two consultants -- like a last-ditch submission that tries to dazzle the court by pulling expert witnesses out of a hat to save a case that was going down the tubes.

I tried to look at the rebuttal from a neutral perspective. It was organized under the same headings used in the critique, so a casual reader would see a nominal answer to all the issues we had raised. There was nothing terribly wrong with the consultants' contributions, except that they largely missed the point. The scientist from the National Research Council gave, for example, a dissertation showing that, on the basis of a page of mind-numbing assumptions ("a medium volume diameter of cloud droplets of 20 micrometers", etc., etc.), the flight through clouds on approach to Gander "could have produced an ice thickness of about 7 mm (0.3 in)." The upshot was that we hadn't conclusively proved that it was impossible for some ice to form on the wing during descent.

As I read, I also realized what Paul Koring had been driving at when he called a few days earlier. They thought they had a "gotcha" with the ice on the windscreen. Based on the research Koring had cited, the "conclusion that ice on the windscreen was not evidence of ice on the leading edge" was "based on an incorrect foundation and is insupportable", the investigators said. "When ice forms on the windscreen of an aircraft there will almost certainly be ice forming on the leading edge of the wing."

Well, maybe they were right. Captain John Coe had testified that,
on occasion, he had noted ice on the windscreen during descent when inspection after landing showed none on the wings. Perhaps the ice melted from the wings during the approach. But the issue was a side show, mooted by the next obvious question. When ice "almost certainly" formed on the leading edge, did it also "almost certainly" form elsewhere on the airplane -- on parts conspicuous to the ground handlers, say? And of course the whole question of ice formation in the clouds was immaterial if Captain Griffin had turned on the aircraft's wing de-icing system during the approach.

Well, a brief for the defence didn't have to hand points to the prosecution.

On second thought, I realized that the investigators' response was not really a brief to the court. The call from Paul Koring had betrayed the true audience. The response was intended to neutralize the effect of our critique on the media.

I also noticed, in passing, that the key to the witness identities I had carefully segregated from our report had been made available to the consultants, who had freely identified the witnesses. So much for confidentiality.

Under the circumstances, a rebuttal of this depressing rebuttal seemed hardly worth the effort. I soon got a clear sign that it was not. As the struggle between the pro-ice and anti-ice forces became known among the CASB's own staff, I received an occasional telephone call offering encouragement on behalf of past or present staff members. While such calls were usually uplifting, they didn't often contain helpful information. But one call to me at home relayed a useful tip: if I wanted to know what the CASB staff really thought of our critique, I should have a
look at file number such and such.

I made a routine request for the file. The most recent addition was a report from the chief of the Systems Engineering Group in the CASB's laboratory, titled "Comments on the Critique of the Ice Contamination Hypothesis" and dated June 13, a week before we had got the official response."18

While this report still strove mightily to find nits to pick, many entries against significant items in our critique were simply annotated "Agreed". Most significantly, the report concluded that "An engine failure in addition to ice contamination is considered necessary to explain the crash of the aircraft." In other words, the best opinion within the CASB itself had concluded that ice on the wings could not have caused the crash.

It was no longer possible to avoid the conclusion that the discussion of the causes of the crash was a sham. Any opinion contrary to the official dogma of the ice theory would be suppressed, even one coming from the ranks of the "professional investigators". The professed respect for confidentiality and the contempt for leaks to the press were as empty as the professed interest in the correct cause.

But Thorneycroft still had to ad out one final chapter in the charade. Lee Levenson wanted to make another oral presentation when he delivered the written submission to the conditional draft on behalf of Mrs. Theresa Griffin. Thorneycroft had promised to weigh this submission before issuing a final report; moreover, the board had heard a second oral presentation from Arrow Air, and it couldn't refuse the same treatment to the pilot's widow.

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On July 13, 1988, the CASB assembled to hear the second oral presentation on behalf of Theresa Griffin. The four board members who contested the ice theory were there, along with chairman Thorneycroft and Arthur Portelance.

The atmosphere was charged with a weird electricity. The four of us on the anti-ice side welcomed the occasion and the participants, seeing the last faint hope to open up the investigation. But the relationship between the chairman and Mrs. Griffin's advisers had soured over the past two months.

Lee Levenson believed the CASB had reneged on the promise to provide information. He was particularly bothered by roadblocks preventing the examination of the flight data recorder tape. The board had voted to let Harold Marthinsen examine the tape at the American Air Line Pilots Association facility on condition that a CASB investigator accompany the tape and observe while it was examined, but -- for reasons that were never explained in the boardroom -- Marthinsen was later told the tape couldn't leave Canada. If he wanted to see it he would have to come to Ottawa, where he wouldn't be able to use his own equipment. After discussions with Hinton and Thorneycroft, Marthinsen had examined the tape in Ottawa, only two weeks earlier. His analysis was still incomplete.

Thorneycroft had told us that Levenson wanted more time to prepare, but not that the decision about the FDR had been altered, so I had agreed to ask Mrs. Griffin to continue as scheduled, on the understanding that we would accept supplementary material when it became available.

The written submission we had received the day before was
definitely testy. The presentation, Levenson complained, had been "hampered by our inability to obtain important information", and he contrasted the runaround with the courtesy accorded to Douglas and Pratt & Whitney. "We are greatly concerned that the Board's investigators, in their efforts to better understand the DC-8 systems, may have been guided by non-neutral interested parties," he wrote. The submission charged that the conditional draft "projects probability into factuality by inference and innuendo and was not consistent with a conclusion that is based upon professionally constructed assumptions."

There was something else that really bothered Mrs. Griffin. "Captain Griffin's notebook was recovered from the wreckage," her submission noted. "His family was never notified that this article of his personal effects had been recovered. We believe that quoting excerpts from Captain Griffin's personal notes exhibits extremely poor taste and is an unfortunate effort to denigrate his professional reputation."

Ironically, the board had unanimously agreed to remove these irrelevant passages when we had first reviewed the draft in the spring of 1987 -- but such changes had been cancelled en bloc by the board members who had approved the conditional draft.

Thorneycroft opened the meeting by reading a prepared statement. The Griffin submission, he said, "makes what I think are pejorative comments. It questions the performance of the staff and the board members. It charges bias and it strongly implies dishonest practices." He insisted that "the investigation was done in a professionally, internationally recognized manner following ICAO methodology. . . . All reasonable scenarios were examined based on the evidence available. . . . As you know, professional investigators don't jump to conclusions. And they
have no reason to take a biased stand." He asked Mrs. Griffin to withdraw these statements.

Levenson replied that there was "no intent to imply dishonest behavior," but declared that they would stand by their opinion that the draft demonstrated "a bias towards a theory that ice contamination caused this accident." It was not an auspicious beginning.

The Griffin submission was some 120 pages long, plus lengthy extracts from manuals and service bulletins. It went through the usual problems with the ice theory and the performance calculations, and also gave a detailed critique of the superficial analysis of the mechanical systems. Levenson and his team had thought a lot about the engine fire extinguisher bottles. One had almost certainly been fired on purpose, but Thorneycroft -- who knew a lot more about this than I did -- said the location of this bottle couldn't be determined because "the fire bottles were removed by agencies concerned about the possibility of explosives."

Since their last presentation, the Griffin team had moved beyond what didn't cause the crash. A review of problems with DC-8 thrust reversers suggested that a single failure in the thrust reverser system could put the engine into reverse thrust at takeoff power with the thrust levers in the forward position. This, they suggested, was the most probable cause of the crash. The deficiencies in the DC-8 reverse thrust system should be corrected, whether one accepted the theory or not.

After Levenson and Jerry Rusinowitz had finished the technical comments, Mrs. Griffin, who had observed this and the previous meeting quietly, said she had a statement. She spoke in a calm
but determined voice: "I am outraged that the staff recovered and referred to my husband's log without ever acknowledging to me that they had it. I think that they kept it with malicious intent to assist them in proving their preconceived theory that icing was the cause of this accident." She said she intended to make the CASB's ineptitude a public issue.

Within the usual scope of his activities, Thorneycroft was a master of social niceties. If someone retired, got married, broke a leg, died, or had a baby, he was right in there with just the expression Miss Manners would recommend. But Mrs. Griffin's remarks were harder to deal with -- so he simply ignored them. He thanked her for the presentation and assured her it would receive detailed consideration. Then he went to close the proceedings. But I couldn't leave the widow's statement just hanging there. "Mr. Chairman, Mr. Chairman," I called out, so, loudly that he couldn't ignore me.

"I see one of my colleagues has a comment," he acknowledged, none too pleased.

I said that I would like to supplement the chairman's opening comments with a personal view, and told Mrs. Griffin that I for one regretted some of the material in the conditional draft. As for the mutual accusations of pejorative remarks, "They may be regrettable but they're not parallel. The draft report impugns the memory of the dead crew who can no longer defend themselves. The submission calls into question the professional work of a group of people who are not named individually. Each of these people is alive and capable of rebutting anything that may be unfair or incorrect. I regret anything that may have impugned the memory of your husband, Mrs. Griffin, and that of the other crew members. And I assure you that I take everything that was
presented here without any offence at all."

It wasn't great eloquence, but it was the best I could do on the spur of the moment. Mrs. Griffin, Levenson and the others nodded appreciatively. Thorneycroft and his supporters glared with undisguised contempt.

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The next day, members of the opposition Liberal Party arranged a press conference for Mrs. Griffin and her advisers. They denounced the ice theory and attributed the crash to an uncommanded deployment of the number-four thrust reverser. The Canadian Air Line Pilots Association and the Liberal Party supported Mrs. Griffin's call for a judicial inquiry.

When questioned by the media, Bobbitt, Stevenson and I backed this call. The Ottawa Citizen reported that "the directors have never before criticized the investigation"19, while Thorneycroft said it was "extremely unfortunate" that we had "broken the board's solidarity". He maintained that a judicial inquiry was not necessary, and he was backed by Gordon Sinclair, his old pal from the Transport department, who was now president of the Air Transport Association of Canada. Benoît Bouchard continued to reject any calls for a judicial inquiry: "We will have a final report," he said, "and at that time the minister will consider the recommendations."

In the meantime Bouchard had introduced legislation to replace the CASB with a five-member multi-modal board. The legislation would die on the order paper when Parliament adjourned, but Thorneycroft couldn't know that, and he was banking on it to solve his problems. He became even more
isolated, and made even less pretence of heeding the board as we continued going through the motions of meetings to deal with a procession of other accidents.

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With the oral submissions out of the way, it could be argued that the CASB had satisfied its obligation to the interested parties. It was time for Boag, Hinton and their colleagues to revise their report in light of the representations. Their task was much what it had been a year before, but working under a new chairman was an advantage. Thorneycroft was as committed to their cause as Deschánés, but less likely to impose idiosyncratic requirements -- and he clearly enjoyed the support of top bureaucrats. On the other hand, a new set of critics had joined those within the board. Worst of all, the investigation had come to the attention of the media.

The strategy for the final report included a push to stake out the high ground with the media. Critics and potential critics were to be neutered with references to the confidentiality of the investigation. At the same time, a campaign was launched to polish the image of the CASB staff and to again build up the myth of the "professional investigator". Reporters were invited to the laboratory to marvel at the high-powered microscopes and banks of computers. No opportunity was missed to preach the exclusive authority of the director of investigations. Every scrap of good-news potential was exploited: A French-speaking female investigator provided good grist for a human interest story and, not quite incidentally, spread the gospel.

The media blitz gave us an inkling of Thorneycroft's intentions. He was bent on issuing the final report before the third
anniversary of the Gander crash; he had no intention of circulating another draft.

The media also provided our only clues about his plans for dousing the criticisms. Apparently the investigations were confidential only to critics; Peter Boag told Canadian Press that "it appears that the plane's number four engine, the outboard far right engine, may have been operating at 60 percent of maximum thrust at the time of the crash". Was Boag conceding that ice couldn't in itself explain the crash? Heretofore, he had never given the slightest sign of willingness to eat crow, but perhaps he was now being forced to nibble a little.

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Then out of the blue, we heard that "American servicemen, Gander firemen, and as many as 60 members of the Public Service Alliance of Canada who responded to the crash of an Arrow Air jet three years ago are starting to develop serious medical problems." The rescue workers were reporting "liver problems, nausea and dizziness which doctors believe may be linked to toxic fumes released from the burning wreckage." The union representing many of the workers demanded an independent medical examination of everyone who had been at the crash site.

These reports, vague as they were, gave an immediate urgency to finding out exactly what had been in the mysterious crates loaded in Cairo. Suppose they had contained dangerous chemicals that were affecting the health of the people who had mucked about in the wreckage -- surely those in the know would pass along the information. But what if the only ones who knew had perished in the crash?
Dave Owen, the first CASB investigator on the site, told me he didn't think there had been any hazardous material on the aircraft and wasn't worried about his own health. Nevertheless, I wrote to Thornycroft urging medical tests for any of the CASB staff who had been on the site. Outside the CASB, the government moved quickly to defuse the issue, announcing that it would appoint a medical team to study the complaints. Dr. Rosemary Marchant, a specialist in occupational health at Dalhousie University, was appointed to do a study, which would begin sometime in November and would continue for an indeterminate period.*

By then the air crash that killed General Zia of Pakistan in August 1988 had been attributed to deliberate sabotage. The New York Times reported that "a chemical agent may have been used to cause incapacitation of the flight crew", quoting Pakistani investigators as mentioning "high levels of phosphorous and antimony" and "traces of pentaerythritol tetranitrate".22 After I drew this to the attention of Dr. Marchant, an official of the Health department eventually wrote to thank me for my interest.

While the burst of health problems deflated the campaign to flood the media with stories about the prowess of "professional investigators", the government's willingness to launch a study ensured that the medical problems would not become an issue in the CASB report. The net effect was to restore the status quo.

"The Journal"

The campaign to enlist journalists had an unanticipated downside: some of them weren't satisfied with bromides and visuals. Kevin Tibbles, a reporter for the news program "The Journal", was one.
"The Journal" appears on the CBC national network six nights a week, after the ten o'clock news. Tibbles wanted to do a story on the Gander crash, and Roger Lacroix urged our side to cooperate. But, wasn't the report-in-progress supposed to be confidential? Was this a good time to talk to the press? How much could we say? Wouldn't we get hammered? After all, the other side had a whole public affairs department to spin the story of devoted professionals impeded by a few renegade political appointees.

Tibbles had a good come-on: Thorneycroft had already agreed to cooperate. We didn't want to give free reign to the other side, did we?

Thorneycroft had publicly declared that he didn't believe hydrogen cyanide was a factor, so we should be able to say that we didn't believe ice was a factor. John Sopinka had said publicly that the appointed board members had not been given the facts they needed to determine whether or not the investigators had got at the true causes, and we could certainly go along with that. We'd do it.

Roger Lacroix, Ross Stevenson and I met Tibbles and his crew at the Ramada Hotel on August 31. He told us he had interviewed Thorneycroft the day before, but he wouldn't say how it had gone.

As we waited for the crew to set up, I chatted with the sound technician, a slightly built man called Richard. He seemed more interested in psychology than electronics. "Thorneycroft wouldn't sit down. He insisted on standing for the whole interview with his hands on his desk behind him," he volunteered "as if he was trying to cover it up. Positively Freudian." Richard grinned and
shook his head. "Positively Freudian," he repeated. It was a good sign.

Ross, Roger and I sat in a semi-circle around Tibbles and talked freely within the limits we had agreed to. It was the first of many interviews to come.

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On September 13, Ken Thorneycroft circulated a memo to all board members.

As you have certainly noticed, there is currently a new wave of media discussion of the Board's internal activities with respect to the investigation of the Arrow Air accident. Furthermore, my sources indicate that a reporter from one of the major news wire services will be interviewing certain Board Members. . . . public discussion at this stage is not serving aviation safety .á. . any discussion of the investigation analysis or potential findings should take place only within the Board's process until we have completed our review. .á. . If you cannot abide by these guidelines, I request that you advise me immediately.

The "new wave of media discussion" bothering the chairman was the extension of his "good news" campaign to include contrary opinions, and his sources were at least partially right -- a reporter from UPI was coming to my home for an interview that evening. As for the "Journal" interview of both Thorneycroft and us, it was to be aired as a full-edition documentary a week later. But Thorneycroft already knew that.

The "Journal" documentary turned out to be a good summary of the impasse -- at the CASB in general, and with respect to the
Gander investigation in particular. As expected, Thorneycroft and Boag deflected awkward questions on the grounds that the investigation was incomplete. And Thorneycroft did indeed plant himself between the camera and the secrets on his desk, covering up as much of what was behind him as possible. The symbolism would have escaped me without the helpful psychology lesson from the sound technician. Thorneycroft denied that information had been withheld from board members. "Mr. John Sopinka is entitled to his opinion," he said.

Roger, Ross and I disowned the ice theory without speculating on what might have caused the crash, but "The Journal" set the stage for such speculation with two eye-witness interviews; Ted West said he would have felt ice on the airplane had there been any, and Cecil Mackie again reported that the glow from the DC-8 had seemed "like a steady flame". Moreover, West and Mackie illustrated a point we had been trying to make from the outset -- ambiguities in witness statements could be settled by talking to the witnesses.

Kevin Tibbles had also interviewed Lee Levenson and Dick Moore, who had analyzed the draft report for Mrs. Griffin. The two pilots were convinced that the number-four thrust reverser had somehow popped out during the ill-fated take off. Moore recounted his own experiments on a DC-8 flight simulator, which showed that a crash was inevitable under the assumed conditions. The discharged engine fire extinguisher suggested that the crew had been fighting a fire at the same time.

The "Journal" documentary passed unremarked in the CASB boardroom but the atmosphere became even more charged, with Bill MacEachern muttering darkly about "scurrilous saboteurs" trying to undermine the work of the professional investigators
and Thorneycroft determined to "get the report on the street" by the third anniversary of the crash.

Boag's hints to the media suggested that the new draft would stick with the ice theory but admit problems with the number-four engine. We would be forced to write a dissenting report. But we couldn't just keep railing against the ice theory; we would have to propose an alternative.

Ross Stevenson had always believed that an explosion had brought down the aircraft, and we had discussed this possibility many times. But Ross' belief was based on intuition, not deduction from evidence, and there was no way I was going to supplant one wrong theory with another. The hole Irving Pinkel had found in the fuselage suggested a small explosion in the cabin, but witness testimony and the system failures would place any blast in the cargo hold. And no one had come up with an explosion hypothesis that even began to explain the origin, the links with the failed number-four engine, the hydrogen cyanide in the victims and so on. The problem of course, was that evidence not needed to support the ice theory had been overlooked, discarded or discounted. The investigators hadn't even bothered to keep decent copies of Pinkel's photos.

Once, I had asked why the investigation didn't pay more attention to the possibility of sabotage. Oozing sarcasm, MacEachern had said, "I suppose you think they should have interviewed Yasser Arafat." The others pretended to find this funny and refused to discuss the subject. The potential for sabotage was so horrendously self-evident that their indifference -- real or feigned -- begged explanation.

Stevenson was convinced that there was hard evidence to prove
an explosion, if only we could find it. From the outset, he'd been frustrated by the lack of transcripts of interviews with important witnesses like Judith Parsons. In any event, tape-recorded interviews demonstrated that the investigators hadn't asked the right questions. Of the thousands of photos taken at the crash site by RCMP photographers, only hundreds had been kept in the files -- and these were stored haphazardly, without identification or index. Before deciding what to put in a dissenting report, Ross wanted to see all the photos. He wanted to talk to witnesses. He became obsessed with revisiting Gander.

Thorneycroft and the supporters of the ice theory scoffed at his demands. To them, such manic desires demonstrated his unfitness to be a member of the board; clearly he really fancied himself as an investigator. It was great sport to deflect his questions into an analysis of his unfulfilled delusions.

But for some reason -- possibly the increased publicity about restricting the review of board members -- Thorneycroft had a sudden change of heart. He would approve Stevenson's trip if it was supervised by one of Hinton's henchmen. I told Stevenson it would be like visiting a gulag with a guide from the Politburo, but he didn't care. In fact, he was exuberant. He spent three days in Gander.

Stevenson observed aircraft taking off from Runway 22 from the positions of the truckers on the Trans-Canada Highway at the crack of dawn, to see for himself whether the reflection of low-intensity approach lights could be seen, let alone mistaken for a fire. He talked to witnesses, including Judy Parsons and the helicopter pilots who had been flying on the day of the crash. He had a helicopter fly him along the presumed flight path of the Arrow Air DC-8 and he sighted back to Parsons' position in the
Tilden parking lot. He was convinced she had seen an in-flight explosion.

The CASB investigators had not seen fit to interview the firefighters who were first on the crash site. For two years Stevenson had pleaded in vain for the next best thing; a copy of the report of Fire Chief Hennigar, submitted a few days after the crash. He finally got one.

He also visited the repository for the RCMP photographs in Grand Falls. The RCMP officers were cooperative but not communicative. Somehow, though, his attention was directed to a specific selection of photos showing pieces of wreckage containing holes with outwardly curled edges, like the ones that had caught Irving Pinkel's attention. The exhibits were carefully photographed from both sides and from different angles. The group included other remarkable photos like those of a section of fuselage containing an empty window surrounded by a narrow ring of soot.

No one explained why these particular photos were grouped together, or why someone had deemed it important to take them. There was no index. But copies were willingly provided.

When Stevenson returned to Ottawa, he again tried to convince Thorneycroft that the investigation might have overlooked evidence of a pre-impact fire or explosion. He followed up with a memo listing items that he believed needed to be considered, for the report to be credible: "Soot marks around window frames seen in photographs obtained from the RCMP suggest the possibility of an internal explosion. . . . Recovered doors, frames and wreckage destruction suggest the possibility of rupture from internal overpressures characteristic of in-flight explosion. This
point should be considered by a complete description and analysis of all doors and removable windows." And a dozen other items.

Thornycroft countered with a memo dismissing Stevenson's points out of hand. With respect to the doors and windows he said, for example, "All wreckage, including the window frames, door frame and doors was subject to detailed and extensive examination by investigators, as indicated in the Conditional Draft, no evidence of in-flight fire or explosion was found."

He might as well have said, "Trust the professional investigators" -- or, for that matter, "Stuff it where the sun don't shine."

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While Ross Stevenson was chasing evidence of an explosion, I wanted to rethink the evidence related to the thrust reversers. The investigators seemed so confident of their diagnosis that all four thrust reversers had been stowed that, up to now, I had accepted their conclusion at face value. But Lee Levenson, Dick Moore and Harold Marthinsen were absolutely adamant that the number-four thrust reverser had been a factor. I needed to reflect on it for myself.

The investigators had not documented their negative conclusion about fire or explosion, but the New York Times had reported that a thrust reverser might have been involved; so they had produced a report to back their contention that all four were stowed. I obtained large glossy photos of the wrecked reverser units and started to mull over their conclusions.

The thrust reversers had attracted attention because the number-
four unit seemed to have been extended at impact, but the investigators had deduced that it had opened while being dragged backward during the crash. This may seem plausible if one imagines the crippled aircraft sweeping close to the ground with the right wing tilted down. But the right wing was not tilted down. The wings of the DC-8 are set in a dihedral or "V" with the tips up about 7 degrees from the roots. This dihedral was cancelled almost exactly by the seven degrees of right bank. Thus, at the moment of impact, the right wing was dead level -- or as close as anyone could hope to determine. So whatever happened to the number-four engine should also have happened to number three, hanging next to it on the right wing. The two engines should have sucked in branches and dragged their thrust reversers in the same way. So why was everything about number-four so different? Why had the number-four thrust reverser been dragged all the way back when the other-three units were dragged back only a little bit?

Something was very strange here.

A moment's reflection on impact forces sufficed to show me that none of the thrust reversers could have been dragged backward. The DC-8 had plunged violently into the ground; all four engines had clearly struck nose first. Components would have hurtled forward, like loose objects in an automobile that runs into a brick wall.

The DC-8 thrust reversers open something like a fold-up umbrella. "Translation rings" slide back on tracks, opening when they have moved back far enough. The other reversers were apparently closed at impact but, curiously, not one of the translation rings was in the full forward position. Had they been forward at the time of the crash, they should have stayed
forward. If, however, the translation rings had been open at the rear of the tracks, the impact forces would have driven them forward, possibly far enough to close the doors.

The only reason I could think of to explain why any of the reverser units was back even a little was that it had been back farther to start with, and then the violent deceleration had driven it forward. Of course, there might be many reasons I couldn't think of -- but they weren't found in the investigators' report.

I packed up the glossy pictures and a copy of the thrust reverser report and sent them to an experienced investigator working as a private consultant. When he called me after studying the material, he said, "I think all four were out."

Later, we studied the deductions about thrust reversers in detail. Based on the evidence at hand, a plausible case could be made to support the hypothesis that all four reversers were forward at the time of impact.

So here, after almost three years, a complication came right out of left field. It fit neither the ice theory nor the malfunctioning number-four thrust reverser theory, nor any other theory -- except that of a careless investigation, an investigation aimed at producing evidence to support a preconceived conclusion, an investigation where even evidence close at hand was not examined with a critical eye.

BOOK 6
FINAL REPORT

Part 1

End Game

The tragedy has been so uncommon, so complete, and of such personal importance to so many people that we are suffering from a plethora of surmise, conjecture, and hypothesis. The difficulty is to detach the framework of fact -- of absolute undeniable fact -- from the embellishments of theorists and reporters. Then, having established ourselves upon this sound basis, it is our duty to see what inferences may be drawn and what are the special points upon which the whole mystery turns.

Sherlock Holmes

We received the new draft of the Gander report during the last week of September 1988, almost exactly a year after we had received the draft purporting to answer the "deficiency list". The second time around was just as much of a downer: the new text was bloated with irrelevant clarifications, but the conclusions remained.

I lost a bet I had made with Bobbitt; the new draft didn't concede that the number-four engine had lost power before impact, but only that it had been turning more slowly than the others. And it maintained that the investigators couldn't determine whether the slower rotation was due to loss of power in flight or to "tree fragment ingestion" during the crash. It actually said it couldn't be "conclusively determined" because there was no "definitive
"evidence" so nothing could be "completely ruled out". The report was peppered with weasel words like "conclusively", "definitive" and "completely" -- part of a trend to even more equivocation and side-stepping. It was no longer claimed, for example, that "engines one, two, and three were determined to be operating at high-power settings at ground impact" this clear (if unproven) claim had been replaced by three hopelessly obscurantist paragraphs.

The text about the number-two engine said, "Although the impact reading of the number two engine indicator was well below take-off EPR, it is possible that the reading, if reliable, indicates that power was removed from the indicator later in the impact sequence, after the engine rpm and EPR had decreased as a result of impact and breakup. This assessment is supported by the examination of the engine which indicated that the engine was operating at high rpm at ground impact." (I can't understand it either.)

The new text on engines also reported that "Independent examination of the number four engine confirmed the assessment of the CASB investigators." The independent examiner -- Dr. Gary Fowler, a metallurgical engineer from Gardenia, California -- concluded that "observed engine damage caused by tree ingestion and resulting deceleration was consistent with a high power output."

Fowler had been retained late in the game, and the board hadn't got to meet him or even see his terms of reference. Nor could we ask how his metallurgical expertise helped him assess tree ingestion. But why would we want to? Who but interfering government appointees would not be completely satisfied? The appraisal of the "independent investigator" hired by Tom Hinton
was, after all, consistent with the story Hinton had been pushing so vigorously. And Fowler, we could be certain, was not inexperienced in theorizing about the causes of an air crash.

In 1984, for example, Fowler had advanced a theory of "heat delamination" in the defence of director John Landis, accused of negligence in the grisly deaths of actor Vic Marrow and two children. An explosion, set deliberately during the filming of Twilight Zone -- the Movie, disabled a helicopter flying just twenty-four feet above the actors. The right skid crushed six-year-old Myca Dinh Le and the main rotor decapitated Morrow and seven-year-old Renee Chen, while six cameras captured the gory details. Fowler's theory, convenient for the defence, that the rotor blade "delaminated" independently of the tremendous blast under it, was rejected by other expert witnesses and, ultimately, by the court2.

The new draft did rectify certain omissions. Under the prodding of Arrow Air, it finally acknowledged that hundreds of weapons had been scattered over the crash site. Humphrey Dawson's demands had elicited short lists of weapons found on the site and weapons "believed to have been aboard the aircraft", although the report did not comment on the discrepancy between the lists. It did tell us that "There was no evidence found of military ammunition or explosive device". Elsewhere it noted that the equipment "believed to have been aboard the aircraft" did not include "military ordnance, ammunition or other explosive material" -- except, that is, for "one clip each of .45 calibre ammunition reported to have been carried by a Criminal Investigation Division inspector and the Battalion Commander." Given that the investigation had found no evidence of these clips, we were left to wonder what else might have been overlooked.
The new draft had taken to heart Ross Stevenson's complaints about omitted witnesses. The reference to "three witnesses" who saw a "yellow-orange glow" had been changed to read "several witnesses". Somehow, Stevenson was still not happy. Neither was he cheered that the investigators accepted his demand to account for Fire Chief Hennigar's report of thirty or forty explosions, some of which were large enough to cause "mounds of rubble to lift several feet into the air". The new draft noted that "several small post-impact explosions occurred in the burning wreckage" and attributed these to "normal bursting of pressure vessels". The vessels -- presumably without safety valves -- were not listed.

But this was all a side show. It was the new draft's account of the hydrogen cyanide and carbon monoxide in the victims' remains that best illustrated how the seeds of neglected evidence had grown into a briarpatch of contradictions.

Many Victims Survived the Crash

The conditional draft report sent to the interested parties in December 1987 had given a simple account of the cause of death: "All 248 passengers sustained fatal injuries as a result of impact and post impact fire."

This simple statement didn't rule out an interpretation that occurred to no one at the time: that some victims lived through the crash and died in the subsequent fire. The possibility of a survivable impact, if taken seriously, would, of course, raise disturbing questions: could lives have been saved by speedier arrival of the firefighters, for instance? But no one asked such questions. Pictures and eye-witness testimony of the horrible destruction belied all hope of survival.
The impression that no one could have survived was borne out by the certificates of death by Dr. McMeekin, which cited instantaneous death from accidental causes. McMeekin, moreover, had told the CASB's public inquiry that the remains showed "no reaction to burning in any of the tissues."

Without the toxicological findings, these conclusions added up to a simple, consistent story: everyone died instantly in the colossal crash. For almost three years, no one had suggested anything else. But then public disclosure of the toxicology results called for some creative thinking.

Four pages of opaque "medical information" supplanted what had been covered in a few short paragraphs. The previous draft stated that "no postmortem evidence was found that was consistent with the detonation of an explosive device." The new, improved version said, "The effects of an explosive blast wave were considered indistinguishable from the effects of trauma from decelerative forces, flying debris and structural collapse of the aircraft." Those interested in word games might note that the new phrasing was logically equivalent to claiming that the findings were consistent with the detonation of an explosive device.

It turned out that Robert Lee's revelation in the Ottawa Citizen had been understated. Lee had suggested that about half the corpses had contained elevated levels of hydrogen cyanide; the data showed that 158 of 187 samples -- about 85 per cent -- tested positive. In addition, 69 of 187 samples showed elevated levels of carbon monoxide.

But only non-professionals would assume that this suggested a
pre-impact fire. The new draft said that "a complete review of pathological examination results was undertaken for the CASB by forensic pathologists. . . . The primary purpose of this review was to estimate the time interval from injury to death for each victim." What was this? Didn't Dr. McMeekin's death certificates say death had been instantaneous?

The report went on to tell us that the review had established that 158 out of 250 cases where it was possible to estimate the time of death -- coincidentally the same number as had elevated levels of hydrogen cyanide -- had survived for more than thirty seconds, possibly up to five minutes. It followed that if the firefighters had arrived in five minutes instead of seven, they might have found many of the victims still alive. Yet no firefighter reported any sign that these victims had made an effort to save themselves -- by opening emergency exits, for example.

The report didn't explain that the "complete review of pathological examination results" had been commissioned in the wake of Lee's article, for the express purpose of countering "erroneous news reports" that "cast doubts on the cause of the accident and generally create adverse public perception"3. Nor did it say what Dr. McMeekin thought of the disavowal of his death certificates.

But never mind -- here, for the sufficiently credulous, was the secret of how so many victims could have ingested deadly fumes. They had lived and breathed after the crash and then succumbed. The less credulous might have wondered how victims who lived for five minutes in that blazing inferno could have escaped injury from the raging fire and numerous explosions.

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On October 12, 1988, the CASB board held its first formal discussion of the Gander investigation since the presentation on behalf of Mrs. Griffin in July. Oblique skirmishing had, of course, continued. At one point I had introduced a motion to ask the government to institute a judicial inquiry. The motion had been defeated, but the list of "whereases" had put some of the deficiencies of the investigation on the record. Another motion seeking a judicial interpretation of the CASB Act had also been defeated, but we hoped it would remind Thorneycroft of the legal niceties.

There had been a steady stream of correspondence with Arrow Air lawyer Humphrey Dawson. His most recent letter had arrived just a few days earlier. Arrow was still waiting for information promised five months earlier, Dawson complained. "At that time you assured us that no report would be issued without a draft thereof being supplied to my clients," he reminded Thorneycroft. "I would ask for an assurance that the Board will not issue a report until at least the pathology and other information for which we asked in May has been supplied and our clients have had a reasonable opportunity of considering same." Fat chance of that. Thorneycroft had already started final review of the new draft, which he insisted must be issued before December 12, the third anniversary.

Thorneycroft was in good form. He began with a ten-page opening statement, the likes of which we haven't heard since Bernard Deschânes jumped ship -- a textbook example of preemptive historical engineering, a record of the fairness of the process to come, for the benefit of future historians.

"Two years and ten months have passed since the morning of
December 12, 1985," intoned Thorneycroft, presumably rehearsing for a future press conference. "The investigators have examined the site and wreckage in minute detail," he continued -- asserting another hotly disputed claim as if it were fact. There followed a revisionist history of the investigation. He noted, for example, that "My predecessor, Bernard Deschesnes, assisted by members Lacroix, Pultz and Stevenson, conducted a comprehensive public inquiry into this accident." This is the first time anyone had ever styled the public inquiry "comprehensive" the usual alibi for omissions being that the inquiry was "just one step in the investigation process". And, curiously Thorneycroft had omitted Frank Thurston from the list of board members presiding at the public hearing.

"The investigation has been thorough and complete," Thorneycroft went on, "and our review exhaustive." All conclusions had been verified by "independent experts". Of course, the board members who disagreed were not independent experts. Irving Pinkel was not an independent expert, Harold Marthinsen was not an independent expert. Gary Fowler was an independent expert.

"Nothing has been withheld," Thorneycroft read. He must still have been smarting from the pasting on "The Journal". "The public discussion of the analysis of the Gander accident has, in my view, caused serious harm to the reputation of the CASB in general. It has harmed the good name and reputation of the majority of board members who have respected the confidentiality provision of the Act. Similarly, it has harmed the staff whose work was publicly maligned and who were least of all able to respond. I have seen no justification for such action and unless justification is produced, I will have to take the steps that any responsible chairman would take."
"While I do not intend to limit or restrict discussion, if a consensus is not emerging I intend to call for a recorded vote and move on. . . .

"The interested parties had generous opportunity to make representations" but changes to the draft were "primarily due to public interest created by the leak of the initial draft." So much for the promise to circulate another draft.

The chairman had also reflected on the possibility of a dissenting opinion. The final report must be produced by his deadline of December 12 and "I do not intend to unduly delay production of the report waiting for dissenting opinions," Thorneycroft said.

"I understand the board has decided not to impose any restriction on the submission of dissenting opinions," he added, alluding to a recorded decision taken under Bernard DeschÁnes. "Nevertheless, it seems to me that there must be reasonable limits on what can or cannot be included." When the time came, he aimed to "provide reasonable guidelines" to potential dissenters. But "in any case, dissenting opinion not received in a reasonable time frame . . . will not be published."

He then called on the board members to comment, starting with those who had objected to the ice theory. The four of us did so, at great length. The new draft was as specious as the original. Refusing to let interested parties comment on it was is a breach of trust. The time limits he was trying to impose were unjustifiable and unfair -- contrast them with the month the investigators had needed to review our "Critique of the Ice Contamination Hypothesis." Moreover, the new draft included extensive additional medical information, yet we had not
Thornycroft's cheerful assurance that nothing had been withheld reminded me of a curious visit from the director of investigations. Tom Hinton was assuredly not in the habit of making chummy visits to my office, but a few weeks earlier, he had dropped by unexpectedly. He had suddenly got the urge, he said, to soothe my concerns about the baggage of the two soldiers who had missed the flight in Cairo.

Since Hinton was so uncharacteristically informative, I had taken the opportunity to ask about Thornycroft's answer to my repeated requests for the passenger manifest. According to Thornycroft, the manifest given to the investigators "could not be identified" because it disappeared during a "reorganization of the files" that Hinton had ordered.

Hinton was chagrined at the implied mistrust. He allowed that "duplicates" had been removed from the files when they were "reorganized to help the board's review," and on further probing he admitted that the "duplicates" might not have been "exactly the same" as what remained. But he reassured me that "the best information had been left on the file."

"If that is not withholding information, then withholding information has no meaning," I angrily told everyone.

The comments from the proponents of the ice theory were shorter. Thurston congratulated the chairman on his "expedient and statesmanlike" opening statement. MacEachern thought it "well reasoned and responsible" and agreed with it 100 per cent. He excoriated the "dissenters" somewhat more moderately than had been his custom of late; "Scenarios have been presented and
cases have been made and allegations have been put on the table," he said. "They have been answered. They have been dealt with. Yet when we think they have been put to rest, lo and behold, they pop up again like mushrooms."

Hinton got his chance to explain why material was removed from the files; "The purpose was to try to bridge the gap between the staff and the board with respect to the availability of information," he said. "To facilitate the members' use of the files we put them in order, and I found out at that point that some information, what we believed to be extraneous information, duplicate information, was taken off the files, and I mentioned this quite frankly in my conversation with Member Filotas. All of it was kept in our own records. I think the very fact that I mentioned it to him would indicate that I'm not trying to hide anything."

The only way Hinton could top this pitch was by offering us all a once-in-a-lifetime deal on choice property in the Everglades -- maybe with a free trip to Disneyland for those who signed right away. He didn't. We went on with the review of the latest, and final, draft of the report.

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Thorneycroft would not permit a systematic review of the comments from the interested parties, as had been the practice. We could only ask the investigators to explain changes to the report, and then the board would vote on it, section by section. We started with the engines.

Gary Fowler's "independent" examination had given number four a clean bill of health, and there was no need to do anything on
the other engines. The revisions in the new draft were accepted by the usual divided vote.

We moved on to the thrust reversers, and I started asking questions. Apropos of something I can't remember, one of the staff happened to mention the recent tests on the number-four engine nozzles in Montreal. What nozzles? What tests?

It turned out that Carl Hoffman, the lawyer representing the estate of flight engineer Mike Fowler, had hired a consultant to examine the engines. The consultant, retired Pratt & Whitney engineer Don Hammel, noticed at once that the number-four engine combustion chambers and fuel nozzles were covered with heavy deposits of soot, in marked contrast to the other three engines. The "professional investigators" had overlooked this conspicuous clue for three years, and Gary Fowler had also missed it.

Hammel was dumbfounded that the investigation had not sought to narrow the uncertainty about the state of the engines by testing components where possible. A simple bench test on the fuel nozzles could show if they had been working properly. At Hoffman's insistence, the nozzles from number-four engine had been tested at Air Canada's engine test facility in Montreal -- on September 27, 1988, just two weeks earlier.

Hoffman subsequently wrote the chairman that the nozzle tests "raise doubts about the condition and power output of the number four engine." He requested further tests. Thornycroft received Hoffman's letter days before telling us that nothing had been withheld and that all conclusions had been verified by independent experts". Tom Hinton had arranged for the nozzle tests days before saying that "we are working as hard as we can
to provide all the information to the Board as fast as we can."

Yet the board had discussed and approved the conclusions about the engines in the draft report without a hint about the tests or Hammel's conclusions. We learned his opinion by chance -- as we had learned of the witnesses who thought they saw fire, as we had found out about the hydrogen cyanide.

At this stage there was nothing to do but keep trying. I moved to suspend the discussion until the further tests suggested by Hoffman were carried out.

Thorneycroft was uncontrite and unconcerned. He had a majority, and he could win any vote. But Arthur Portelance was ready to make a gesture, and suggested we defer the vote until we got a report on the nozzle tests. The next morning we were told that unidentified Air Canada technicians believed that, while the nozzles "would not be suitable for installation on a newly overhauled engine", they would be "acceptable as in-service components". There was no written report.

Why, someone asked, had the tests been done at Air Canada instead of at an independent facility? Well, Air Canada had the right kind of rig and had done us a big favor by letting us use it at short notice. "We rely on the good will of Air Canada, who provided a lot of assistance in the Arrow Air investigation," said Peter Boag.

I wondered, but only to myself, about the potential for conflict of interest in scrounging favors from a past and future interested party. Shouldn't the board know about such an exchange of favors? Here was a real-life illustration of the "exclusive authority" of the director of investigations; it ensured that favors
granted or received from interested parties, actual or potential, were beyond outside scrutiny. But this was neither the place nor the time for philosophical reflections.

The all-purpose explanation for anomalies in the number-four engine was broad enough to accommodate a few sooty nozzles. The slower rotation had already been attributed to "tree ingestion" -- obviously the same source had deposited soot on the fuel nozzles. Enough nonsense, get on with the vote. My motion to postpone discussion was defeated. The staff would, however, put some information on the nozzle tests into the report."

Having cleared the deck of fuel nozzles, we were ready to continue our review. But wait a minute -- a laggard chicken had just come home to roost. Thorneycroft received a fax from Humphrey Dawson, and this time he distributed copies.

"We find it very difficult to understand how, after this length of time after the presentation to the Board and the leaks to the media, you are unable to produce to us detailed pathology/toxicological reports and the information for which Harry Weisberg and I asked you in May," Dawson wrote. Arrow Air had retained Dr. Richard Thorley Shepherd, of the division of Forensic Sciences, Guy's Hospital, University of London to analyze the Gander toxicology results. "Having regard to all the circumstances I do not think that it can possibly be proper for your Board to issue any further report without full consultation with us."

Thorneycroft was willing to send the toxicology reports to Dawson and the other interested parties, but there was no way we were delaying the report. "The interested parties do not dictate our policy," he said. "We'll look at anything they send us when
we get it. If it's pertinent we can revise the report, even after it has been released."

We would, in fact, receive additional insight from Dr. Shepherd before the report was released. "It is obviously erroneous, and somewhat circular, to conclude that there was no pre-crash fire," he reported when he saw the toxicology data two weeks later. "One of the more grisly examples in the group assessed to have lived for up to five minutes provoked him to comment, "I find it very difficult to accept that survival in a case such as this would have been for more than a few seconds at most."

But Shepherd was neither "independent expert" nor "professional investigator", so his opinion would not influence the perception of the investigation -- not until it was broadcast on American network television exactly one year later.

In the meantime, the CASB pressed on with its review. Those against the ice theory continued to comment on as many points as possible, with a view to making the report as correct as they could. Some suggestions on wording were accepted but substantial revisions were rejected out of hand. If the discussion dragged, Thorneycroft just said, "Let her lay where Jesus flung her," and called a vote. A majority of five to four invariably decided to do so.

One issue that got this treatment was Captain Griffin's personal notebook. The draft report sent to Mrs. Griffin had contained long verbatim extracts about a flight from the Sinai two years before the Gander crash. The main hydraulic system had failed on approach and the company had directed the crew to take the aircraft to Amsterdam for repairs. The extracts from Griffin's notes detailed the crew's use of manual aileron control and the
auxiliary power system to raise the landing gear during a refuelling stop at Cairo.

Ross Stevenson had pointed out that the passages, quoted out of context, seemed to suggest that there had been something improper about the flight. The investigators had replied, fatuously, that the quotation showed that a failure of the main hydraulic system could not have caused the crash. This point could, of course, have been demonstrated simply by reference to the flight manuals. Putting a section of the captain's notebook after the section on de-icing suggested, by innuendo, that Griffin was prepared to fly with a known deficiency -- a conclusion contrary to all reports of his character.

Nevertheless, the quotes from Griffin's notebook were included in the draft "unanimously" adopted by five members of the board. The only concession to Mrs. Griffin's concerns was to shorten the passage and paraphrase it to omit direct quotes. And that's the way it stayed, by a vote of five to four.

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On October 24, we at last finished going through the report. The text, conclusions and recommendations had been accepted substantially as received.

I had tried mightily to convince the board to recommend that service bulletins related to the thrust reversers be made mandatory, as persuasively argued by Lee Levenson. No way. Unaccountably, they accepted a suggestion for a finding about missing side panels in a cargo pit -- the missing panels compromised the fireproof integrity of the cargo hold -- but the board decided to drop the word "fireproof".
I seized the initiative to move that the modified report be adopted as Conditional Draft Number 2, to be sent to interested parties for comment. Thorneycroft just chuckled. MacEachern made a speech about how the board must always act with generosity and fairness to the interested parties -- adding that, as some interested parties had abused our generosity, the report should go out as final. My motion was defeated, five to four. But many of the changes had been left to the discretion of the investigators, and I argued that the board should not issue a report it had not even seen. So we got a few days' reprieve.

A draft with the changes was ready on October 28. And then -- just before the vote was called -- Thurston had second thoughts about the cause.

The several versions of the cause adopted by the majority over the previous year and a half had all cited some variation of an attempt to takeoff with ice on the wings, leading to a stall. The draft sent to the interested parties had said, "The probable cause of this accident was a take-off attempted with ice contamination of the leading edge and upper surface of the wing. This action resulted in a stall at low altitude from which recovery was not possible. Contributing to the occurrence were flight-crew fatigue and the use of inappropriate take-off reference speeds." Now, at the last moment, Frank decided that cause and effect should be reversed. He suggested that the cause had been a stall, probably due to ice contamination.

Lord only knows if this was just a whim or something deeper. The logic of the report, such as it was, started with ice. Actually, the report said very little about a stall, other than that the FDR showed that it had happened. The ice argument would not suffer
without the word "stall -- they could have just said that, with ice on the wings, the aircraft had too much drag and not enough lift to fly.

In any event; Frank Thurston -- the consummate wordsmith -- proposed the final wording. As in the rest of the report, the meaning was obscured by what purported to be a clarification. He started with an introductory statement: "The Canadian Aviation Safety Board was unable to determine the exact sequence of events that led to this accident." This was true, as far as it went; CASB hadn't come within a country mile of determining even the approximate sequence of events which led to the crash, which might or might not have been an accident.

"The board believes, however," Thurston continued, "that the weight of evidence supports the conclusion that shortly after lift-off, the aircraft experienced an increase in drag and reduction in lift which resulted in a stall at low altitude from which recovery was not possible. The most probable cause of the stall was determined to be ice contamination on the leading edge and upper surface of the wing. Other possible factors such as a loss of thrust from the number-four engine and inappropriate take-off reference speeds may have compounded the effects of the contamination."

The wordsmithing had puffed the cause statement from 53 to 110 words. The stall had become the sole certainty. Flight-crew fatigue was no longer a contributing factor, and inappropriate takeoff reference speeds were now just possible factors. The possibility of low thrust had made a last-minute cameo appearance.

There was nothing to say. They were, after all, professionals.
Bobbitt, Mussallem, Stevenson and I voted against; the others voted for. There remained the matter of a dissenting opinion. Some members argued that there should be no dissent, but our lawyer, Rowland Harrison, had recently written Chairman Thorneycroft outlining our rights as board members. It wasn't a propitious time to rescind recorded decisions; there were other ways of dealing with dissenters. Thorneycroft said that if a dissenting opinion was on his desk by the morning of November 15, it would be included in the final report.

We haggled over the conditions. The board's staff would provide typing and editorial support; the dissenting opinion would be produced to the same editorial standards as the majority opinion and would be contained in a section, equal to "Factual Information" and "Conclusions", and be included equally in the table of contents. There the chairman drew the line.

No, there would be no mention of a dissent in the summary. No, we couldn't have two more weeks. "If you were going to do another investigation, you would need more time," he said. "But you are not investigators. You have two weeks."

That wasn't a lot. Dave Mussallem had participated in this final meeting by conference call, and Norm and Ross and I went straight to my office and called him. We agreed right away that we were going to have a single dissent, and that we were going to meet Thorneycroft's deadline. We also agreed that neither crew error nor ice had had any bearing on the crash. But a dissenting opinion couldn't just deal with what hadn't happened. We knew that the power had been down on number-four engine before the crash, and that the number-four thrust reverser had been deployed, but the other three engine's had not been examined adequately to tell what shape they were in. None of us believed
that the origin of the crash had been an engine problem.

So what had been the initiating event?

Stevenson was certain that it had been an explosion of some sort, maybe more than one.

"What about you, Norm?"

"Explosion in the cargo hold."

"Dave?"

"Yeah, it must have been an explosion in the cargo hold."

That was what I thought, too. It was agreed. I'd write the minority opinion, checking with the others by phone as necessary. We'd use the pictures Ross had got from the RCMP. Our report would be on Thorneycroft's desk in two weeks.

Double Cross

November 1, 1988. The International Society of Air Safety Investigators had just opened its nineteenth international seminar at Le Meridien Hotel in Vancouver. Ken Thorneycroft was giving the keynote address on the theme "Accident Investigation and Prevention -- Working Together".

It was a fine theme, he said. He believed we must "work together in agreed-upon ways, otherwise our different and varying interests will tend to cause us to be secretive and competitive, rather than open and cooperative." His speechwriters had resurrected one of Bernard Deschênes' favorite chestnuts: "The
basic guiding principles of an accident investigator, or an accident investigation agency, must be integrity, competence, openness and fairness."

Dave Mussallem, Boss Stevenson and I were in the audience, but we hadn't come to listen to recycled platitudes. Over the weekend I had pulled together a crude draft of our dissent on the Gander report. We would be seeking advice from experienced investigators before finalizing our minority report.

I was particularly interested in the reaction to the photos Stevenson had obtained from the RCMP archives, especially the one showing the section of fuselage with the smoke ring around the open window. I showed the photos to experienced investigators without telling them where they had come from or what I thought they might signify. Several guessed at once that they were from the Arrow Air DC-8. No one dismissed them as prosaic. On two separate occasions, the picture with the smoke ring elicited the same first reaction: "Holy shit!" The invariable second reaction was, "I need to look at the actual piece" -- and then incredulity that the item had not been examined in the lab.

One investigator mentioned that Jerry Lederer had been talking about a bomb that was supposed to be on board the Arrow Air DC-8. This was indeed news.

Jerome E. Lederer was the legendary dean of aircraft accident investigators. He had started his career in aviation safety in the pre-Lindbergh era as an aeronautical engineer with the U.S. Air Mail Service, and gone on to become the first director of the Safety Bureau of the U.S. Civil Aeronautics Board. As commercial aviation developed, Jerry Lederer shared in just about every institutional effort to improve aircraft accident
investigation. In the wake of the Apollo I fire in 1967, Lederer was induced out of retirement to set up the Office of Manned Space Flight Safety at NASA. Here was someone who might impress even the CASB's "professional investigators".

Although I was familiar with Lederer's papers on accident investigation, I had never met him. But he wasn't hard to spot. He was the smiling little white-haired leprechaun bouncing all over with questions and comments.

The second morning of the seminar, there was a long line waiting for breakfast at the hotel cafeteria. Stevenson and I walked to a little restaurant down the street, and we spotted Lederer at the counter. Ross insisted we go right over and introduce ourselves.

Lederer looked over the pictures of the wreckage. "Have you spoken to Irving Pinkel about this?" he asked. Well, we'd read Pinkel's report, but we hadn't actually spoken to him. "You really ought to talk to Irv Pinkel," Lederer said. We tried to keep the conversation going, but he just repeated, "You talk to Pinkel." There was no doubt he thought we were on the right track.

But there seemed to be a problem back at the office. Norm Bobbitt had stayed behind to get copies of photos and to keep his eye on the production of the majority report. He reported that the photos had not been delivered as promised. The proof copy of the majority report was back from the printer but the table of contents had not allowed for a section on the dissenting opinion. Indeed, the report contained no hint that there might be a dissenting opinion.

I found Thorneycroft during the coffee break and reported Norm's call. "What do you want me to do?" he asked.
"Call Johnson and tell him to get Bobbitt the cooperation he needs so that we can hand over our dissent by your deadline." Thorneycroft agreed to make the call. I told him I was also concerned that the preliminary copy of the report made no accommodation for the dissent.

We were in the middle of a room crowded with people trying to balance coffee cups, eat doughnuts and converse at the same time. We had to stand close to hear each other over the din. "I am committed to include the dissent as a section of the final report," Thorneycroft said. "None will go out without it. You have my word."

I thanked the chairman -- and paused just long enough to write his exact words in my notebook before calling Norm.

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Back in Ottawa. I called Pinkel in San Diego. He was very gracious and agreed to discuss the Gander case if the principals who had engaged him agreed. He gave me the number of a Wall Street law firm.

Half an hour later, I was speaking to Pinkel again; he had received clearance from New York to discuss his findings without restriction. He was incredulous that there were no clear copies of his photos in the CASB files. He would rush copies directly, while I sent him copies of photos we were thinking of including in the minority report.

Over the next few days, as I talked to Pinkel and other investigators, everything I heard reinforced the minority
conclusion. I worked at home, keeping in contact with my co-authors by phone. Our story finally boiled down to fourteen pages of text under three main headings -- No Ice Contamination, Pre-Impact System Failures, In-Flight Fire/Explosion -- with a dozen pictures to illustrate our points.

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On Monday, November 14 -- just in time to meet the deadline -- I plunked a copy of our completed dissenting opinion on Thorneycroft's desk. The chairman thanked me and I walked out.

The stage was set, I foolishly thought, for issuing the CASB's report on the Gander investigation. The announcement of the date of release was pending confirmation of the delivery of the completed reports from the printer.

Negotiating the production of our dissenting report had been a bummer, to say the least. Having met Thorneycroft's deadline, we expect some reaction. I even harbored a glimmer of hope that our dissent would provoke further discussion and another round of comments from interested parties. But there was nothing. I told Thorneycroft that I needed to proofread and correct some typos. Sure, he said, call the editor.

A young woman I hadn't met came to my office with the proofs. She seemed nervous and awkward, surprised to see no horns or fangs, as she handed me a typeset copy of the dissenting report.

The page numbers started at one. The pagination would be adjusted just before production, she explained. What about the table of contents? She didn't know what I was talking about -- no one had said anything about a heading for the dissenting report.
Okay, I'd talk to the chairman.

I looked through the report. The copyediting was fine, but the pictures were half-page black and white. Our strategy had been based on the supposition that the photos would be reproduced in full-page color. This was just temporary, right? The final report would have full-page color photos?

Nope. This was how it was going to be.

I stormed off to Thorneycroft's office. He had repeatedly promised that the dissenting report would be treated on a par with the majority report, and that meant headings and subheadings in the table of contents, and full-page color pictures.

Thorneycroft was amused to see me. Well, he said, we were going to go with full-page color, but we had to pull back-production costs and so forth.

But the minority report was predicated on the use of color, I insisted. Our pages could be printed separately and bound in. No way, he said. The largest photos in the majority part were half-page black and white, and all he had promised was equal treatment. Well, dammit all, what about the table of contents?

"I'm not about to let your headings in the table of contents." The chairman smiled at my frustration. He wasn't vindictive, he just held the cards. I was mad as a hornet, but there wasn't much I could do. I started to talk about the arrangements for the press conference.

"I presume you're going to be the spokesman for -- the dissenters," Thorneycroft said. Norm Bobbitt was about to leave
on a long-planned trip to Australia, and Dave Mussallem didn't want publicity. "Stevenson and I are both going to be spokesmen," I said. Thorneycroft chuckled. Only one of you can speak, he told me, take your pick. I protested -- he had Hinton, Boag, the whole damn public relations office to back him. And we represented almost half the board.

Too bad again. "My job is to sell the majority report," Thorneycroft informed me. "I'm not about to give you guys a leg up with the dissent. I could be bloody-minded about this and orchestrate you right out." Bloody-minded? I didn't know just how bloody-minded he and his cohorts were planning to be.

It was Friday afternoon, and just before the end of the day a short notice was delivered to my office. The chairman had called a special meeting of the board for the following Tuesday afternoon "at the request of Member Thurston". A call to Thorneycroft elicited no further information; he said he didn't know what Thurston had in mind.

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Tuesday morning was taken up by a representation from interested parties on a helicopter accident. Mussallem knew about that meeting but didn't attend. At noon I called him in Vancouver; he'd heard nothing about a special meeting. MacEachern refused to let him participate by conference call and Bobbitt was off in Australia, so Stevenson and I faced the five champions of the ice theory.

Frank Thurston was wearing the lop-sided smile signalling he was about to engineer something he deemed especially clever. He cleared his throat and declared that various colleagues had
asked him to speak. He might have to be critical of the chairman, he said sadly, but he hoped to be constructive.

There had been a "serious divagation" of late, he explained, "from what should be good practice." There was simply "no precedent or protocol on what constitutes the chairman's privilege." Thurston objected to the "chairman's decision to dump a twenty-page discursive treatment of what amounts to a separate investigation" into the board's official report, saying this "parallel report has no precedent and has not been subject to the principles governing the official report."

Thorneycroft tried to look as if he didn't know what was up. The others grinned openly.

Thurston went on for a good fifteen minutes before getting to the point: he had two resolutions to offer for the board's consideration.

First, the dissenting report should not be part of the official report. But there can't be any appearance of a cover-up," he added hastily, the dissenting opinion should be "made available to the public as a stand-alone document."

Secondly, "the press conference to release the Gander report is to be treated solely as the chairman's presentation of the official board report."

Thorneycroft cut in, assuring Thurston that he took no offence at this affront to his leadership. Perhaps he had been presumptuous, he said, "in making it incumbent upon myself to orchestrate the release of the report." Gosh, he sure wasn't comfortable about the arrangements, but he felt he should lean over backward to give
all sides an opportunity to express their views. He had given his word. But of course, he was only one member of the board; under the circumstances he had no choice but to abstain from the vote.

I didn't believe the unctuousness could get any thicker. Wrong again; Bill MacEachern congratulated the chairman for his forbearance and statesmanship, saying, "The mind boggles at the minority report", which implied the palpable nonsense that "seven respected entities are either incompetent or have colluded." It was unthinkable, he said, that such "odious and mischievous intervention" should be attached to an official report of the CASB. Yet he was magnanimous -- he wouldn't object to a separate minority report. "It's so outlandish it can only discredit the authors."

They smiled and waited for my reaction, a row of Sylvesters who had finally caught Tweety. I began by pointing out that, in fairness, the absent members must be allowed to vote. I'd spoken to both Bobbitt and Mussallem-that day and it would be no problem to get their votes over the phone.

The others smirked. But Thorneycroft was well primed. "When we decide on policy, all members must have a say. But this is procedure."

I made one last appeal to due process. Our regulations demanded "reasonable notice" for all meetings, and the absent members had not received it. Don't be silly, they told me. Mussallem had known of the morning meeting, and had he come to that he'd be here now. As for Bobbitt, a notice had been placed in his mailbox the Friday before. The CASB's legal counsel judged this reasonable. Get on with the vote. Stevenson and I refused to
participate, so Thurston's two resolutions were "unanimously" approved.

No one had spelled out how the minority report would be "made available to the public as a stand-alone document", but when the majority report came back from the printer I thought I could figure it out. The sole indication of any contrary opinion was at the end of a supplementary section, "Safety Recommendations", sandwiched between the conclusion and the appendices. The last text page mentioned in the table of contents, page 100, was followed by the first entry of the appendix, on page A1. Anyone who stumbled upon page 101, in between, would find only the following:

This report and the safety action therein has been adopted by the Chairman K. J. Thorneycroft, and Board Members:
   W. MacEachern
   A. Portelance
   B. Pultz
   F. Thurston

Members N. Bobbitt, L. Filotas, D. Mussallem and R. Stevenson dissented. A report of their dissent is available on request from the Canadian Aviation Safety Board.

The back of page 101 was blank. If this single sheet should become disassociated from the report -- for whatever reason -- there would be no way of knowing that it, or a minority report, had ever existed.

The announcement issued the next day on "Release of Occurrence Report on Arrow Air Inc. DC-8-63 etc." implemented Thurston's second resolution:
The Chairman of the Canadian Aviation Safety Board will present the public report, its findings and recommendations. He will be available to answer questions and for interviews at the end of the news conference.

The dissenters and the dissenting report had been deep-sixed.

Press Conference

When Stevenson and I told Roger Lacroix about the double-cross on the minority report, he got as mad as during his worst battles with Bernard Deschênes. "They're not going to get away with this," he told us. We next saw him on the evening news, denouncing the unprecedented decision to muzzle dissent in the CASB.

A surprised CASB public relations officer confirmed Lacroix' story, saying that the decision to withdraw the minority report "was taken because of the different kind of opinion being expressed by the four dissenters." But when the news item propagated and Members of Parliament and the Canadian Air Line Pilots Association denounced the decision, a CASB spokesman issued a clarification: "No one is being muzzled, anyone is free to discuss their opinion. Thorneycroft even sent us a memo "in order to dispel any misconceptions." If we wished to attend his press conference we might do so. Also, "Members may respond to queries from the media following the formal Press Conference."

Everyone knew that the majority attributed the crash to ice on the wing, and the reporters knew which members were against the theory, but they didn't know the basis of our dissent. Rowland
Harrison had sternly warned us against disclosing our position until the official release. It was good advice and we followed it religiously. Nevertheless, leaks and speculations abounded. By December 7, the day before the scheduled release, both the majority and the minority report had been leaked.

December 7, 1988 -- D-day minus one. Ross Stevenson was waiting to review some pictures from the files, but they still hadn't arrived. He called the chairman to complain but Thorneycroft wasn't available. Neither was Hinton. Nor Boag.

It turned out that Thorneycroft, the majority board members, Hinton, Boag and their camp followers were holding a dress rehearsal for the press conference. Ever since Thorneycroft's disastrous debut on "The Journal", he'd been taking lessons on how to strut his stuff. A firm of media wizards had been engaged to mastermind the campaign to "sell the majority report". The gurus and spin doctors were taking Thorneycroft, Boag and the others for a final check ride before the real trip.

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The next day Thorneycroft's handlers had arranged a two-hour "lock-up" before the press conference, so that reporters could read the report and talk to the investigators in preparation for the main event at eleven a.m. Ross Stevenson went to observe. I'd join him in time to hear the chairman.

But when Stevenson tried to join reporters and staff in the lock-up, the media counselors wouldn't let him in. Ross marched to Johnson's office and demanded to know on what basis he dared to block him from a board function. Hey, there must be a misunderstanding. Johnson escorted him back and he was
Thorneycroft had told the press that the minority report would be readily available, but just to make sure, I was bringing extra copies. For good measure, I also took a bunch of copies of our "Critique of the Ice Contamination Theory" in a canvas satchel. As I turned a corner in the corridor, walking lopsided with my satchel, I just about smacked into Boag and Hinton. "Look," I said cheerfully, indicating the bulging bag, "I'm already packed -- in case your plan works."

I found a chair near the back of the room. Stevenson was somewhere near the front. I could hardly see the podium through the forest of tripods for the TV cameras; it bore the letters C.A.S.B. in black over a Canadian flag. Bits of wreckage, photos of the crash site and a model of a DC-8 served as visuals. Hinton, Boag and Thorneycroft's senior communications adviser were seated at a table to the left of the podium, under a four-foot photograph of a DC-8 in flight. Hinton's jacket was bunched up and his bald dome glinted under the bright lights, but Boag was a picture of elegance and composure.

The senior communications adviser welcomed everyone and spelled out the ground rules: the chairman would speak, and then only one question and one supplementary each, please. Thorneycroft entered stage right, accompanied by an aide.

He wore his usual grey suit, but with a light blue shirt instead of white. He cut a good figure, looking confident; the only thing missing was the band playing "Hail to the Chief". He read a statement describing the circumstances of the crash and the review of the evidence, as seen by the majority. No recycled platitudes about "integrity and openness" today -- this was a
well-crafted, well-rehearsed statement.

Then he took the bull by the horns -- sort of. "It has been reported in the media that not all board members are in favor of the final report," he said. "Five members are in favor of the report and four do not accept at least parts of it." Sure -- and Margaret Thatcher and Ronald Reagan didn't accept "at least parts" of the Communist Manifesto. Who was he trying to kid?

But I had to admit that he did a good job -- not flashy, but serviceable. He praised the staff, "trained experts who have the experience and knowledge". The possibility of sabotage was investigated "by the experts, the RCMP", who gave the matter "a completely clean bill of health". He stressed that the majority report was "passing a very important safety message to the aviation community" about the danger of trying to take off with a small amount of ice on the wings. "The NTSB" he remarked, "has commented most favorably on the investigation."

A number of questioners goaded the chairman to take potshots at the dissenters. "It has been suggested to me by some of the investigators," one reporter remarked, that three of the dissenting board members were "aggrieved" and "trying to wreak some kind of revenge." Thorneycroft wouldn't take the bait.

When the questions to the chairman were over, I waited for some reporters I had promised to see. But a crowd surrounded me, and another surrounded Stevenson. After some minutes of confusion, the reporters decided among themselves that it would be most efficient to question us together at the microphone Thorneycroft had just vacated.

I wasn't really prepared for this, but Ross was pumped up. He
started answering questions at once, blasting away with masses of detail about the evidence -- the bug ring, the witnesses, the meteorology . . . all extemporaneously. It sounded sincere and knowledgeable. For the most part I just stood there like a hood ornament. But I was well placed to observe both Stevenson and the questioners, and it seemed to me that he was doing as well as Thorneycroft.

The Globe's Paul Koring still had this thing about ice on the windshield. Stevenson tried to explain the DC-8 heating system, but Koring wouldn't settle for "it depends". Stevenson finally said ice would form on the windshield before it formed on the wing, and Koring's story the next day quoted the reaction of a CASB investigator -- Stevenson, with 30,000 hours as pilot in command, was "lucky to be as old as he is". It was about as thoughtful a reaction as any critic of the ice theory ever got.

Of course, a press conference is not the place to sort out a complex technical controversy. To get to the bottom of the Gander crash, we needed a new inquiry -- one where evidence could be taken under oath and cross-examined, where professional credentials could be established and challenged. I had made one blunder in preparing our dissent: we had agreed to include a recommendation for a judicial inquiry, but in the rush I had inadvertently left it out. Nevertheless, I was reluctant to join Stevenson's clamoring for an inquiry.

This was partly because opposition Members of Parliament had embraced the concept of a judicial inquiry as a means of hounding the government over what they termed "a major cover-up in the Gander crash affair".5a If there was indeed a cover-up, the government certainly wouldn't initiate a judicial inquiry. If there wasn't, the government was still unlikely to heed a call
associated with taunts and jibes from the opposition.

In any event, the government would have time to see which way the wind blew. The CASB Act allowed it ninety days to respond to the findings and recommendation. Benoît Bouchard's office announced that a decision would be taken after studying both the majority and the minority report.

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The split decision of the CASB made a good story, but fate conspired to overshadow it. A devastating earthquake took some 50,000 lives in Armenia, and "The Journal" ran a special on that country instead of rerunning its Gander documentary as planned. Reporters on aviation and military matters had to cover the story of a U.S. fighter that ploughed into an apartment building in West Germany killing five and injuring forty -- it was the twenty-second crash of a NATO aircraft in West Germany that year.

Most accounts of the Gander report followed the "one side says this, the other side says that" format. Our minority conclusions were generally labelled "speculation". One interesting exception was in the speciality publication Counter Terrorism Security Intelligence, which cited unnamed intelligence sources as supporting the hypothesis of sabotage. Despite the obstacles to the minority and the resources promoting the majority, we managed at least a draw. But no one was content to leave it at that.

Thorneycroft's press conference was only the opening shot in his campaign. Later the same day, Boag and Hinton held a private briefing for key client organizations -- Air Canada, the Canadian Air Line Pilots Association, the Air Transport Association. The
purpose was to head off a public inquiry, as I found out from a participant who called to tell me of Peter Boag's "anti-dissent tirade".

The briefing was not a complete success. In fact, it boomeranged with the Canadian Air Line Pilots Association, which wrote the prime minister to recommend "an independent audit of the Board's structure, procedures and staffing." CALPA wanted the prime minister to know that "our experts reject the 'official' icing supposition as unproven and cannot accept the speculations of the 'dissenters'." The pilots suggested that "it may be the very quality of the investigations that is leading to the split on the Board".6

The American Air Line Pilots Association was less diplomatic. "What the Board did was to conjure up an icing theory immediately after the accident and perpetuate it to the exclusion of other theories," Harold Marthinsen said, adding, "I was appalled by the bias in the investigation."7 Marthinsen didn't comment on the minority position, but said he suspected the number-four thrust reverser.

For the next phase of their public relations offensive, the majority and their backers returned to the scene of the crash. We learned from the newspapers that Peter Boag had spoken at a public forum in the Hotel Gander "to allay certain myths".8 These myths, as Boag saw it, included any theory contrary to the dogma of ice. But he would not stoop to dignifying heresy with specific rebuttal; "These other points of view are not supported by the facts," he assured a crowded room of Gander residents. "As investigators, we deal with facts, we cannot speculate."

Members of the audience loudly demanded to hear the other side.
Again, Boag's performance had bombed.

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On December 22, 1988, the big headline in the Globe and Mail -- "258 killed as jet crashes into Scottish town" -- brought me an eerie flashback to the headline of December 13, 1985, "258 from U.S. die in Gander crash".

The sense of d\textsuperscript{j}/\textsubscript{v}u continued as I read the story of the in-flight disintegration of Pan Am Flight 103 over the town of Lockerbie: "several witnesses said the jet was on fire before it hit the ground. . . . large number of U.S. servicemen heading home from West Germany for the Christmas holidays. . . . the presence of the servicemen fuelled speculations that sabotage may have been involved."

In contrast with Gander, the possibility of sabotage was not dismissed out of hand. Michael Charles, "the top British investigator on the scene", commented on the "fragmented and scattered nature of the wreckage". By the second day after the crash, the papers were reporting "investigators increasingly focusing on the theory that a terrorist bomb had exploded in the front cargo hold just below the flight deck, instantly crippling the plane".9

During the next days and weeks, news reports revealed that tens of thousands of items of baggage were to undergo laboratory analysis and thousands of witnesses were to be interviewed. The wreckage was painstakingly reconstructed on a giant scaffold. The difficulty of detecting traces of plastic explosives and the poor security at West German airports were widely noted. We learned of a detonator so small it fit into the lock of a suitcase, of
a bomb that was "extremely thin and looks like computer printout paper so that it is easily concealed".10

I was struck by the fact that both the Arrow Air and the Pan Am flights disintegrated shortly after takeoff from the first stop after an original departure from West Germany; the flights could have been destroyed by a bomb triggered by a timer set ticking by a full compression-decompression cycle.

While speculation about specific causes was premature, the investigators' approach stood in remarkable contrast with the response at Gander. Who could fail to note the contrast with the Gander investigation, where circumstantial evidence was dismissed out of hand, where only three or four pieces of wreckage were taken for forensic examination, where the investigators couldn't say what had been loaded into the cargo hold and made no effort to analyze security measures or reconstruct the airframe?

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With the Gander report out at last, Ross Stevenson could catch up on some delayed holidays, so for the next few days I took all calls to authors of the minority report. One was from a Mrs. Phillips in St. Petersburg, Florida, the step-mother of one of the Gander victims. Sergeant James Douglas Phillips, Jr., had been twenty-three years old when he died. For three years, the U.S. Army had been telling Zona Phillips and her husband that the Canadian investigation would provide a full account of the circumstances of their son's death.

Since the CASB didn't rank passengers' next-of-kin as "interested parties", the Phillipses had been left in the dark about the
progress of the investigation. Now they had heard a brief news report about the split verdict. What did it all mean?

Zona Phillips was an engaging, sympathetic person, and it was clear that the crash weighed heavily on her and her husband. She talked of efforts to form a support group with other families who had lost loved ones at Gander; for some reason she couldn't fathom, the army had discouraged these efforts. Nevertheless, some two dozen families had kept in touch. They wanted to know everything about the investigation.

I outlined the majority and minority positions and offered to send copies of the reports and newspaper clippings. I wasn't sure what else I could properly send, but I told Mrs. Phillips that, as an interested party, Theresa Griffin had access to a wealth of material. I could also send along some information on the public-interest groups who had helped secure information for relatives of the victims of the 1983 Korean Airlines Flight 007 disaster.

Mrs. Phillips sent a poignant letter thanking me for the material. "The families that I am in contact with are very upset," she wrote. "We have waited very patiently over the past three years for some information that we felt would be accurate and precise. We had a high degree of faith that the Canadian government would leave no stone unturned and that nothing would be covered up. . . . We all feel that it simply can not end this way. . . . an incomplete finding for such a senseless and tragic event. . . . our grand-daughter will never know her daddy and experience his unconditional love. . . ."

Many families wanted to know how their loved ones had died, she added. What could they do to complete the investigation? Could I send copies of the reports to the others and let them
know what they could do? Zona Phillips enclosed a list of about twenty-five names and addresses.

What could I say? The CASB claimed it would reopen any investigation to consider new evidence, but it was unlikely anything further would be done about Gander. Many Canadians were urging their government to order a judicial inquiry, but so far the government had shown little interest, possibly because the crash involved an American airplane and American citizens.

By this time the United States General Accounting Office had informed the CASB that it was investigating "certain issues" relating to the Arrow Air DC-8 crash at the request of a United States senator;1 maybe the families could get help from their own government. I mentioned this hope in a short letter I enclosed with the copies of the majority and minority reports I sent to the other families.

By now, too, the possibility of sabotage had been made much more plausible by comparisons with the disintegration of the flight over Lockerbie, so I also wrote that "As an author of the minority report, I believe that the official investigation did not adequately pursue the possibility of deliberate sabotage."

But one of the letters could not be delivered. It was returned to the CASB, where someone in the mailroom opened it before giving it back to me. Unbeknownst to me, a copy was sent to Chairman Thornycroft. Weeks later he would condemn me for writing to the families, calling my letter a "ghoulish step" that was "morally reprehensible if not illegal".

Part 2
Battle for the Hearts and Minds of the Media

What you do in this world is a matter of no consequence. The question is, what can you make people believe that you have done?

Sherlock Holmes

As the year turned, the proponents of the majority report redoubled their drive to contain the damage from the dissenting report. The secret briefings to special interest groups were supplemented by a broadly based public relations campaign. With full use of the CASB budget and complete control over the public relations staff, they had little reason to fear failure.

Their strategy called for diverting attention from the technical evidence by leaking stories about the allegedly malicious motives of the "Gang of Four". They found a good Listener in the Globe's Paul Koring, who had cultivated sources among the CASB investigators while covering the Air India 747 crash for Canadian Press.

Koring's first story inspired by the media offensive, a page-one article on January 13, dredged up some detritus from the earlier attempt to use the media. The story revealed that there had been a "secret addendum" to the report from Hickling Management Consultants in October 1987, savaging four members of the CASB who were "seriously eroding the morality and credibility of the board."
As far as I could see, Koring's revelation came as a genuine surprise to the whole board. Thornycroft obtained copies of the four-page addendum. The vitriol was astonishing. Without giving names or citing cases, the consultants claimed that "A minority group of four has attacked the authority of the Chairman, has been disloyal to him, created potential conflict of interest situations for both the Minister and the Board, abused the CASB staff and generally perceive the CASB and its operations very negatively."

Roger Lacroix had not resigned until February 1988, so at the time of this addendum five of us had perceived the CASB's operations "very negatively". Koring's story went on to say that "the four disaffected members issued a separate report and held news conferences to underscore the differences with the agency's professional investigators." Lacroix hadn't signed the minority report, but he was the only one who had held a news conference.

"Two of the four applied for positions as CASB investigators and were judged by the PSC [Public Service Commission of Canada] as unsuitable," the addendum noted. "One served for a protracted period at CASB and departed. One person, who may be a member of the group, was removed as a pilot from two different commercial operations." If so, the government's method of choosing board members was, to be charitable, deficient. But not one of the derogatory descriptions fit any of us.

Why would a respectable consulting firm transmit such unfounded, possibly libellous innuendo to the Transport minister? The only one who might know was Ken Johnson, who had been on the advisory committee directing the consultants' study. But Johnson wasn't saying anything.
In any event, the secret addendum was a red herring. John Crosbie had recognized the inherent conflict of interest; the middle managers who had hired the consultants had done so in the past and could be expected to do so again. Indeed, the study had recommended a blatant explosion of power for these same middle managers. Crosbie saw that this compromised all the conclusions, and asked John Sopinka to take an independent look. The Globe's own stories showed that Sopinka's engagement had mooted the Hickling report and, along with it, its "secret addendum." There could be only one reason for dredging up its remains now -- to discredit the authors of the minority report.

The assault continued the next day, taking up the theme that the investigators suffered abuse at the hands of the dissenting members. This abuse, Tom Hinton said, was expressed in the form of "very close and aggressive questioning", and caused "serious morale problems and the resignation of [unnamed] senior investigators."

The Globe's stories were picked up by other Canadian newspapers. When reporters contacted me, I reminded them of Sopinka's conclusion that "the CASB Act as it has been interpreted in practice and by the Hickling Report has fragmented this agency to such an extent that it has crippled its effectiveness." Since then, Sopinka had been appointed to the Supreme Court of Canada. Who, I thought, would dare question his credibility? I soon found out.

Specialists in character assassination by innuendo can find something odious under the most innocuous of stones. Prior to his appointment to the Supreme Court; Sopinka had been counsel in the Toronto office of Stikeman Elliott. By coincidence our counsel, Rowland Harrison, worked with the Ottawa branch of
the same firm. The association garnered a front-page story in the Globe.13

We had come to know Harrison because he had analyzed the CASB legislation for the Canadian Bar Association while still a professor at the University of Ottawa; Sopinka had been counsel to the Dubin Commission, which had recommended the CASB in the first place. It had never occurred to any of us to think of either lawyer in terms of the firm he worked with. In fact, I hadn't even realized they worked in different branches of the same firm. But according to the Globe chairman Ken Thorneycroft knew more than I did.

"Gosh, that seems odd," he recalled saying to himself. Frank Thurston recalled his own amazement: "I was shocked at the time that Sopinka should have been appointed to do the job," he said. "The whole operation was, shall we say, unusual, to be charitable". But no one would come right out and accuse the Supreme Court Justice of influence peddling and the story went nowhere.

Meanwhile, the rest of the Canadian media showed little inclination to explore the issues raised by the country's worst-ever air disaster, and one effort I made to interest a well-known journalist boomeranged badly. John Burns, the New York Times' stringer in Toronto, told Ross Stevenson that he would like to do a feature story on the attempted suppression of our minority report. Burns was about to leave on assignment to Moscow but he had high regard for the Toronto Star's national reporter, Carol Goar, and recommended we interest her in the story.

As it turned out, Carol Goar had close contacts with Bill MacEachern, and her story centered on my guileless admission
that I had been appointed to the board because of my friendship with Conservative Cabinet Minister Tom Siddon.14 She didn't add that Siddon and I had shared a close interest in aviation accident investigation since the Dubin Commission a decade earlier, or that Siddon had been the only active politician to make a submission to the commission. But it didn't really matter. Any contact I had had with politicians had long since ended. And the focal point in the search for the truth about the Gander crash had now left Canada.

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In the United States, Zona Phillips lost no time in urging the victims' families to publicize the split decision of the CASB. Stories about the Gander controversy began to appear in smaller papers across the country, and American reporters started calling.

The CASB's public affairs officers adopted a strategy of dismissing our report as an expression of meaningless malevolence. But the American media were not interested in the office politics of an obscure Canadian agency. They wanted to talk about the evidence. The CASB wouldn't, but we were only too glad to go into details. I tried to focus attention on unanswered technical questions. Who, for example, had examined the burned-out window over the right forward baggage compartment? How could it be that none of the thrust reversers was latched?

I also emphasized the curious similarities with the Pan Am crash at Lockerbie. Stories about Pan Am flight 103 put the minority report in perspective: large airliners are vulnerable to sabotage; Semtex is difficult to detect; the search for evidence of sabotage calls for meticulous laboratory examination of hundreds of
thousands of tiny shreds of wreckage. Television coverage of the Pan Am crash had graphically captured the investigators' obsessive care in preserving bits of clothing and upholstery. The painstaking reassembly of the 747 from tiny fragments served as a standard for assessing the casual disposal of the Arrow Air wreckage.

Moreover, the Pan Am investigation had unveiled West Germany as a haven for Middle Eastern revolutionaries, and deficiencies in airport security had been publicized. The stopover of the Arrow Air flight in Cologne suddenly seemed more sinister -- as did the fact that both flights were bringing American troops home for Christmas. To complete the picture, it was now beyond dispute that the Pan Am 747 had been disabled by an explosion in the forward cargo hold -- the very means of destruction postulated in our minority report.

The echo of our point of view bounced back to Canada in consequence of a letter I wrote to the editor of Aviation Week and Space Technology, pointing out a misconception in their brief story on the Gander report. A reference to the similarities between the flights tweaked the editor's interest, and instead of printing my letter Aviation Week carried a story, "Safety Experts Cite Similarities Between DC-8, 747 Crashes", quoting Irv Pinkel and Harold Marthinsen's support for the minority position. Being termed "safety experts" by America's foremost aviation trade journal gave our egos a boost, and took a lot of steam out of the campaign to paint us as ill-motivated malcontents.

The next issue of Aviation Week carried an editorial urging the Canadian government to convene a judicial inquiry to clear up "troubling discrepancies" about the investigation. That really made my day."17
The respectability given to the minority report by the Aviation Week articles also revived the interest of the Liberal Party. Stymied by their minority in the House of Commons, the Liberals threatened to use their majority in the Senate to hold hearings to "shed light on the doubts and suspicions raised by unanswered questions about the crash".18

Thorneycroft repeatedly promised that all information would be dispensed freely once the final report was issued. Roger Lacroix and Ross Stevenson took this to heart and provided extensive briefings to researcher Marc Laframboise and other Liberal representatives. (I remained skeptical of political involvement of any stripe, and said so publicly, much to Roger's consternation.) The CASB staff retaliated by inviting members of the Liberal caucus for briefings from Boag and Hinton "to explain the background to the investigation supporting the Arrow Air report." So it was somewhat amusing to be accused of the crime of speaking with Liberals by fellow board members Bill MacEachern and Arthur Portelance. Ironically, the only times I had knowingly communicated with anyone associated with the Liberal Party were when I had spoken to former Liberal politicians MacEachern and Portelance -- and then only to try to set them straight in our boardroom.

I took it more seriously when Thorneycroft sent a long appraisal of my performance to the Clerk of the Privy Council Office. His appraisal was right in line with the strategy of focusing on personality and secondary issues.

"I am utterly appalled at the insensitivity he has displayed by communicating with next of kin, and suggesting that they solicit assistance of their Congressmen and Senators in applying
压力对加拿大政府，”他写道。"这种做法在我看来是特别地令人难以接受和令人作呕的。"事实上，"不敏感"已经变成了向他的未表达的愿望，而不是向家庭 -- 谁第一次联系了我，并且以统一的亲切的电话和信件回应了我。

这次，莎士比亚在托马斯明确表示了他的意图："Mr. Filotas显然已经证明他无法胜任CASB成员的角色。他是董事会的严重威胁和政府的耻辱。..."托马斯只会写下这样的废话，如果他有满意的听众。很明显，他只是在记录真正叫了我们"独立"机构的人的结论。我清楚，我的短暂而可耻的董事会成员生涯将到手。

讽刺的是，莎士比亚的复仇使我在一个可贵的位置。我唯一的希望是找到关于格兰德坠机的真相。我没有选择，只能做正确的事。

伟大的间谍

2月17日，1989年董事会会议结束了预定的议程。大约中午时分。主席说他下午有另一个议题。"你能说明这项议题的性质吗？"我问。

"是的，"他回答，"我想谈谈Frank Thurston的合同。"

好吧，等了这么久。
About a year before, after Thurston had let slip that he had had a contract to act as a board member when his first appointment had terminated in June 1985, he had immediately regretted his remark and clammed up. But a check of the Canada Gazette had shown that he had been appointed to the CASB for a one-year term on June 1984 and reappointed for a three-year term in June 1986. Yet in the intervening period he had continued to act exactly as before -- attending meetings, voting on issues, chairing meetings in the absence of Bernard Deschênes and even serving as a presiding officer at the CASB's public hearing on the Gander crash in April 1986.

Oddly, the CASB's annual report for 1985 didn't list the board members' names or the names of the presiding officers at the public inquiry into the Gander crash, nor were the presiding officers named on press releases or most other documents pertaining to the public inquiry.

At the time I had not yet been named to the CASB. Those who had been on the board attributed the omissions to Bernard Deschênes' aversion to sharing the limelight. But a check of board documents seemed to indicate a systematic exclusion of members' names in the interval from June 1985 to June 1986. It was hard to avoid the conclusion that the omissions were meant to mask Thurston's nebulous participation. What if Frank was only pretending to be a member of the CASB during that year? What would that make of his role in the public inquiry and other decisions about the Gander investigation?

We knocked the implications back and forth among ourselves until, in the midst of a tumultuous meeting in October 1988, Norm Bobbitt brought the question into the open. Thorneycroft's
opening statement before the final review of the Gander report purported to summarize the history of the investigation, and Bobbitt immediately spotted an omission. "Member Thurston's name is conspicuous by its absence from the list of members who assisted Chairman Deschênes with the public inquiry," he told Thorneycroft.

Bobbitt reviewed the dates of Thurston's appointments to the CASB and asked for clarification of Thurston's status at the time of the public inquiry, suggesting that the uncertainty of his status raised questions about the fairness of the public inquiry and whether Thurston might have had a conflict of interest.

Thorneycroft was nonplussed. "Communicate your concerns to me in writing," he said.

"Maybe Member Thurston would like to comment on it, Mr. Chairman," Bobbitt replied.

"Mr. Chairman, I have no intention whatsoever of commenting on it," Thurston curtly assured him.

MacEachern decided to put in his two cents' worth. "I find this intervention odious, to say the least. This is a mischievous intervention, symbolic of other attempts that have been made to derail the board and more particularly the Gander investigation. And I repeat my earlier expression -- odious."

"I agree," said the chairman.

Tempers flared and I appealed to the chairman to answer Bobbitt's question and put the matter to rest once and for all. He refused, and said again that Bobbitt would have to ask in writing.
Bobbitt did, and got his answer two weeks later. Thorneycroft castigated his "unacceptable behavior" and "seriously deficient judgement" for "insulting fellow Board Members." Bobbitt repeated his request for the information and it was ignored. He raised the subject again at a board meeting in January but Thorneycroft refused to discuss it.

It was then three months since Bobbitt had asked a simple direct question. Canadian legislation stipulated that contracts let by public agencies had to be available for inspection by the public. On the way out of the meeting I picked up an "Access to Information Request Form", addressed it to the CASB, and requested "All contracts and agreements with Mr. F. Thurston of Ottawa effective during the period June 1985 to June 1988." I attached a cheque for five dollars made out to the Receiver-General of Canada and found the staff member who handled such requests. I even waited by his desk to verify that my submission was logged in. The law required a response in thirty days. Now the time was just about up.

When I arrived at the boardroom, everyone else was already seated and a stack of papers had been distributed. A grim-faced Frank Thurston was talking. As I took my place beside Bobbitt, he gestured toward the papers and handed me a note: "THIS IS DYNAMITE."

"I do have to regard this as a pretty gross invasion of my privacy," Frank was saying in a trembly voice. "I resent it and would oppose it if it were possible. . . . If we are going to examine one another's credentials and performance and all the rest of it, let's do it all. Just call in the RCMP if necessary. They might be induced or even directed to look into the various leaks
we've had. . . . This transactions abominable. I believe it calls for reciprocal action. If we are to raise the level of harassment, I consider that I have the right to reply in kind. And I will," Frank breathed heavily. He took his briefcase and walked out.

"This is a sad bloody situation," Thorneycroft said, and called on Ken Johnson to "walk us through the sequence of events, as best as we can reconstruct them, from the time that Frank became a special adviser to the present time."

Special adviser? What's this special adviser?

Well, for the first and only time during my tenure as a member of the CASB, we received an adequate answer to a sensitive question. The package of papers traced the machinations behind Frank Thurston's reappointment to the board. Evidently it had been prepared for someone else, and that someone else must have told Thorneycroft and Johnson that they had no choice but to hand over the complete package.

It turned out that Frank Thurston had not, in fact, had a contract between June 1985 and June 1986. As the end of his first term approached, Bernard Deschênes had tried unsuccessfully to secure his reappointment by the Cabinet. The memos and letters tracked the maneuvering and manipulation. They also exposed Ken Johnson's major role. In February 1986, seven months after Thurston's appointment to the CASB had expired, Johnson had signed a letter to Transport minister Don Mazankowski on behalf of Chairman Deschênes. "You will recall that Mr. Frank Thurston was appointed as a part-time member of the Board and that this appointment was not extended beyond the one year period ending June 1986", the letter noted. Approval was sought to enter into a contract with Thurston at a per diem rate greater
than that which could have been granted by Deschânes.

The contract was "to provide guidance and advice in the review of aircraft investigation reports" -- presumably to Ken Johnson. But the minister was slow to respond. The behind-the-scenes manoeuvring became even more frenetic. On one hand, efforts continued to get the Cabinet to reappoint Thurston to the board. At the same time, efforts continued to secure a contact so that he could be paid in the interim at the desired rate. All the while, Thurston attended and chaired board meetings and served as presiding officer at the public inquiry on Gander. The minister's approval was eventually obtained for the interim contract, and Frank was reappointed to the board. The contract was used retroactively to pay for his services between appointments.

So now we knew -- Thurston had been, retroactively, a special adviser to Ken Johnson during the time of the public inquiry. It seemed to me that one might legitimately wonder if gratitude for Johnson's exertions to get him reappointed could have influenced his judgement on the ice theory.

I consulted a topnotch lawyer. "The very idea of a retroactive appointment boggles my mind," he wrote. "Probably, everything done when Mr. Thurston acted as a Member of the Board and when he voted as a Member of the Board when he was actually not a member (during approximately a one year period) is invalid. However, in so far as the Gander crash is concerned, this may not be of any great impact since it would appear that he was properly reappointed back to the Board by the time the decision on the Gander crash occurred."

In the end, there was nothing we could do. But the bureaucratic machine kept churning. A few days after the meeting about
Thurston's contract, my cheque to the Receiver-General was returned with a memo: "We are cancelling the above mentioned request since the requested documents were distributed to all Board Members." Traces of my request under the Access to Information Act had been expunged. It wasn't quite the memory hole at the Ministry of Truth where Winston Smith dispatched inconvenient documents. But it wasn't a bad approximation.

Part 3

Transport Follies

Coordination

"The appropriate Minister shall, within a period of ninety days after he has been notified of the findings of the Board . . . reply to the Board, in writing, advising the Board of the action, if any, taken or proposed to be taken in response to those findings and recommendations."

CASB Act, Sect 23(5)

As the majority and minority factions waged their public relations battle during the spring of 1989, the Canadian Aviation Safety Board's schizophrenic report on the Gander investigation was building into a king-size headache for Benoît Bouchard. Controversy over the investigation had nagged the minister ever since he had taken over the Transport portfolio in April 1988, but he had stuck to the pressline suggested by his officials at the outset and stolidly refused to comment. Interference from the minister, Bouchard kept saying, would compromise the board's independence. He would have his say in due course.
Due course was fast approaching. A few days before March 8, tickler messages would be popping up on computer screens all over the country, reminding editors and reporters that the law required Bouchard to respond by that date to the board's findings and recommendations on the Gander crash.

"Benny" Bouchard, a 49-year-old former high school teacher from the French-speaking town of Roberval in the interior of Quebec, had been named Minister of Transport just in time to announce the replacement of Bernard Deschênes by Ken Thornycroft. Commentators generally agreed that Bouchard's elevation to the important Transport portfolio was a positioning maneuver for the coming federal election -- to show Quebec clout in the Cabinet. But his preoccupation with the political problems of his home province cut down on the effort he could devote to mastering the technical aspects of his new department. To make things worse, the Deputy Minister of Transport, Ramsey Withers, left for a post with the private consulting firm run by Gary Ouellet, and was replaced by a career bureaucrat from the Privy Council Office. Thus both the minister and the deputy minister were new on the job.

By the spring of 1989, Bouchard was beset by more than his share of problems. The government's high-priority push to secure ratification of the Meech Lake Accord demanded more and more attention. The Transport department was deluged with complaints about delays and overcrowding at major airports. Commentators castigated the department's shortsighted policies for training air traffic controllers, and publicity about the near collision of two airliners raised the question of safety versus convenience and economics. The minister was sidelined for a time with quadruple bypass heart surgery. But the work of the
huge Transport bureaucracy ground on, and the well oiled administrative mechanism churned out the minister's responses to the hundreds of accident reports produced each year by the CASB.

The board's reports were formally addressed to the minister, but were routed directly to the Aviation Group, for analysis by technical staff. Aviation Group staffers prepared a response, in the form of a letter from the minister to the CASB's chairman; which bubbled up through the usual bureaucratic chain of command -- first the director, then the office of the Assistant Deputy Minister for Aviation and then the Deputy Minister. As a final step, the minister's personal staff reviewed letters for political sensitivities. Those that passed muster were recommended for the minister's signature. In practice, most of these letters were thoroughly routine -- thanking the CASB for its good work, noting that the minister had accepted the board's recommendations, perhaps adding that the department had already taken action. Normally such letters could be signed by machine and transmitted to the CASB within the mandated ninety days without ever coming to the minister's personal attention.

Before attempting to draw up recommendations for consideration by the CASB board, staff members went over the possibilities with counterparts in the Transport Department. The two staffs, which often interchanged members through the normal course of advancing careers, generally worked hand in glove.* Recommendations or wording deemed unpalatable need never see the light of day. And if any of the departmental officials suspected political sensitivity, the minister's staff could be consulted as well. Interactions could take place over the phone or by personal meetings -- without leaving a potentially
embarrassing paper trail.

The CASB's recommendations often urged Transport to "review documentation", "liaise with the FAA", "strengthen procedures" or "clarify regulations". Such pablum was convenient to both sides: the department could comply with a token gesture, and the CASB could point to another implemented recommendation to show how well it was doing its job. Even when a recommendation looked tough at first sight, there might be less to it than met the eye; the Transport department might have been on the verge of adopting the measure in any event.

All this cooperation and coordination might seem a sensible way to keep safety recommendations flowing efficiently. But soon after I joined the CASB I became aware of a hidden process behind the flow of recommendations. Seemingly trivial wording changes to recommendations proposed by the staff drew fierce resistance. At one point, someone gave the game away by artlessly suggesting that the wording couldn't be changed because "coordination" had already been done with the Transport department. My efforts to explore the distinction between coordination and collusion would be one of the sins to brand me a dissenter. But the insight I gained from thinking about the interface between the two staffs would come in handy when it became necessary to read between the lines of the minister's response to the Gander report.

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The CASB Act did not distinguish between majority reports and minority reports, which were rare but not unprecedented. Boss Stevenson and I had written a minority report, for example, after serving as presiding officers at a public inquiry into the ditching
of a twin-engine turboprop aircraft into the ice-cold waters near Toronto Island airport in January 1987. To us, the official cause that an experienced, competent pilot "undertook the flight with insufficient fuel" was not particularly enlightening. We thought it significant that "the pilot believed that his job would be jeopardized if he did not run the tanks nearly dry when the aircraft was to be left for long-term storage after a short flight." We also noted that "Transport Canada's surveillance and audit procedures allowed safety margins to be eroded in the operation of this company"19 (The Minister of Transport dealt with our findings by ignoring them.)

Bouchard's office had distanced him from the uproar over the alleged attempts to suppress the minority report on Gander by assuring reporters that the minister would comment on both reports after his officials had studied them. Whoever the nameless officials might be, their labors would be conducted under the authority of the head of the department's Aviation Group, Assistant Deputy Minister Claude LaFrance.

LaFrance and Thorneycroft were old comrades -- first as generals in the Canadian air force, later as senior executives in the Transport department. LaFrance had spent thirty-four years in the air force before retiring as a major-general in 1981. Between 1981 and his appointment as Assistant Deputy Minister of Transport for Aviation in October 1985 he handled a variety of sensitive assignments in the civil service. A framed letter of appreciation from the prime minister proudly displayed in his study attested to LaFrance's pride and success in this part of his career. So when the controversial reports on the Gander accident landed on his desk in December 1988, he was well aware that he was "expected to lean over backward to accommodate the technical analysis to the concerns of the political bosses"20
It might be supposed that he would discuss such a sensitive balancing act with his boss, the deputy minister. But LaFrance's old boss, former chief of defence staff Ramsey Withers, had been replaced by a former ambassador and deputy secretary to the Cabinet, Glen Shortliffe. LaFrance said he neither expected nor received specific instructions from Shortliffe. Instead, he called together his best analysts and told them that the Aviation Group "needed to look into [the majority and minority] reports in some depth, because of the complexity and the dissenting element." The time bomb set ticking by this apparently conscientious attention to duty would cost LaFrance his job.

So, after the release of the Gander report, behind the scenes, out of the public eye -- while the CASB staff was holding meetings and briefing journalists, while opposition politicians were denouncing the government's cover-up, while I was corresponding with the families of the victims-LaFrance's group in Transport Canada set out to analyze the widely divergent views presented in the majority and minority reports.

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On March 7 -- the day before he was due to respond to the CASB's report -- Bouchard attended a meeting of the "inner Cabinet" at the prime minister's Meech Lake retreat in the Gatineau hills north of Ottawa. As usual, a throng of reporters skulked outside, in hopes of a scoop or at least a good quote before the departing ministers were stuffed into the waiting limos.

Usually the pickings were slim, but that day there was a rare nugget. An impromptu question to Bouchard about the Gander
investigation elicited the response that the minister had "totally accepted" the conclusions of the majority report and "totally rejected" the minority report. Bouchard had scooped his own press conference, scheduled for ten a.m. the next morning."21 The premature revelation set the stage for a wild week of confused, overlapping events, and ensured that the Gander investigation would stay in the headlines for months to come.

Chairman Ken Thorneycroft had thoughtfully scheduled a press conference of his own following the minister's, to give journalists time to hustle across the bridge to CASB headquarters. But Bouchard's premature revelation forced a change in the battle plans. Not only that, but -- like a flight being put off by successive half-hour delays -- Bouchard's press conference kept getting put further and further back. Officially I was told nothing about either Bouchard's or Thorneycroft's plans, but throughout the day reporters kept calling in the latest postponement. Those with deadlines were getting frantic and asking for a reaction ahead of time.

Finally, at about four in the afternoon, the minister was ready. His strategy was based on the narrowest possible interpretation of the CASB Act. He said nothing about the findings, but confined his remarks to the recommendations. The majority report proposed three: that the Transport department sponsor a safety campaign about the dangers of ice; that it establish more detailed de-icing procedures; that it establish better procedures for checking flight data recorders. The minority report had findings but no recommendations, since I had forgotten to include our recommendation for a judicial inquiry.

Bouchard simply announced that he was endorsing the CASB's recommendations. Yes, pilots should be aware of the dangers of
ice on the wings, and his department would continue to ensure that the dangers were understood.

In answer to reporters' questions he still professed support for the ice theory, but somewhat more cautiously than in the remarks he had tossed off the day before. There might not be "total evidence", he allowed, to support the icing theory, but he was prepared to support it anyway. He judged the minority report by more demanding standards, saying that it had failed to substantiate the hypothesis of an onboard explosion with the "absolute evidence" needed to order a judicial review.22

Copies of his response were delivered to the members of the CASB at 5:15 in the afternoon. Chairman Thorneycroft met the press shortly thereafter, declaring himself well satisfied. With the threat of a judicial review lifted, he could loosen up. He expected the four dissenters to continue their "guerrilla warfare" to reopen the investigation, he said. "The dissenters will never be satisfied. They are using Gander as a vehicle to voice their objections to the way we function."23

What was he going to do with the dissenters, now that the minister had rejected their foolishness? "It would be nice to cut the cancer out," he said, "but I don't think that's possible, quite frankly." When the new legislation came to replace the CASB, the dissenters "can try to get on." Thorneycroft smiled. "But I don't think some of them will make the team."24 The Gander controversy had, it seemed, been laid to rest.

But not for long. While no one in the media seemed to notice, the stalling over the press conference and the cautious wording of the minister's prepared statement signalled heavy-duty doubt and gaping schisms in the Transport department.
Tom Hinton and the professional investigators had pulled out all the stops to "coordinate" a ringing declaration of the insidious dangers of tiny amounts of "ice contamination". Only a high-profile campaign by the Department of Transport to alert Pilots of this peril would persuasively endorse their conclusion. But the minister's support was, at best, lukewarm. "There is no record of an accident to a Canadian registered DC-8 that has been attributed to ice contaminated wings in the last 20 years," said his written text. "Transport Canada officials have reviewed the detailed procedures that are required. . . . These procedures are effective in ensuring that flight crew can detect the presence of ice on the wings. . . ." In short, the Transport Canada officials were thumbing their noses at the ice theory -- and from within the bowels of the department, someone was sending a cryptic message.

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Two days later -- Friday, March 10 -- a Fokker F-28 operated by Air Canada's regional subsidiary Air Ontario crashed into a wooded area off the end of the runway while trying to take off from the northern Ontario town of Dryden. The aircraft broke into three sections and caught fire. Twenty-two of the sixty-nine on board, including three of the four crewmembers, died. It was the worst accident to a scheduled flight in Canada since the Cranbrook disaster eleven years earlier. The CASB launched an investigation.

That evening, I received a call from an acquaintance who had once worked for the Transport department. My friend had some interesting information related to the Gander investigation, something I had to see for myself. Could we meet tomorrow, at
an office in suburban Ottawa?

My confidant was waiting at the door and ushered me into a deserted room. A floppy disk was loaded into the drive of a computer and a few keystrokes brought up the title page of an internal Transport Canada review of the CASB's report on the Gander investigation.

"You can take all the time you want to look, but don't ask how I got it. And I can't allow you to make a copy, either." I spent the next two hours reading a detailed critique of both the minority and majority reports. It was thorough and obviously genuine. Its scathing criticism of the ice theory and the work of the CASB investigators led to an inescapable conclusion -- the CASB investigators had embraced the ice-on-the-wing theory at the outset, and then stretched supporting arguments, often past the breaking point, and ignored all clues and evidence pointing in other directions. I was surprised to see it put so baldly. The "coordination" between the CASB and the Transport department had evidently broken down.

To be sure, the Transport Canada report was also critical of our minority report, but these criticisms seemed more like legalistic nitpicking; they objected, for example, to our conclusion that the crew had carried out its duties without apparent fault, pointing out that the crew had under-reported the takeoff weight by a few thousand pounds. I realized that this was technically correct and that our conclusion should have repeated the wording from the text, namely that no act or failure to act by the crew had contributed to the accident.

How could the minister have been induced to endorse the ice theory in face of such a devastating report by his own officials?
Could he have been misinformed, or had he acted deliberately? Who had advised him? My friend professed not to know. I did learn that the report had existed in various drafts for several weeks and that its contents had been commonly known and accepted by technical staff throughout the department -- and that a few days before Bouchard's press conference all printed copies of the report had been collected. Apparently, those responsible for the recall had forgotten about copies on disk.

The report was political dynamite. I wondered how it could be publicized. But there was no way I could get a copy, and I had been sworn to such secrecy that I didn't even tell the others on the minority side.

Two days later I was still mulling over what to do when I received an excited call from Mark Kennedy of the Ottawa Citizen. Kennedy asked if I was aware that Transport Canada had produced a long internal report on the Gander investigation. "Uhmm," I said. He then read several passages that I recognized as being from the text I had read off the computer screen. Mark had obtained some extracts from the report but was wary of a setup. I didn't tell him or anyone else that I had read the complete report, but I did tell him that I was morally certain the passages were genuine and not taken out of context.

The next day, March 15, Mark Kennedy's headline story revealed that an internal Transport Canada review "blasts board investigators for mismanaging" the Gander investigation and "focusing on a preconceived icing theory at the expense of other possible causes." The story revived the controversy and propelled it to record heights.

Flap over Gander Crash Cooks Deputy's Goose (Headline from
Benoît Bouchard's flat-out rejection of a judicial inquiry into the Gander affair averted Chairman Thorneycroft's worst nightmare, but the hidden subtext of the minister's announcement infuriated Tom Hinton, Peter Boag and the other architects of the ice theory. They had called for an all-out war on ignorance about the peril of ice on the wing. Rejection of this call must be the result of enemy plotting, and the ringleader of the enemies had to be former colleague and fellow "professional investigator" James Stewart. As Director of Safety Programs, Jim Stewart perched one rung below Claude LaFrance on Transport Canada's bureaucratic ladder. Everyone at the CASB knew Stewart was in charge of drafting replies to the Safety Board's recommendations and launching them en route to the minister's office.

In many ways, Jim Stewart's career had paralleled that of Peter Boag. He had joined Transport Canada's Aviation Safety Bureau after leaving the air force in 1982, at the same time as Boag. He was a few years older and his flying experience was considerably more extensive, but as new civil servants the two men were rivals for positions in the accident investigation agency about to be created in the aftermath of the Dubin Commission.

Both men were bright, articulate and ambitious, but Jim Stewart was more independent-minded and less inclined to deference to authority. This did not sit well with Ken Johnson and Tom Hinton, who were drawing up the organization charts. So when the CASB was formed in 1984, Stewart remained with the Transport department while Boag tied his fortunes to the new agency. They both prospered. But Stewart rose higher, to a directorship, which, in bureaucratic terms, was equivalent in rank to Boag's boss, director of investigations Tom Hinton.
The CASB investigators knew, more than anyone else, that the devastating Transport Canada critique of their work had been done under the direction of Jim Stewart. The paranoia that drove them to assail the motives of any critic now turned on Stewart -- and the crash of the Fokker F-28 at Dryden provided them an opening to strike at his perfidy.

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Investigators from the nearest CASB regional office at Winnipeg rushed to the crash scene at Dryden, but only to hold the fort. This was a big accident, "high profile" in the parlance of the CASB, and it called for professionals from the board's headquarters.

The headquarters contingent arrived the next day, Saturday March 11. While the confusion and organizational effort paled in comparison to that at Gander, the situation still called for major mobilization. The investigators, including Peter Boag, worked at a feverish pace over the next several days.

Surviving passengers and other witnesses had noted a heavy coating of wet, fluffy snow on the F28's wings before takeoff. Snow on the wing? There you were -- had Transport Canada not shrugged off the warnings about the dangers of wing icing, the Dryden accident might not have happened.

No one had observed a thick layer of heavy, wet snow on the wings of the Arrow Air DC-8. Nor had the Arrow Air DC-8 lumbered to the very end of the runway, but had lifted off normally with runway to spare. The wreck of the Air Ontario F28 at Dryden looked like the aftermath of a crash on takeoff, not like
"what you'd expect if you threw a grenade and the pieces flew everywhere." But this was no time for nitpicking, this was an opportunity to take the offensive. On March 15, the day Mark Kennedy broke the story of the Transport department's internal report in the Ottawa Citizen, Paul Koring reported in the Globe and Mail that CASB investigators "had identified wing icing as the prime suspect" in the Dryden crash and were linking the accident with the Arrow Air crash at Gander.

The unnamed investigators denounced Transport Canada for failing to launch the anti-ice campaign they had demanded. They could even name the prime culprit -- "James Stewart, who as Transport Canada's director of flight safety programs is responsible for drafting the mandatory replies."

The next day, most news reports about the CASB focused on the leaked transport department report. Parliament had recessed for Easter and Bouchard was vacationing in Florida. "Bouchard's embarrassed officials acknowledged that the leaked report had failed to reach the Minister's desk," said a Toronto Star editorial, and the Ottawa Citizen quoted Bouchard's spokesmen as saying that the minister would "take another look" at the possibility of a judicial inquiry.

The Globe and Mail, however, continued to highlight Transport Canada's dereliction of duty. When accepting the recommendations of the majority report, Bouchard had said that all airlines had been warned about the dangers of ice. But the Globe had learned that the warning had not reached Air Ontario until after the crash at Dryden.

"CASB officials who spoke on the condition that they not be identified, suggested that the Air Ontario accident, should it be
found to be caused by wing icing, would have been preventable if Transport Canada had not fumbled CASB's call for warnings."
The proviso "should it be found to be caused by wing icing" was evidently superfluous; the suspicion of ice had grown into the certainty that the "Fokker F-28 jet crashed on take-off with ice encrusted wings."

The pilot would have been no less aware of the risk of taking off with ice on the wings than of taking off with alcohol in his bloodstream; there was little reason to suppose that additional warnings would have changed anything in either case. The Globe, however, seemed more taken with the political than the practical. The minister had said that a cautionary letter had been sent to all airlines on the first of March. In fact, the letter had only gone to national carriers then. Regional carriers such as Air Ontario had not been notified until March 16. Paul Koring, apparently overdosing on the theatrics of parliamentary question period, was determined to get to the bottom of this outrageous misrepresentation. And for all the investigators' animosity toward Jim Stewart, he was not a big enough fish. Assistant Deputy Minister Claude LaFrance must answer -- and LaFrance's superiors left him twisting slowly in the breeze.

In what Koring described as a "testy exchange with reporters", LaFrance, ever the good soldier, fell on his own sword. "We provided the wrong information to the minister," he confessed. The "testy exchange with reporters" was, in fact, a testy exchange with reporter Paul Koring -- the product of that reporter's persistent efforts to trap LaFrance into embarrassing his superiors.

To Claude LaFrance, the delay in sending a redundant letter to Air Ontario was a "bureaucratic error". The mail had been slow.
But failure to analyze the Gander report would have been an inexcusable dereliction of duty. His people always analyzed CASB reports; that was the way the ball started rolling on the minister's legally mandated responses. It was routine, and the Gander crash was like the rest only more so -- the worst and most controversial air crash in Canadian history. As LaFrance had told his staff, the Gander report had to be examined "in some depth, because of the complexity and the dissenting element."

But Koring's cross-examination was relentless. "Despite repeated questioning," he reported, "[LaFrance] could cite no ministerial or legislative mandate for second-guessing the independent agency that had been created for the purpose of taking accident investigation out of the hands of Transport Canada." LaFrance should have had his lawyer with him.

Paul Koring's front-page story of March 17 named his CASB sources for the first time. Peter Boag believed that "Transport Canada failed to understand the grim lesson" of Gander. Boag also believed that Transport Canada had deliberately set out to "undermine the credibility" of the CASB's professional investigators.

Who could have masterminded such malevolence? Well, Assistant Deputy Minister Claude LaFrance had ordered the "secret critique" of the CASB investigators, but the critique had, in fact been "written under the direction of James Stewart, who has sought CASB positions on at least two occasions without success."

The implication seemed to be that a spiteful Stewart, with the possible complicity of his boss, Claude LaFrance, had conspired to mislead the minister in order to wreak revenge for rejection by
the CASB. The idea was wacky enough to fit right in with the addendum to the Hickling report, and the insinuation against the dissenting members at the December press conference. Perhaps no one had told Paul Koring that both Stewart and Boag liked to forward their names whenever a senior job became open in either the CASB or Transport Canada, a practice not unusual for ambitious bureaucrats.

But Jim Stewart had committed an even greater sin. He had fraternized with dissenters, a transgression so abominable that it had to be confirmed by the highest authority. So Ken Johnson too momentarily shed his cloak of anonymity to confirm that "one of the CASB's dissenting board members, Les Filotas . . . had sent Mr. Stewart his critique of the investigation last year."

Johnson was reliving his indignation over the copy of our "Critique of the Ice Contamination Hypothesis" I had passed to Stewart a year earlier. Although Thorneycroft had stopped pursuing the matter after I submitted a legal opinion that rejected his claim that it had been an "illegal ad", Johnson had never forgotten. Choosing his words carefully, he told Koring that "the sending of that document was certainly not within the range of expected behavior" for a member of the board. So here we had Peter Boag and Ken Johnson shooting the breeze with a reporter about the Dryden accident barely a week after it happened, and complaining about a technical analysis being passed to a designated interested party three years after an accident.

Ironically, Stewart hadn't received our critique with great enthusiasm, and had only said he found it interesting. The irony didn't end there. Pressed about his contacts with CASB board members, he admitted to Paul Koring that he had "some personal and social contacts" with unidentified board members. Much
later, he told me that he had been referring to going out for lunch with one of the majority.

The attempt to discredit Transport Canada by linking the Gander crash with other cases continued on the front page of the Globe on April 1. "CASB sources" had drawn Koring's attention to a hard landing of an Air Canada DC-8 in Edmonton on March 28, and -- lip service to confidentiality now out the window -- the "professional investigators" had told him that "ice build up on the aircraft's right wing apparently caused the plane to stall and dip suddenly." The pilot had been lucky, they explained, "in that the stall occurred just above the runway", otherwise it would have been Gander all over again.

April Fool. The eventual report on the DC-8's hard landing made no mention of a stall and said the incident occurred because "the pilot experienced disorientation during the transition to visual flight". It didn't really matter; by that time no one was listening.

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On Monday, March 21, Transport minister Benoît Bouchard had come back from his Florida vacation to find the opposition demanding his head. Opponents of the ice theory were mad because Bouchard supported the majority report in the face of criticism from his own officials. Advocates of the ice theory were mad at the delay in sending the ice advisory to Air Ontario. Those who didn't care about ice were mad because a shortage of aviation inspectors and air traffic controllers was threatening air safety. Everybody was mad at the overcrowding and congestion at Canadian airports.
Pressure was also mounting in the United States. Zona Phillips had finally got some political support: Representative Bill Young, Republican Member of Congress from Florida, had asked the secretary of state to request a new Canadian investigation of the Gander crash. Young had released a January 1986 cable from the U.S. embassy on Mauritius about the claim that the Arrow Air flight had been brought down by "a cold-blooded, premeditated act." He told reporters that the previously top-secret diplomatic communication "raises the possibility that terrorists may have played a role in the Arrow Air crash."27

Within twenty-four hours of Bouchard's return it was announced that the minister had accepted the resignation of Assistant Deputy Minister Claude LaFrance. "Circumstances surrounding the minister's statement of March 8" were cited. "Sources in the government indicated that the idea Mr. LaFrance should resign came from Mr. Bouchard." LaFrance was the first senior Ottawa bureaucrat to lose his job in a political uproar in recent memory. "The wrong guy quit," said the opposition.,"28 Bouchard promised further measures.

BOOK 7

DAMAGE CONTROL

Part 1

The Estey Report
The right to search for the truth implies also a duty: one must not conceal any part of what one has recognized to be true.

Albert Einstein

On March 29, 1989, Benoît Bouchard faced the television cameras once again, ready to announce the further measures he had promised "to restore the credibility of accident investigation."

"Firstly, I have asked an eminent authority, Mr. Justice Willard Estey, to review the entire record of the Gander investigation," Bouchard read slowly from his prepared text. "He will be asked to provide a report to me within ninety days as to whether any further investigation or inquiry is warranted." Bouchard explained that when he had accepted the CASB recommendations on Gander, "I had not been advised of the internal technical review conducted by my department." He had now seen the review and was making it public; it would be part of the "entire record" studied by Estey.

Secondly, the CASB was stripped of responsibility for the Dryden investigation. Virgil Moshansky, a sitting judge from Alberta, had been appointed to conduct a full judicial inquiry.

Finally, the government would introduce legislation to replace the CASB with a new agency as a matter of urgent priority.

Well fast-tracking the legislation to dump the CASB was no surprise, and a judicial inquiry into the Dryden crash should curb the unseemly campaign to use the investigation to promote the ice theory. But I had mixed feelings about the review of the
Gander investigation. The minister had carefully avoided defining its scope and depth. Also, despite the honorific "Mr. Justice", Estey was no longer a judge.

The 69 year-old former Supreme Court Justice had taken the surprising step of returning to private law practice. He was now deputy chairman of the Central Capital Corporation, chairman and director of Central Guaranty Trust Company, and a lecturer at both the University of Toronto and Osgoode Hall Law School, and he held numerous directorships. He was also counsel for the giant Toronto law firm of McCarthy & McCarthy, and it was in that capacity that Bouchard had secured his services. Bouchard had not launched a judicial review; he had retained counsel to help him out of a tight spot, as had his predecessor, John Crosbie, when he retained Sopinka.

There was no doubt of Estey's distinguished record, but Ken Thornycroft had a distinguished record too -- I was reminded of that by the chummy reference to "concerns raised by . . . Ken Thornycroft" in Bouchard's statement. We were not about to get a sympathetic ear. But then, weren't after sympathy. Estey had been a justice of the Supreme Court. The majority wouldn't be able to bamboozle him.

Had I paused to reflect on Estey's appointment, I might have recalled the appointment of Chief Justice Earl Warren of the United States Supreme Court to "ascertain, evaluate and report on" the investigation of the assassination of President Kennedy. Justice Warren had also been an extremely distinguished and incredibly busy man. He too had accepted the appointment on top of other onerous commitments. In attempting to head off controversy, rather than to expose the truth, the Warren Commission had added to the mystery and ensured that the
controversy would continue, if not in perpetuity, certainly for more than twenty-five years.

At the time, though; it seemed that we had gained about as much as we could hope for. I praised Bouchard's measures. For once, Thorneycroft and I agreed -- but the chairman had different expectations. He predicted that Estey's review "will show very clearly that the accident investigators are truly professional and that they do excellent work".

Thorneycroft's theme was echoed by the CASB's public affairs office and Bouchard himself. Representatives of the CASB praised the "professional investigators" and openly mocked the dissidents, who were not protesting against "the Gander report as such" but were using the Gander incident as a means of protesting "their role and responsibilities on the board". Bouchard told an interviewer that "the problem we now have is that the definition of tasks is confused. The board members, certain board members, want to be investigators." Why didn't the minister just fire the rascals? "The governor in council can only fire them for cause," he confided. "You can imagine that if I tried to fire the current board members for cause, I'd be tied up in court for ten years".

Well, at least the minister didn't think he had a legally acceptable cause to fire me. It wasn't too reassuring, though, to learn that he would do it except for the inconvenience.

*****

During the next two days a flood of calls came in from acquaintances and strangers. Some offered congratulations for a great triumph in securing an independent review, others warned
that Estey's review was just a delaying tactic. Either way, there couldn't be any harm in taking the initiative. Over the weekend I summarized where we stood on the Gander investigation in a long letter to Estey:

With over 20 years' experience as an aeronautical engineer I soon realized that facts known about the Arrow Air DC-8's trajectory were incompatible with the icing hypothesis. . . .

On a more intuitive level, I was disturbed by the resistance to discussion of certain aspects of the evidence. I sought some indication or hint that our Board's review might be circumscribed by national security or some other overriding consideration. . . .

Since the release of the Board's report I learned that Arrow Air may have participated in the arms-for-hostages exchange conducted secretly on behalf of highly placed individuals in the American administration. If so, there would have been strong motivation for attempts to confound aspects of the investigation. . . .

Congressional hearings into the so-called "Iran-Contra affair" revealed, inter alia, that some of the clandestine arms deliveries were made by "privately chartered DC-8". Efforts to contain leaks of information with regard to the ransom of American hostages, arms sales to Iran, diversion of funds to Nicaragua and plans to overthrow Colonel Khadafy of Libya came to a head during the first weeks of December 1985. . . .

Efforts to prevent the leak of information involved deliberate deception of both foreign governments and American legislative oversight committees. Thus, a reasonable person could infer that attempts would have been made to suppress information related
to the transport of materials and personnel in support of such activities -- whether or not this transport was illegal in itself or related in any way to the Gander accident. . . .

Suggestions of an incomplete investigation were also made to me by fire fighters who were first on the scene but who were not interviewed by CASB investigators. . . .

You have undoubtedly heard of the mysterious illness among workers who were on the accident site. I have been very concerned that these illnesses could be somehow related to some unidentified material aboard the aircraft. . . . the contents of large, coffin-size wooden crates (loaded in Cairo at the cost of leaving soldiers' personal gear) was not determined.

Our minority report postulated an explosion in the forward cargo hold and disintegration of the Arrow Air DC-8 similar to what later happened to the Pan American B-747 at Lockerbie, Scotland. . . .

. . . the fuselage section with the ring of soot around an empty window illustrated in our minority report was not shown to Mr. Pinkel. On the basis of photographs I sent him he agreed that this piece of wreckage strongly suggests a pre-breakup fire. . . .

. . . I have heard, in particular, of three former Arrow Air pilots who told reporters of personal involvement in arms deliveries. I have also heard of an internal report from the Miami office of the Federal Aviation Administration apparently at odds with the official acceptance of the ice contamination theory. This suggests similar internal division between technical experts and administrators in the FAA as in Transport Canada. . . .
When I arrived at the office on Monday morning, I had my letter sealed and addressed to Estey at his law office in Toronto and left it with the receptionist for delivery by courier. The fall-out came sooner, and from a different direction, than I expected.

The next morning the board met to formally relinquish control over the Dryden investigation. We agreed to terminate the CASB investigation and turn over all files to the judicial inquiry. There was almost no discussion and the vote was unanimous. But before we adjourned, Bill MacEachern had a question for Thorneycroft. Would the chairman think it a good idea, he asked in his most syrupy manner, if board members sent Justice Estey material they thought he should see? Thorneycroft looked horrified. After a few moments of grave reflection, he opined that it would be most improper for any board member to attempt to communicate with the Estey.

For a while MacEachern and Thorneycroft continued their little charade, but I wouldn't bite. At last MacEachern got to the point and demanded a copy of whatever I had sent to Estey. He knew the exact time my letter had been picked up and how much the delivery had cost. Sure, he could have a copy, I told him. If Estey wanted to let him have one, that was fine with me.

MacEachern and Thorneycroft were not amused, but it amused me to see them so upset that I should presume to write a letter. There wasn't much they could do about it -- or so I thought.

Two days later Thorneycroft sent us copies of a "self-explanatory" letter, dated that day, from Willard Estey to David Bell, who the chairman informed us was the "transport weenie" assigned to work with Estey. Actually David Bell was the same senior official who had forwarded the pressline advising
Bouchard on how to stonewall questions about the Gander investigation. Estey's letter referred to a telephone call from Bell "concerning the intention of members of the CASB to make submissions to me concerning their views as to the matters which I must consider."

After reflection, it strikes me that I must conduct my review within the four corners of the evidence and exhibits before the Board and, of course, the majority and minority decisions. If I were to entertain submissions from Board Members, I believe that would be both improper in law and would oblige me to hear submissions from all interested parties on an equal footing.

For that reason, it is my intention to return to you all material received from any party or person wishing to make a submission to me. I would be grateful if you would then forward along to that person the material so returned, together with a copy of this letter.

I will not read or review any such material, but will return it in the state in which I receive it.

I could hardly believe this. On the basis of one phone call, Estey had decided to ignore those who made his review necessary. We couldn't even ask what he meant by "improper in law". At the very least, Estey's letter implied that the majority had instant access and influence over his procedures. At most . . . I shuddered to think what it suggested at most. For the first time since joining the CASB I was thoroughly and utterly discouraged.

But the game was far from over. More wild cards would be dealt -- off both the top and the bottom of the deck -- before the final
Bouchard's damage control strategy got a fair reaction the first day, then rapidly unravelled. Journalists and opposition politicians soon pounced on discrepancies between the texts of the Transport department review distributed at Bouchard's press conference and the leaked version that had provoked the furor two weeks earlier.

According to the leaked version, "The Transport Canada review does not substantiate the CASB conclusion that the aircraft stalled probably due to ice-contaminated wings." In the minister's version, the conclusion had undergone a transformation: "The Aviation Group review does not dispute that the wings may have been contaminated with ice; however, the substantiated findings could also be consistent with at least one other scenario".5

Opposition members saw the alterations as "a clumsy attempt at misleading the Canadian media and the Canadian public", and called for the minister's resignation -- again.

"We wonder just what Estey is going to be asked to review . . . the version of the document prepared by officials in the department . . . or is he going to be asked to review the final document whose final text has been doctored?" asked the deputy leader of the Liberal Party.

"To respond to that kind of slander would dignify it and Mr. Bouchard has no intention of doing so," retorted a representative of the minister. But the minister's staff had a handy scapegoat; all difficulties and subterfuges were attributed to departed Assistant
Deputy Minister Claude LaFrance. LaFrance refused to comment. Bouchard weathered the attacks, but his credibility suffered and editorial support for his measures faltered.

The Estey review lost even more credibility when the media revealed that the former justice had refused to hear representations from Theresa Griffin and Zona Phillips. Estey's letter to the Phillips provided a clue to the limitations on his review. "I have been instructed by the Minister to study the record," he wrote. "My report is limited to determination as to whether the record placed before the Board supports the conclusions reached. . . . Many persons have volunteered information . . . but by reason of the nature and the limits of my retainer, such requests and offers have been respectfully declined."6

Estey also turned down Roger Lacroix's offer to give evidence, "My terms of reference do not authorize me to take any evidence," he wrote. "I am simply instructed to review the record as compiled . . . ."7

"Estey set his own terms of reference," Bouchard maintained. "He has a mandate to do what he wants."8

Incensed, the victims' next of kin cranked up the clamor in the United States. Mrs. Phillips and Mrs. Griffin came to Ottawa to plead for a full judicial review, but Bouchard refused to see them. "It wouldn't be relevant to meet them at this time," he told the press. "To meet them would prejudice the inquiry."9

Supporters of the majority believed the next of kin were butting in because of the letter I had written at Mrs. Phillips' request, the one Thorneycroft called a "ghoulish step" that was "morally
reprehensible if not illegal." A copy found its way to the Globe and Mail. The Globe hadn't seen fit to carry even the wire service reports on the scuffles in Parliament over the letter from Bouchard demanding "full and unqualified support" for Thorneycroft, but it did carry an item on "the solicitation, by a board member, of the views of the next of kin after an official report is issued."10 The story didn't make a great splash, but it did have some effect; copies of the article were distributed in the aircraft accident investigation community, and I got a lot of critical feedback.

In the meantime, Bouchard launched the final solution to dissension on the CASB -- "legislation to enhance transportation safety by establishing a new independent Board to investigate air, marine and railway accidents". The new legislation stipulated a maximum of five members. The new agency would take over investigations in progress, but would not be concerned with "closed" investigations such as Gander.

The strategy wasn't difficult to discern -- force the legislation through, before Parliament adjourned for the summer and before Estey submitted his report. Presumably Estey's report would discredit the dissenters and set the stage for granting Thorneycroft's wish to "cut the cancer out". The new streamlined board could be introduced during the summer break, without fanfare or embarrassing questions in the House of Commons.

At first, the opposition fought back. "The government's urgent desire to get the bill passed by July stems from its desire to silence four members," Liberal Transport critic Maurice Dionne told the Ottawa Citizen. "The motive of the government is all too apparent. It is an attempt to sweep under the rug the botched investigation into the crash at Gander."11 But the government
was adamant and had a majority. Bouchard saw no need to wait for Estey's report. "I don't see any link between the bill and the investigation," he said. "We know what the problem is at the CASB and we're fixing it with this bill."12

The opposition rumbled about using its majority in the Senate to force changes, but apparently the lure of the summer sun was too strong. Resistance crumbled and on June 20, 1989, the House of Commons passed the bill to supersede the CASB with the new streamlined, five-member, multi-modal agency. Estey's report was not due for another week. By that time, Parliament would have recessed for the summer.

The new law did not go into effect immediately. The government could "proclaim" it at its leisure. When the original CASB had been passed five years earlier, the government had proclaimed it in two stages. Members of the former AARB and new CASB had worked together during the six-month transition period and had continued to join in discussions on drawn-out cases for much longer. This time the government did not reveal its plans for implementing the new legislation, but no one expected a six-month transition.

Thorneycroft sent a reassuring memo to the CASB staff: "I would like to emphasize that this new legislation should not cause concern in any way for your future employment. You will simply be doing the same kind of work in a new and larger organization. . . . In the meantime enjoy the summer period."13

Fabricated Evidence

History shows that deceit in the annals of science is more common than is often assumed. Those who improved upon their
data to make them more persuasive to others doubtless persuaded themselves that they were lying only in order to make the truth prevail.

William Broad, Nicholas Wade.14

Back when Theresa Griffin had been preparing for her representation, the CASB had promised to let Harold Marthinsen, director of accident investigation for ALPA, analyze the FDR tapes at ALPA headquarters. When the CASB then changed its mind and said Marthinsen would have to do the work in Ottawa, the plans had fallen through; Marthinsen just hadn't the time. He got to examine the tape that September, but the CASB's final report soon slammed the door on further debate.

Nevertheless, the FDR data had continued to nettle Marthinsen. Eventually he compared the traces recorded at Gander with those from previous takeoffs -- a task I hadn't been able to persuade the CASB to do in two years of trying.

The altitude traces on some twenty earlier takeoffs showed fluctuations much like the ones the majority report interpreted as the signature of a stall. In the previous traces, the fluctuations disappeared as the aircraft gained altitude. Marthinsen's work plainly confirmed the contention in our minority report that "fluctuations in the altitude trace near lift-off are characteristic of the installation and not of the accident flight."

From: Neel Gupta <ngupta@hrintl.com>
Date: August 8, 1997 12:47:30 PM PDT
To: barry@corazon.com
Subject: Pan Am - 1983
Hi Barry

When I was four years old, I was involved in a plane crash. It was a Pan Am 747, and it crashed landed in Karachi, Pakistan on a flight from New Delhi to London, with a scheduled stop in Karachi. It was in the summer of 1983, I think in August. We have no documentation or tickets because they were all left on board the plane during evacuation, and were never returned. I cannot find any information about this crash, and I would really like to know what happened. I was wondering if you could help.

Thanks,
Neel Gupta

p.s. Please reply to neel@writeme.com
Hi Barry

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Thanks,
Neel Gupta

p.s. Please reply to neel@writeme.com

Neel, a plane crash for me in 1967 has affected my whole life. It may have affected yours too. I encourage you to search the net for info. As far as I know your crash was unrelated to cargo door, my area of interest.

# 10 04.08.83 Boeing 747-121
N738PA Pan American World Airways (USA)
0(243) Karachi (Pakistan)
That's all I have but for you it's a good start, you have the date, the location, the plane number and model. No fatals, 243 on board and you were one of the 243.

The web will help you.

AUG-04-83
Final SEMMES, AL      CESSNA T188C      N3195J
Nonfatal
Final BROXTON, GA     CHAMPION 7GCAA     N2542F Nonfatal
Final DWIGHT, IL      PIPER PA-28-181     N2876X
Fatal (2)
Final MOUNT VERNON, OH PIPER PA31-310     N9135Y Incident
Final LIGONIER, IN    PIPER PA-32-300     N330D
Nonfatal
Final FRANKLIN, WI    BLACK KR1          N1369N
Fatal (1)
Final NEW LEXINGTON, OH WACO UPF-7        N29957 Nonfatal
PAKISTAN              BOEING 747-121     N738PA
Nonfatal    Sch 121 PAN AMERICAN
Final GRAND ISLE BLK, GM  BELL 206B      N39114 Nonfatal
Final WEAVERVILLE, CA  CESSNA 152        N757TE Nonfatal
Final CANTUA CREEK, CA  ROCKWELL S2R     N8874Q Nonfatal
Final LINCOLN, CA     NAVY N3N-3-2939     N87697
Nonfatal
Final STUART, FL      BELL 206B           N51DC
Nonfatal
Final ALLIANCE, NE        PIPER PA-24-235       N777EE
Nonfatal
Final AMES, IA           CESSNA 172 N          N75552
Nonfatal
Final ENOSBURG FALLS, VT  CESSNA 172          N5326R Nonfatal

http://www.ntsb.gov/Aviation/8308.htm

That URL will show you what's available. Your crash has no NTSB report, I gather. Go to NTSB and ask them about it and request the report if they have it. The report will tell you a lot.

Good Luck, you had a lot already, on August 4.

Sincerely, John Barry Smith

From: Priti Aggarwal <pritia@wam.umd.edu>
Date: August 11, 1997 2:45:45 PM PDT
To: John Barry Smith <barry@corazon.com>
Subject: Re: Pass List

I appreciate your quick response, however, I was unable to do the same. I was waiting to hear from the gentleman whom you had mentioned previously. I have not heard from him, and I was hoping that you could make another attempt to get in touch with him. I would appreciate it.
Also, in response to your questions about the Cargo door, I have no opinion on it at the moment. My main concern is obtaining a passenger listing, which will help me help someone else. Thanks.

________________________________________
Priti Aggarwal  
Finance, Decision and Info. Sciences  
College of Business and Management  
University of Maryland, College Park  
pritia@wam.umd.edu  
202/321-7748  
http://www.wam.umd.edu/~pritia

On Fri, 25 Jul 1997, John Barry Smith wrote:

   Specifically regarding a passenger listing. I have recently come to know that some family friends were passengers aboard that flight. If you have any ideas of where I could look to find such detailed information,

________________________________________
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College of Business and Management  
University of Maryland, College Park  
pritia@wam.umd.edu  
202/321-7748  
http://www.wam.umd.edu/~pritia
I’ve sent your request to a gentleman who knows about such things and hope he replies to you. What do you think of the cause being cargo door and not bomb? Decision Sciences should be based on fact and not wishful thinking.

Cargo door is fact, bomb is wishful thinking. If any of the family members wish to discuss the cause I would be glad to help.

For AI 182, the similarity to PA 103, UAL 811 and TWA 800 is too close to not be a match and must have a common cause, whatever it is.

Sincerely,

John Barry Smith

Email: barry@corazon.com
Page: http://www.corazon.com/
Hi, here's his name, ask him again. Cheers, Barry Smith

Oh boy - I do have a passenger listing lying about somewhere but I haven't dug it out for years so its probably back in India collecting dust in a corner. However, I will contact this person and ask her specifically for the names of the people she is trying to find out about. If it was one of the crew members then I will know the names for sure, otherwise I can probably get my dad to check out the names for her.

Sean
--
SEAN C MENDIS
sm148@prism.gatech.edu
sysop@hal.gt.ed.net

Sean, I received this, can you help?
Barry
I recently visited your site and got some information about the 1985 Air India Explosion over the Atlantic. I, however, need more detailed information. Specifically regarding a passenger listing. I have recently come to know that some family friends were passengers aboard that flight. If you have any ideas of where I could look to find such detailed information, I would greatly appreciate your help. Thanks in advance.

______________________________

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For AI 182, the similarity to PA 103, UAL 811 and TWA 800 is too close to not be a match and must have a common cause, whatever it is. 

Sincerely,  
John Barry Smith
From: "Stephen Hogan" <stepenh@tinet.ie>
Date: August 17, 1997 6:32:15 AM PDT
To: <barry@corazon.com>
Subject: Forward Cargo Door Cockpit Warning?
Reply-To: <stepenh@tinet.ie>

Barry,

I was very impressed with your 747 crash site. I was wondering if you could tell me if the pilots would get some kind of warning if one of the airplanes cargo doors, such as the right forward cargo door, opened and if they did, would they be able to take any action. I understand that this would all depend on the flying circumstances. Maybe you could give a few different answers for different situations such as the difference between cruising at 35,000ft travelling at 570mph or taking off or landing.

Looking forward to your reply,
Steve Hogan
From: John Barry Smith <barry@corazon.com>
Date: August 17, 1997 7:34:38 PM PDT
To: stephenh@tinet.ie
Subject: Forward Cargo Door Cockpit Warning?

I was wondering if you could tell me if the pilots would get some kind of warning if one of the airplanes cargo doors, such as the right forward cargo door, opened and if they did, would they be able to take any action.

Well, it's happened at all attitudes already. On the ground, the cargo door open light comes on. They close the door. On takeoff, the light comes on. They dump fuel land and close door. At 18000 feet with PA 125 the light stayed off, they landed and fixed door. At 22000 feet with UAL 811 the light stayed off, they landed and fixed door. At 31000 feet with AI 182, and PA 103 and 13700 feet with TWA 800, we'll never know if light came on or off as the power was immediately cut to everything.

Cheers,
Barry

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

Service Difficulty Report

------------------------------------------------------------------------------
AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747123F
Aircraft Serial No. : 20391
Difficulty Date : 04 May 1994
Operator Desig. : IPXA
A/C N Number : 677UP
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: IN AMSTERDAM DURING C-CHECK, MAINTENANCE FOUND AFT CARGO DOOR AT BS 1920 STR 39 ON INNER SIDE 'T' SECTION CRACKED. MAINTENANCE MANUFACTURED NEW 'T' SECTION AND INSTALLED RENEWED 'T' PROFILE IAW SRM 51-30-02.

Part Name : CARGO DOOR
Part Condition : CRACKED
Part/Defect Loc. : FS 1920
Overhaul : X
Submitter Code : Carrier
District Office : Southern US office #01
Aircraft Type : 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747123F
Aircraft Serial No. : 20100
A/C Total Time : 58043
A/C Total Cycles : 17232
Difficulty Date : 26 October 1994
Operator Desig. : IPXA
Operator Type : Air Carrier
A/C N Number : 674UP
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING 'C' CHECK IN AMSTERDAM, MAINTENANCE
FOUND AFT CARGO COMP TORSION BOX STA 1640-1660, DOOR ASSY CORRODED AND CRACKED AT STA 1660. REPLACED DOOR ASSY PER MM 53-21-03.

Part Name : CARGO DOOR ASSY
Part Condition : CORRODED
Part/Defect Loc. : FS 1640-1660
Name : UNITED PARCEL SERVICE CO
Submitter Code : Carrier
District Office : Southern US office #01

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747123F
Aircraft Serial No. : 20100
A/C Total Time : 58043
A/C Total Cycles : 17232
Difficulty Date : 26 October 1994
Operator Desig. : IPXA
Operator Type : Air Carrier
A/C N Number : 674UP
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING 'C' CHECK IN AMSTERDAM, MAINTENANCE
FOUND DOOR ASSY FROM TORQUE BOX AT STA 680 CORRODED. REPLACED DOOR ASSY PER MM 53-42-00.

Part Name : CARGO DOOR ASSY
Part Condition : CORRODED
Part/Defect Loc. : FS 680
Name : UNITED PARCEL SERVICE CO
Submitter Code : Carrier
District Office : Southern US office #01

Service Difficulty Report

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747122
Aircraft Serial No. : 19881
Difficulty Date : 01 August 1992
Operator Desig. : UALA
A/C N Number : 4720U
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: OAK - EXTENSIVE CORROSION TO SKIN AND SURROUNDING STRUCTURE ON THE AIRCRAFT ON THE AFT CARGO DOOR. THE CORROSION IS RESTRICTED TO THE LOWER INTERIOR DOOR AND RUNS FORWARD TO AFT. THE SKIN EXFOLIATED AT ACCESS DOOR DOUBLERS AND THE

Part Name: SKIN
Part Condition: CORRODED
Part/Defect Loc.: CARGO DOOR
Overhaul: X
Submitter Code: Carrier
District Office: Western/Pacific US office #29
Aircraft Type: 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

AT
A Code: 5230
Aircraft Manufacturer: BOEING
Aircraft Model: 747251B
Aircraft Serial No.: 21704
Difficulty Date: 13 January 1993
Operator Desig.: NWAA
A/C N Number: 622US
Precautionary Procedure: None
Nature: Other
Stage of Flight: Insp/Maint

Discrepancy/Corrective Action: DURING NON ROUTINE CHECK, FOUND CORROSION AROUND NUTPLATES ON LOWER DOOR FRAME.
INSTALLED REPAIR PER SRM 51-40-03,
FIGURE 1. L/P 0494416.

Part Name : DOOR
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
Part Time : 50670 since Overhaul
Submitter Code : Carrier
District Office : Great Lakes office #01
Aircraft Type : 12501 lbs. and over weight class

Monoplane Low Wing
Powered with 4 Engines

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 19659
Difficulty Date : 28 February 1993
Operator Desig. : TWRA
A/C N Number : 604FF
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: FORWARD CARGO DOOR CASTING HAS CORROSION.
TOTAL CYCLES 17,341.

Part Name : CASTING
Part Condition : CORRODED
Part/Defect Loc. : FWD CARGO DOOR
Part Total Time : 78473
Overhaul : X
Submitter Code : Carrier

Part Name: SKIN
Manufacture Part Number: 65B043081
Part Condition: PUNCTURED
Part/Defect Loc.: FWD CARGO DOOR
Part Time: 04876 since Overhaul
Submitter Code: Carrier
District Office: Great Lakes office #01
Aircraft Type: 12501 lbs. and over weight class
Monoplane Low Wing
AT
A Code      : 5230
Aircraft Manufacturer   : BOEING
Aircraft Model          : 747151
Aircraft Serial No.     : 19780
Difficulty Date         : 20 March 1993
Operator Desig.         : NWAA
A/C N Number            : 603US
Precautionary Procedure : None
Nature                  : Other
Stage of Flight         : Insp/Maint

Discrepancy/Corrective Action: DURING PERIODIC CHECK, FOUND DOUBLER DAMAGED ON LOWER END OF EXTERNAL SKIN NEAR THE AFT EDGE OF THE BULK CARGO DOOR. REPAIRED PER EA 66-51584, REV 'B' AND SRM 52-10-02, FIG 7, L/P 0509047.

Part Name     : DOUBLER
Manufacture Part Number : 65B045141
Part Condition : DAMAGED
Part/Defect Loc. : BULK CARGO DOOR
Overhaul      : X
Submitter Code : Carrier
District Office : Great Lakes office #01
Aircraft Type  : 12501 lbs. and over weight class

Monoplane Low Wing
Powered with 4 Engines

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AT
A Code      : 5230
Discrepancy/Corrective Action: DURING PERIODIC CHECK, FOUND AFT CARGO SILL LATCH SUPPORT TRUSS FITTING CRACKED, FS 1911. REPLACED LATCH SUPPORT TRUSS FITTING. L/P 0510746.

Part Name: TRUSS FITTING
Part Condition: CRACKED
Part/Defect Loc.: FS 1911
Overhaul: X
Submitter Code: Carrier
District Office: Great Lakes office #01
Aircraft Type: 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

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AT
A Code: 5230
Aircraft Manufacturer: BOEING
Aircraft Model: 747251B
Aircraft Serial No.: 20357
Difficulty Date: 28 March 1993
Operator Desig. : NWAA
A/C N Number : 612US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING PERIODIC CHECK, FOUND NR 10 AND NR 16 AFT CARGO DOOR LATCH SUPPORT FITTINGS CRACKED. REPLACED LATCH SUPPORT FITTINGS. L/P 0510747, 0510745.
Part Name : SUPPORT FITTING
Part Condition : CRACKED
Part/Defect Loc. : CARGO DOOR
Overhaul : X
Submitter Code : Carrier
District Office : Great Lakes office #01
Aircraft Type : 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747131
Aircraft Serial No. : 19672
Difficulty Date : 29 March 1993
Operator Desig. : TWRA
A/C N Number : 608FF
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Discrepancy/Corrective Action: SKIN AT FORWARD EDGE OF BULK CARGO DOOR APPROX 20 INCHES ABOVE THE SILL FOUND CRACKED ON B-CHECK. REPAIRED IAW 747 SRM.

Part Name: SKIN
Part Condition: CRACKED
Part/Defect Loc.: CARGO DOOR
Part Total Time: 88005
Overhaul: X
Submitter Code: Carrier
District Office: Eastern US office #15
Aircraft Type: 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

AT
A Code: 5230
Aircraft Manufacturer: BOEING
Aircraft Model: 747238B
Aircraft Serial No.: 21140
Powerplant Manufacturer: PWA
Powerplant Model: JT9D7J
Difficulty Date: 12 April 1993
Operator Desig.: UALA
A/C N Number: 159UA
Precautionary Procedure: None
Nature: Other
Stage of Flight: Insp/Maint

Discrepancy/Corrective Action: AFT CARGO DOOR BELL CRANK CRACKED OVER 270 DEGREES OF SURFACE. PART REPLACED AND DOOR
RIGGED.

Part Name : BELLCRANK
Manufacture Part Number : 65B073478
Part Condition : CRACKED
Part/Defect Loc. : AFT CARGO DOOR
Part Total Time : 58179
Overhaul : X
Submitter Code : Carrier
District Office : Western/Pacific US office #29
Aircraft Type : 12501 lbs. and over weight class
  Monoplane Low Wing
  Powered with 4 Engines
Engine Type : 750 HP and over Turbofan/Turbojet
Bypass Engine

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747123
Aircraft Serial No. : 20323
Difficulty Date : 23 April 1993
Operator Desig. : IPXA
A/C N Number : 671UP
Precautionary Procedure : Unsched. Landing
Nature : Other
Stage of Flight : Climb

Discrepancy/Corrective Action: THE SIDE CARGO LIGHT ILLUMINATED SHORTLY AFTER DEPARTURE FROM ONT. THE AIRCRAFT COULD NOT BE PRESSURIZED. THE CREW DUMPED FUEL DOWN TO MAX LANDING WEIGHT AND RETURNED TO ONT. MAINTENANCE
FOUND THE MAIN CARGO DOOR SHEAR PIN SHEARED AND REPLACED PIN. OPS CHECK WAS NORMAL.

Part Name : SHEAR PIN
Manufacture Part Number : 69B156232
Part Condition : BROKEN
Part/Defect Loc. : MAIN CARGO DR
Overhaul : X
Submitter Code : Carrier
District Office : Southern US office #01
Aircraft Type : 12501 lbs. and over weight class
                   Monoplane Low Wing
                   Powered with 4 Engines

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747143
Aircraft Serial No. : 19729
Difficulty Date : 27 April 1993
Operator Desig. : CALA
A/C N Number : 17010
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: LAX - INSPECTION FOUND AFT CARGO DOOR INTERNAL BOTTOM FRAME WEB AT AFT CORNER CORRODED. REPAIRED PER ECRA 5230-01203.
Part Name : FRAME
Part Condition : CORRODED
Part/Defect Loc. : AFT CARGO DOOR
Part Total Time : 73691
Overhaul : X
Submitter Code : Carrier
District Office : Southwestern US office #09
Aircraft Type : 12501 lbs. and over weight class
                Monoplane Low Wing
                Powered with 4 Engines

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747123
Aircraft Serial No. : 20391
Difficulty Date : 29 April 1993
Operator Desig. : IPXA
A/C N Number : 677UP
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action:
AFT LOWER CORNER, LOWER AFT CARGO DOOR, INNER SKIN OF CLOSEOUT PAN HAS LIGHT-TO-HEAVY CORROSION IN SEVERAL AREAS. MAINTENANCE CLEANED AND REPAIRED AREA IN ACCORDANCE WITH EO B747-5230-4537-A.

Part Name : SKIN
Part Condition : CORRODED
Part/Defect Loc. : AFT CRGO DR
Overhaul : X
Submitter Code : Carrier
Aircraft Type: 12501 lbs. and over weight class
   Monoplane Low Wing
   Powered with 4 Engines

AT
A Code: 5230
Aircraft Manufacturer: BOEING
Aircraft Model: 747212B
Aircraft Serial No.: 20712
Difficulty Date: 10 May 1993
Operator Desig.: EIAA
A/C N Number: 485EV
Precautionary Procedure: None
Nature: Other
Stage of Flight: Insp/Maint

Discrepancy/Corrective Action:
DURING C-CHECK INSPECTION, FOUND CORROSION IN THE FUSELAGE AFT LOWER CARGO DOOR SILL PLATE (GOUGING NOTED). PLATE IS ATTACHMENT POINT FOR LATCH FITTING. CAUSE UNKNOWN (GOUGE). REPAIR BY SPOT FACING CORRODED AREA IN IT'S ENTIRETY, INSTALL INTERFERENCE FIT REPAIR PLUG. ACCOMPLISHED PER EVERGREEN INTERNATIONAL AIRLINES (EIA) ENGINEERING CHANGE/REPAIR AUTHORIZATION (ECRA) 485-53-039-2.

(W)
Part Name: SILL PLATE
Manufacture Part Number: 65B04642
Part Condition: CORROSION
Part/Defect Loc.: AFT CARGO DOOR
Discrepancy/Corrective Action: DURING A C-CHECK, IT WAS DISCOVERED THAT THE INNER SKIN OF THE AFT CARGO DOOR HAD CORRODED AT APPROXIMATELY STA 1850 AND STRINGER 29R AT A GILLINER ATTACHMENT LOCATION. THE DAMAGE WAS REPAIRED BY CUTTING OUT THE CORROSION AND FABRICATING A REPAIR FILLER AND A REPAIR DOUBLER AND INSTALLING REPAIR PARTS WET WITH BMS 5-95 AND MS20470D-5 RIVETS. ACCOMPLISHED PER EVERGREEN INTERNATIONAL AIRLINES (EIA) ENGINEERING CHANGE/REPAIR AUTHORIZATION
Discrepancy/Corrective Action: DURING A C-CHECK IT WAS DISCOVERED THAT THE INNER SKIN OF THE AFT CARGO DOOR HAD CORRODED AT APPROXIMATELY STATION 1850 AND STRINGER 29R AT A GULLINER ATTACHMENT LOCATION. THE DAMAGE WAS REPAIRED BY CUTTING OUT THE CORROSION AND FABRICATING A REPAIR FILLER AND A REPAIR DOUBLER AND INSTALLING REPAIR PARTS WET
WITH BMS 5-95 AND MS 20470D-5 RIVETS. ACCOMPLISHED PER EIA ECRA 485-52-060-2. (W)

Part Name : SKIN
Part Condition : CORROSION
Part/Defect Loc. : FS 1850
Part Total Time : 66362
Overhaul : X
Submitter Code : Carrier
District Office : Northwest Mountain office #09
Aircraft Type : 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747123
Aircraft Serial No. : 20100
Difficulty Date : 20 July 1993
Operator Desig. : IPXA
A/C N Number : 674UP
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING C-CHECK INSPECTION, MAINTENANCE FOUND A 2 INCH CRACK IN THE RADIUS OF THE VERTICAL BRACE FOR DOOR HINGE ATTACHMENT FITTING IN THE FORWARD SIDE OF THE FORWARD DOOR HINGE.
MAINTENANCE REMOVED THE DAMAGED ANGLE,
FABRICATED A NEW PART AND INSTALLED PER SRM 51-10-01.

Part Name : ANGLE
Part Condition : CRACKED
Part/Defect Loc. : FWD CARGO DOOR
Overhaul : X
Submitter Code : Carrier
District Office : Southern US office #01
Aircraft Type : 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747251B
Aircraft Serial No. : 20357
Difficulty Date : 10 September 1993
Operator Desig. : NWAA
A/C N Number : 612US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING PERIODIC CHECK, FOUND THE AFT CARGO DOOR EXTERIOR SKIN HEAVILY CORRODED. CORROSION IS LOCATED AT LOWER AFT CORNER UNDER AN EXISTING DOUBLER. CUT OUT DAMAGED INNER BONDED SKIN AND INSTALLED FABRICATED DOUBLER PER SRM 52-10-07, FIG.7. L/P 0548934.

Part Name : SKIN
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
Overhaul : X
Submitter Code : Carrier
District Office : Great Lakes office #01
Aircraft Type : 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

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AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747451
Aircraft Serial No. : 24223
Difficulty Date : 16 September 1993
Operator Desig. : NWAA
A/C N Number : 668US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING PERIODIC INSPECTION, CORROSION WAS FOUND ON THE FORWARD CARGO DOOR FORWARD MIDSPAN LATCH TORQUE TUBE. REPLACED TORQUE TUBE AND LATCH ASSEMBLY.
Part Name : TUBE
Manufacture Part Number : 65B073396
Part Condition : CORROSION
Part/Defect Loc. : FWD CARGO DOOR
Overhaul : X
Submitter Code : Carrier
District Office : Great Lakes office #01
Aircraft Type: 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

AT
A Code: 5230
Aircraft Manufacturer: BOEING
Aircraft Model: 747238B
Aircraft Serial No.: 20535
Difficulty Date: 10 November 1993
Operator Desig.: CALA
A/C N Number: 17025
Precautionary Procedure: Unsched. Landing
Nature: Other
Stage of Flight: Climb

Discrepancy/Corrective Action:
EWR - FLT 0028 - AIRCRAFT CABIN PRESSURE
COULD NOT BE MAINTAINED ABOVE 17,000 FEET. ALL PACKS AND DUCT PRESSURE WERE NORMAL AND THERE WERE NO SYSTEM FAIL LIGHTS OR DOOR WARNING LIGHTS.
THE AIRCRAFT WAS RETURNED TO EWR.
MAINTENANCE FOUND THE AFT CARGO DOOR FORWARD PRESSURE RELIEF DOOR SHROUD CRACKED AND THE DOOR SEAL WAS MISSING.
THE DOOR SHROUD AND SEAL WERE REPLACED. THE AIRCRAFT WAS PRESSURIZED AND NO LEAKS WERE NOTED. (W)

Part Name: SHROUD
Part Condition: CRACKED
Part/Defect Loc.: AFT CARGO DOOR
Overhaul: X
Submitter Code : Carrier
District Office : Southwestern US office #09
Aircraft Type : 12501 lbs. and over weight class
   Monoplane Low Wing
   Powered with 4 Engines

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747251B
Aircraft Serial No. : 21704
Difficulty Date : 18 April 1994
Operator Desig. : NWAA
A/C N Number : 622US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action:DURING PERIODIC CHECK, FOUND DENT ON LOWER AFT CORNER OF THE AFT CARGO DOOR. BONDED DOOR SKIN ASSEMBLY IS MADE FROM .062 INCH 2024-T3 AL. MADE REPAIR PER EA 66-80153.
Part Name : SKIN
Part Condition : DENTED
Part/Defect Loc. : AFT CARGO DOOR
Overhaul : X
Submitter Code : Carrier
District Office : Great Lakes office #01
Aircraft Type : 12501 lbs. and over weight class
   Monoplane Low Wing
   Powered with 4 Engines

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Discrepancy/Corrective Action: IN AMSTERDAM DURING C-CHECK, MAINTENANCE
FOUND AFT CARGO DOOR AT BS 1920 STR 39 ON INNER SIDE 'T' SECTION CRACKED.
MAINTENANCE MANUFACTURED NEW 'T' SECTION AND INSTALLED RENEWED 'T' PROFILE
IAW SRM 51-30-02.
Part Name : CARGO DOOR
Part Condition : CRACKED
Part/Defect Loc. : FS 1920
Overhaul : X
Submitter Code : Carrier
District Office : Southern US office #01
Aircraft Type : 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines
Aircraft Serial No. : 20324
Difficulty Date : 20 June 1994
Operator Desig. : IPXA
A/C N Number : 672UP
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING 'C' CHECK AT AMS MAINTENANCE FOUND 2EA CORROSION CRACKS FOUND IN SKIN, AFT BULK CARGO DOOR AT BS 2035, STR 33/34. MAINTENANCE REMOVED CORROSION AND REPAIRED SKIN IAW SRM 53-30-03 FIG 17.
Part Name : SKIN
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
Overhaul : X
Submitter Code : Carrier
District Office : Southern US office #01
Aircraft Type : 12501 lbs. and over weight class
Monoplane Low Wing
Powered with 4 Engines

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 20353
A/C Total Time : 59816
A/C Total Cycles : 15470
Difficulty Date : 05 July 1994
Operator Desig. : IPXA
Operator Type : Air Carrier
A/C N Number : 683UP
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING 'C' CHECK AT AMS, MAINTENANCE FOUND
FWD CARGO DOOR SKIN EDGE DEFORMED AT AFT SIDE. MAINTENANCE INSTALLED
DOUBLER AND FILLER I.A.W. SRM 51-30-02, 53-30-03, AND UPS MINOR
REPAIR/ALTERATION AUTHORIZATION 747-52-0028.
Part Name : SKIN
Part Condition : DEFORMED
Part/Defect Loc. : FWD CARGO DOOR
Name : UNITED PARCEL SERVICE CO
Submitter Code : Carrier
District Office : Southern US office #01

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 20353
A/C Total Time : 59816
A/C Total Cycles : 15470
Difficulty Date : 05 July 1994
Operator Desig. : IPXA
Operator Type : Air Carrier
A/C N Number : 683UP
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action:DURING 'C' CHECK AT AMS, MAINTENANCE FOUND
LIGHT CORROSION SPOTS ON FRAME ABOVE BELL CRANK NR 3 AROUND ANCHOR NUTS AT FWD CARGO DOOR INSIDE FROM BS 623 TO 662.

Part Name : FRAME
Part Condition : CORROSION
Part/Defect Loc. : BS 623-662
Name : UNITED PARCEL SERVICE CO
Submitter Code : Carrier
District Office : Southern US office #01

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A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747227B
Aircraft Serial No. : 21682
A/C Total Time : 56664
Difficulty Date : 31 August 1994
Operator Desig. : NWAA
Operator Type : Air Carrier
A/C N Number : 635US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : MSP

Discrepancy/Corrective Action:DURING PERIODIC CHECK,
FOUND CORROSION ON AFT CARGO DOOR BOTTOM HORIZONTAL FRAME AT FS 1836. FABRICATED REPAIR AND INSTALLED.

Part Name : DOOR FRAME
Part Condition : CORRODED
Part/Defect Loc. : FS 1836
Name : NORTHWEST AIRLINES INC
Submitter Code : Carrier
District Office : Great Lakes office #01

AT A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747227B
Aircraft Serial No. : 21682
A/C Total Time : 56664
Difficulty Date : 31 August 1994
Operator Desig. : NWAA
Operator Type : Air Carrier
A/C N Number : 635US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : MSP

Discrepancy/Corrective Action: DURING PERIODIC CHECK, FOUND AFT CARGO DOOR BOTTOM HORIZONTAL FRAME CORRODED AT FS 1833. FABRICATED REPAIR AND INSTALLED.
Part Name : FRAME
Part Condition : CORRODED
Part/Defect Loc. : FS 1833
Name : NORTHWEST AIRLINES INC
Submitter Code : Carrier
District Office : Great Lakes office #01

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747227B
Aircraft Serial No. : 21682
A/C Total Time : 56664
Difficulty Date : 31 August 1994
Operator Desig. : NWAA
Operator Type : Air Carrier
A/C N Number : 635US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : MSP

Discrepancy/Corrective Action:
DURING PERIODIC CHECK, FOUND THE AFT CARGO DOOR BOTTOM HORIZONTAL FRAME CORRODED AT FS 1836. FABRICATED REPAIR AND INSTALLED.

Part Name : DOOR
Part Condition : CORRODED
Part/Defect Loc. : FS 1836
Name : NORTHWEST AIRLINES INC
Submitter Code : Carrier
District Office : Great Lakes office #01

AT
Discrepancy/Corrective Action: DURING PERIODIC CHECK, THE AFT CARGO DOOR LOWER BEAM WEB WAS FOUND WITH CORROSION AROUND NUT PLATE HOLE AT FS 1850. DISCREPANT LOWER BEAM WEB IS MADE FROM .125 INCHES 7075-T6 ALUMINUM. MADE REPAIR PER EA 66-89737.

Part Name: WEB
Part Condition: CORRODED
Part/Defect Loc.: FS 1850
Name: NORTHWEST AIRLINES INC
Submitter Code: Carrier
District Office: Great Lakes office #01
Difficulty Date : 06 September 1994
Operator Desig. : EIAA
Operator Type : Air Carrier
A/C N Number : 481EV
Precautionary Procedure : Unsched. Landing : Dump Fuel
Nature : Warning Indication
Stage of Flight : Climb

Discrepancy/Corrective Action: JFK - ON TAKEOFF AFT CARGO DOOR LT ILLUMINATED. UNABLE TO PRESSURIZE, DUMPED 50,000 POUNDS, LANDED JFK. UPON ARRIVING AT JFK, FOUND AFT CARGO VENT DOORS OPENED AND DOOR HANDLE UNLOCKED. CHECKED OPERATION OF DOOR AND HANDLE PER MM 52-34-12 AND MM 52-34-00. OPS CHECKED OK. ADJUST LATCH PIN PER MM 52-34-12 PAGE 234 AND PRESSURIZED OK. PER MM 21-31-00. OPS CHECKED OK AND INDICATION OK. (W)
Part Name : DOOR
Part Condition : NOT LATCHED
Part/Defect Loc. : CARGO COMPT
Name : EVERGREEN INTERNATIONAL AIRLINES IN
Submitter Code : Carrier
District Office : Northwest Mountain office #09

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747251F
Aircraft Serial No. : 23887
A/C Total Time : 29362
A/C Total Cycles : 6796
Difficulty Date : 20 October 1994
Operator Desig. : NW
Operator Type : Air Carrier
A/C N Number : 639US
Precautionary Procedure : Unsched. Landing
    : Dump Fuel
Nature : Warning Indication
Stage of Flight : Take Off
Station : VHHH
Flight # : 0904

Discrepancy/Corrective Action:AFTER TAKEOFF, AFT CARGO DOOR LIGHT ILLUMINATED. CREW FOLLOWED COCKPIT OPERATING PROCEDURE, DUMPED 75,000 LBS OF FUEL, AND RETURNED TO HKG. FOUND HOOK ACTUATOR DEACTIVATED. REPLACED HOOK ACTUATOR PER MM 52-71-00 AND DOOR WARNING SWITCH (S3) PER MM 52-71-00. PERFORMED CHECK AND UNITS TESTED NORMAL. AIRCRAFT RETURNED TO SERVICE.
Part Name : SWITCH
Manufacture Part Number : C210251
Part Condition : FAILED
Part/Defect Loc. : AFT CARGO
Name : NORTHWEST AIRLINES INC
Submitter Code : Carrier
District Office : Great Lakes office #01

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AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747123F
Aircraft Serial No. : 20100
A/C Total Time : 58043
A/C Total Cycles : 17232
Difficulty Date : 26 October 1994
Operator Designation : IPXA
Operator Type : Air Carrier
A/C N Number : 674UP
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING 'C' CHECK IN AMSTERDAM, MAINTENANCE FOUND AFT CARGO COMP TORSION BOX STA 1640-1660, DOOR ASSY CORRODED AND CRACKED AT STA 1660. REPLACED DOOR ASSY PER MM 53-21-03.

Part Name : CARGO DOOR ASSY
Part Condition : CORRODED
Part/Defect Location : FS 1640-1660
Name : UNITED PARCEL SERVICE CO
Submitter Code : Carrier
District Office : Southern US office #01

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A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747123F
Aircraft Serial No. : 20100
A/C Total Time : 58043
A/C Total Cycles : 17232  
Difficulty Date : 26 October 1994  
Operator Desig. : IPXA  
Operator Type : Air Carrier  
A/C N Number : 674UP  
Precautionary Procedure : None  
Nature : Other  
Stage of Flight : Insp/Maint

Discrepancy/Corrective Action: DURING 'C' CHECK IN AMSTERDAM, MAINTENANCE FOUND DOOR ASSY FROM TORQUE BOX AT STA 680 CORRODED. REPLACED DOOR ASSY PER MM 53-42-00.

Part Name : CARGO DOOR ASSY  
Part Condition : CORRODED  
Part/Defect Loc. : FS 680  
Name : UNITED PARCEL SERVICE CO  
Submitter Code : Carrier  
District Office : Southern US office #01

AT  
AC 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

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747122
Aircraft Serial No. : 19878
A/C Total Time : 80672
A/C Total Cycles : 18869
Powerplant Manufacturer : PWA
Powerplant Model : JT9D7A
Difficulty Date : 24 October 1994
Operator Desig. : UALA
Operator Type : Air Carrier
A/C N Number : 4717U
Precautionary Procedure : Emer. Descent
Nature : Warning Indication
Stage of Flight : Cruise
Station : NRT
Flight # : 0825
Discrepancy/Corrective Action: AT 37000 FEET UNABLE TO MAINTAIN CABIN PRESSURE. MADE EMERGENCY DESCENT. REPLACED MISSING SEAL ON AFT CARGO DOOR.

Part Name: SEAL
Manufacture Part Number: 60B1000010
Part Condition: MISSING
Part/Defect Loc.: CARGO DOOR
Name: UNITED AIRLINES INC.
Submitter Code: Carrier
District Office: Western/Pacific US office #29

AT
A Code: 5230
Aircraft Manufacturer: BOEING
Aircraft Model: 747251B
Aircraft Serial No.: 20357
A/C Total Time: 80753
Difficulty Date: 11 January 1995
Operator Desig.: NWAA
Operator Type: Air Carrier
A/C N Number: 612US
Precautionary Procedure: None
Nature: Other
Stage of Flight: Insp/Maint
Station: MSP

Discrepancy/Corrective Action: DURING PERIODIC CHECK, FOUND THE FORWARD CARGO DOOR ANGLE STIFFENER TO DOOR SKIN ABOVE FORWARD OPENING ARM FITTING WITH A 2 INCH CRACK. FABRICATED NEW PART FROM .063 INCH 7075-0 AND
INSTALLED REPAIR.
Part Name       : STIFFENER
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
Name           : NORTHWEST AIRLINES INC
Submitter Code : Carrier
District Office : Great Lakes office #01

------------------------------------------------------------------------------
AT
A Code        : 5230
Aircraft Manufacturer : BOEING
Aircraft Model     : 747251B
Aircraft Serial No. : 20357
A/C Total Time     : 80752
Difficulty Date    : 05 January 1995
Operator Desig.    : NWAA
Operator Type      : Air Carrier
A/C N Number       : 612US
Precautionary Procedure : None
Nature            : Other
Stage of Flight   : Insp/Maint
Station           : MSP

Discrepancy/Corrective Action: DURING PERIODIC CHECK, THE FORWARD LOWER CARGO DOOR LOWER FRAME WEB WAS FOUND CORRODED AT ELECTRICAL SWITCH HOLE. THE FRAME WEB (65B04697-601) IS MADE FROM 0.125 INCH 7075-T6 ALUMINUM. MADE REPAIR PER EA 66-93685.
Part Name       : FRAME WEB
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
Name: NORWEST AIRLINES INC
Submitter Code: Carrier
District Office: Great Lakes office #01

AT
A Code: 5230
Aircraft Manufacturer: BOEING
Aircraft Model: 747121
Aircraft Serial No.: 20347
Difficulty Date: 27 April 1995
Operator Desig.: P5CA
Operator Type: Air Carrier
A/C N Number: 832FT
Precautionary Procedure: None
Nature: Other
Stage of Flight: Insp/Maint

Discrepancy/Corrective Action: AT JFK, WHILE OPENING MAIN DECK CARGO DOOR, FOUND NR 11 AND NR 12 DOOR LATCH LOCK ARMS CRACKED. REPLACED LOCK ARMS PER GATX MM 52-32-00. AIRCRAFT RELEASED FOR SERVICE.
Part Name: LOCK ARM
Manufacture Part Number: A523H03171
Part Condition: CRACKED
Part/Defect Loc.: CARGO DOOR
Name: POLAR AIR CARGO INC
Submitter Code: Carrier
District Office: Western/Pacific US office #23

AT
A Code: 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 19648
A/C Total Time : 86895
A/C Total Cycles : 19797
Difficulty Date : 28 May 1995
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 831FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : TLV
Flight # : D CK

Discrepancy/Corrective Action: CORROSION IN ANGLE BRACKET AT CUTOUT FOR THE FORWARD CARGO DOOR. REPAIRED ANGLE BRACKET PER BOEING SRM 51-40-03.

Part Name : ANGLE
Part Condition : CORRODED
Part/Defect Loc. : FWD CARGO DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 19648
A/C Total Time : 86895
A/C Total Cycles : 19797
Difficulty Date   : 28 May 1995  
Operator Desig.   : P5CA  
Operator Type     : Air Carrier  
A/C N Number      : 831FT  
Precautionary Procedure : None  
Nature            : Other  
Stage of Flight   : Insp/Maint  
Station           : TLV  
Flight #          : D CK  
Discrepancy/Corrective Action: CORROSION IN FWD AND AFT CARGO DOOR HINGES, LEVEL 1. REMOVED CORROSION PER BOEING SRM 51-10-01 AND TREATED PER 51-10-02.  
Part Name         : HINGE  
Part Condition    : CORRODED  
Part/Defect Loc.  : CARGO DOOR  
Name              : POLAR AIR CARGO INC  
Submitter Code    : Carrier  
District Office    : Western/Pacific US office #23  

AT  
A Code            : 5230  
Aircraft Manufacturer : BOEING  
Aircraft Model    : 747132  
Aircraft Serial No. : 20246  
A/C Total Time    : 74133  
A/C Total Cycles  : 22309  
Difficulty Date   : 30 June 1995  
Operator Desig.   : P5CA  
Operator Type     : Air Carrier  
A/C N Number      : 857FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : SAT
Flight # : B CK

Discrepancy/Corrective Action: FORWARD CARGO BAY DOOR FORWARD SEAL LAND 10 INCHES AND 30 INCHES UP FROM INBOARD BOTTOM CORNER IS BENT. STRAIGHTENED PER BOEING SRM 51-40-03.
Part Name : SEAL LAND
Part Condition : BENT
Part/Defect Loc. : FWD CARGO DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 19648
A/C Total Time : 86895
A/C Total Cycles : 19797
Difficulty Date : 30 June 1995
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 831FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : TLV
Flight #: D CK

Discrepancy/Corrective Action: CRACKED ANGLE BULK CARGO DOOR INTERNAL AT AFT LOWER CORNER. REPAIRED PER BOEING SRM 51-40-03.
Part Name: ANGLE
Part Condition: CRACKED
Part/Defect Loc.: CARGO DOOR
Name: POLAR AIR CARGO INC
Submitter Code: Carrier
District Office: Western/Pacific US office #23

AT
A Code: 5230
Aircraft Manufacturer: BOEING
Aircraft Model: 747121
Aircraft Serial No.: 19648
A/C Total Time: 86895
A/C Total Cycles: 19797
Difficulty Date: 30 June 1995
Operator Desig.: P5CA
Operator Type: Air Carrier
A/C N Number: 831FT
Precautionary Procedure: None
Nature: Other
Stage of Flight: Insp/Maint
Station: TLV
Flight #: D CK

Discrepancy/Corrective Action: CORROSION IN THE LOWER AFT CARGO DOOR HINGE SEGMENTS. REMOVED CORROSION PER BOEING SRM 51-10-01, WITHIN LIMITS PER SRM
53-10-01.
Part Name : HINGE
Part Condition : CORRODED
Part/Defect Loc. : AFT CARGO DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 19648
A/C Total Time : 86895
A/C Total Cycles : 19797
Difficulty Date : 04 July 1995
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 831FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : TLV
Flight # : D CK

Discrepancy/Corrective Action:CRACK IN SKIN AT NR 4L DOOR LOWER HINGE COUTOUT. REPAIRED BY BLEND OUT, WITHIN LIMITS PER BOEING SRM 52-00-02.
Part Name : SKIN
Part Condition : CRACKED
Part/Defect Loc. : NR 4L DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23

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

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 19648
A/C Total Time : 86895
A/C Total Cycles : 19797
Difficulty Date : 03 July 1995
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 831FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : TLV
Flight # : D CK

Discrepancy/Corrective Action: CORROSION ON FORWARD CARGO DOOR HINGE OUTER SIDE. REMOVED CORROSION PER BOEING SRM 51-10-01 TREATED PER 51-10-02.

Part Name : SKIN
Part Condition : CORRODED
Part/Defect Loc. : FWD CARGO DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23

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

AT
A Code : 5230
<table>
<thead>
<tr>
<th>Aircraft Manufacturer</th>
<th>BOEING</th>
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<tr>
<td>Aircraft Model</td>
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<tr>
<td>Aircraft Serial No.</td>
<td>19648</td>
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<td>A/C Total Cycles</td>
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<tr>
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<td>03 July 1995</td>
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<td>Operator Desig.</td>
<td>P5CA</td>
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<td>Operator Type</td>
<td>Air Carrier</td>
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<td>A/C N Number</td>
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<tr>
<td>Precautionary Procedure</td>
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<td>Nature</td>
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<td>Stage of Flight</td>
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<td>Station</td>
<td>TLV</td>
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<td>DCK</td>
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Discrepancy/Corrective Action: CORROSION LOWER CARGO DOOR EXTERNAL UPPER HINGE SEGMENTS. REMOVED CORROSION PER BOEING SRM 51-10-01, 51-10-02.

<table>
<thead>
<tr>
<th>Part Name</th>
<th>HINGE</th>
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<tbody>
<tr>
<td>Part Condition</td>
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<tr>
<td>Part/Defect Loc.</td>
<td>FWD CARGO DOOR</td>
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<tr>
<td>Name</td>
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<tr>
<td>Submitter Code</td>
<td>Carrier</td>
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<td>District Office</td>
<td>Western/Pacific US office #23</td>
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</tbody>
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AT
A Code        : 5230
Aircraft Manufacturer : BOEING
Aircraft Model    : 747121
Aircraft Serial No. : 19648
A/C Total Time    : 86895
A/C Total Cycles  : 19797
Difficulty Date : 03 July 1995
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 831FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : TLV
Flight # : D CK

Discrepancy/Corrective Action: MAIN SIDE CARGO DOOR
FWD INTERIOR SIDE
PRESSURE SEAL GROOVE IS DAMAGED AND CRACKED
IN 2 PLACES. REPAIRED PER
BOEING SRM 51-40-01.
Part Name : SEAL GROOVE
Part Condition : CRACKED
Part/Defect Loc. : CARGO DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23

------------------------------------------------------------------------------
AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747132
Aircraft Serial No. : 19896
Difficulty Date : 14 May 1995
Operator Desig. : EIAA
Operator Type : Air Carrier
A/C N Number : 481EV
Precautionary Procedure : Unsched. Landing
Nature : Warning Indication
Stage of Flight : Climb

Discrepancy/Corrective Action: JFK - LOG PAGE A3752 - AFT CARGO LIGHT ILLUMINATED ON TAKEOFF ROLL ALONG WITH CARGO DOOR ANNUNCIATOR LIGHT ON PILOTS CLEAR SHIELDS. ABNORMAL CHECKLIST COMPLETED AND LANDING WAS UNEVENTUAL. FOUND LOWER AFT CARGO DOOR VENT DOOR RELEASE HANDLE OPEN. RESECURED HANDLE AND OPERATED HANDLE NUMEROUS TIMES. LIGHT OPERATED NORMALLY IAW MM 52-34-0. OPERATION OF AFT CARGO DOOR VENT DOOR HANDLE AND TRIGGER ASSY AND INDICATION SYSTEM ALL CHECKED OK. (X) Part Name : VENT DOOR HANDLE Part Condition : NOT SECURED Part/Defect Loc. : CARGO DOOR Name : EVERGREEN INTERNATIONAL AIRLINES IN Submitter Code : Carrier District Office : Northwest Mountain office #09

----------------------------------------
AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747122
Aircraft Serial No. : 19757
A/C Total Time : 72049
A/C Total Cycles : 18120
Difficulty Date : 09 August 1995
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 852FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : SIN
Flight # : C CK

Discrepancy/Corrective Action: CORROSION ON ANGLE ON AFT CARGO DOOR, FORWARD OF NEGATIVE PRESSURE RELIEF VALVE CUTOUT. REPLACED ANGLE.
Part Name : ANGLE
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 19642
A/C Total Time : 90326
A/C Total Cycles : 20211
Difficulty Date : 02 October 1995
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 830FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Discrepancy/Corrective Action: UPON ARRIVAL VCP, UNABLE TO OPEN SIDE CARGO DOOR. WHILE ATTEMPTING TO TROUBLESHOOT DOOR HYDRAULIC PROBLEM, DOOR HYDRAULIC RESERVOIR RUPTURED. FOUND BENT LINE CAPPED WHICH CAUSED RUPTURE. REPLACED RESERVOIR IAW MM 52-35-00.

Part Name: RESERVOIR
Manufacture Part Number: A290K09089
Part Condition: RUPTURED
Part/Defect Loc.: CARGO DOOR
Name: POLAR AIR CARGO INC
Submitter Code: Carrier
District Office: Western/Pacific US office #23

AT
A Code: 5230
Aircraft Manufacturer: BOEING
Aircraft Model: 747123
Aircraft Serial No.: 20323
A/C Total Time: 56907
A/C Total Cycles: 17274
Difficulty Date: 24 October 1995
Operator Desig.: IPXA
Operator Type: Air Carrier
A/C N Number: 671UP
Precautionary Procedure: None
Nature: Other
Stage of Flight: Insp/Maint

Discrepancy/Corrective Action: WHILE IN AMS FOR C-
CHECK, MAINTENANCE FOUND A CRACK IN AFT LOWER CORNER OF DOOR 4 LT, DURING INTERNAL INSPECTION. MAINTENANCE REPAIRED THE CRACK IAW SRM 52-10-02 FIGURE 10.

<table>
<thead>
<tr>
<th>Part Name</th>
<th>CORNER</th>
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</thead>
<tbody>
<tr>
<td>Part Condition</td>
<td>CRACKED</td>
</tr>
<tr>
<td>Part/Defect Loc.</td>
<td>L4 DOOR</td>
</tr>
<tr>
<td>Name</td>
<td>UNITED PARCEL SERVICE CO</td>
</tr>
<tr>
<td>Submitter Code</td>
<td>Carrier</td>
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<tr>
<td>District Office</td>
<td>Southern US office #01</td>
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</table>

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747121
Aircraft Serial No. : 19648
A/C Total Time : 87819
A/C Total Cycles : 20017
Difficulty Date : 29 November 1995
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 831FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : BFM
Flight # : B CK

Discrepancy/Corrective Action: FOUND RUST ON BOLT AND HOLE AT NR 3 LATCH LOWER ATTACH POINT FOR AFT CARGO DOOR. REMOVED CORROSION PER SRM 51-10-01,
TREATED AND PRIMED PER SRM 51-10-02.

Part Name : BOLT
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747151
Aircraft Serial No. : 19780
A/C Total Time : 80922
Difficulty Date : 30 November 1995
Operator Desig. : NWAA
Operator Type : Air Carrier
A/C N Number : 603US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : MSP

Discrepancy/Corrective Action: DURING PERIODIC CHECK, FOUND CORROSION ON THE AFT CARGO DOOR LOWER BEAM WEB BS 1850 AND BS 1900. REPAIRED WEB (P/N 65B04721-1) PER EA 66-104402, EA 66-104387.

Part Name : WEB
Part Condition : CORRODED
Part/Defect Loc. : FS 1850-1900
Name : NORTHWEST AIRLINES INC
Submitter Code : Carrier
AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747124
Aircraft Serial No. : 19733
A/C Total Time : 53047
A/C Total Cycles : 18683
Difficulty Date : 18 January 1996
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 855FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : TLV
Flight # : C CK

Discrepancy/Corrective Action: FOUND LEVEL ONE CORROSION ON FWD DOOR UPPER HINGE CONNECTING TO FUS SKIN BS 560 TO 660. REMOVED CORROSION IAW SRM 51-10-01, FOUND WITHIN LIMITS OF SRM 53-10-01.
Part Name : HINGE
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747124
Aircraft Serial No. : 19733
A/C Total Time : 53047
A/C Total Cycles : 18683
Difficulty Date : 18 January 1996
Operator Desig. : P5CA
Operator Type : Air Carrier
A/C N Number : 855FT
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : TLV
Flight # : C CK

Discrepancy/Corrective Action: FOUND LEVEL ONE CORROSION ON AFT CARGO DOOR
UPPER HINGE CONNECTING TO FUS SKIN BS 1820 TO 1960. REMOVED CORROSION IAW SRM 51-10-01, FOUND WITHIN LIMITS OF SRM 53-10-01.
Part Name : HINGE
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
Name : POLAR AIR CARGO INC
Submitter Code : Carrier
District Office : Western/Pacific US office #23

------------------------------------------------------------------------
AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 7472J9F
Aircraft Serial No. : 21668
A/C Total Time : 45543
Difficulty Date : 30 January 1996
Operator Desig. : NWAA
Operator Type : Air Carrier
A/C N Number : 630US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : MSP

Discrepancy/Corrective Action: DURING P-CHECK, FOUND A CRACK IN THE AFT CARGO DOOR LATCH HOOK FITTING, LOWER FORWARD CORNER. REPLACED FITTING.
Part Name : FITTING
Part Condition : CRACKED
Part/Defect Loc. : CARGO DOOR
Name : NORTHWEST AIRLINES INC
Submitter Code : Carrier
District Office : Great Lakes office #01

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747251F
Aircraft Serial No. : 21321
A/C Total Time : 61141
Difficulty Date : 20 January 1996
Operator Desig. : NWAA
Operator Type : Air Carrier
A/C N Number : 619US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : MSP


Part Name : BEAM
Part Condition : CORRODED
Part/Defect Loc. : FS 585-610
Name : NORTHWEST AIRLINES INC
Submitter Code : Carrier
District Office : Great Lakes office #01

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747251F
Aircraft Serial No. : 21321
A/C Total Time : 61141
Difficulty Date : 24 January 1996
Operator Desig. : NWAA
Operator Type : Air Carrier
A/C N Number : 619US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : MSP

Discrepancy/Corrective Action: DURING PERIODIC CHECK, FOUND CORROSION ON THE AFT CARGO DOOR LOWER BEAM WEB BS 1880. REPAIRED WEB (P/N 65B04721-1) PER
EA 67-99380.
Part Name : WEB
Part Condition : CORRODED
Part/Defect Loc. : FS 1880
Name : NORTHWEST AIRLINES INC
Submitter Code : Carrier
District Office : Great Lakes office #01

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747251B
Aircraft Serial No. : 23111
A/C Total Time : 45787
A/C Total Cycles : 7155
Difficulty Date : 03 March 1996
Operator Desig. : NWAA
Operator Type : Air Carrier
A/C N Number : 631US
Precautionary Procedure : Unsched. Landing
Nature : Warning Indication
Stage of Flight : Cruise
Station : RPMM
Flight # : 0007

Discrepancy/Corrective Action: DURING CRUISE, PRESSURIZATION AUTO FAIL LIGHT ILLUMINATED ACCOMPANIED BY A LOSS OF PRESSURIZATION. AIRCRAFT DIVERTED TO MNL AND LANDED WITHOUT INCIDENT. REPLACED AIR/GROUND RELAY R229, RIGHT OUTFLOW VALVE ACTUATOR AND AUTO PRESSURE
CONTROLLER. REPAIRED DENT IN FORWARD CARGO DOOR DEPRESSOR SEAL AND OPERATIONAL CHECK GOOD.

Part Name : SEAL
Part Condition : DAMAGED
Part/Defect Loc. : CARGO DOOR
Name : NORTHWEST AIRLINES INC
Submitter Code : Carrier
District Office : Great Lakes office #01

AT
A Code : 5230
Aircraft Manufacturer : BOEING
Aircraft Model : 747151
Aircraft Serial No. : 19778
A/C Total Time : 83077
Difficulty Date : 29 February 1996
Operator Desig. : NWAA
Operator Type : Air Carrier
A/C N Number : 601US
Precautionary Procedure : None
Nature : Other
Stage of Flight : Insp/Maint
Station : MSP

Discrepancy/Corrective Action: DURING P-CHECK, FOUND CORROSION ON THE BULK CARGO DOOR FORWARD LOWER CORNER FRAME. REPAIRED FRAME (P/N 65B07094-1) PER EA 66-99453.

Part Name : FRAME
Part Condition : CORRODED
Part/Defect Loc. : CARGO DOOR
From: "Eduardo Gimenez" <egimenez@cvtci.com.ar>
Date: August 20, 1997 4:32:53 PM PDT
To: <barry@corazon.com>
Subject: your TWA-800 crash analysis

I have read very carefully your analysis of the FYT 800. It is very professional and I sincerely congratulate you for such work. Have you consider the possibly of an explosive loss of cabin presurization due to stresses fatigue of the metal primary airframe structure.

best regards,

From: "Stephen Hogan" <stephenh@tinet.ie>
Date: August 21, 1997 10:40:50 AM PDT
To: "John Barry Smith" <barry@corazon.com>
Subject: Thanks very much for fwd cargo door info.
Reply-To: <stephenh@tinet.ie>
Dear John,

Thanks a lot for your reply concerning my fwd cargo door warning system query, it was very helpful. I'm writing to you again in the hope that you might be able to help me with another query that I am having trouble finding information about.

As a general rule I am not afraid of flying, but I will admit to being a cautious flyer I like to be able to trust the airline or aircraft that I fly with or on. When in the 'western world' finding trustworthy airlines and airplains is relatively easy! However next January my university is sending me to Colombia to teach as part of my degree course (co-op / workexperience). Getting to Colombia is completely stress free, (Dublin-London, Aer Lingus, NO ACCIDENTS GOOD SAFETY PROCEDURES. London-Bogota, British Airways, ONE ACCIDENT 1976 PROBABLY NOT THERE FAULT, EXCELLENT SAFETY PROCEDURES.)

But my final destination is a city called Bucaramanga. So I will have to fly a domestic Colombian airline from Bogota to Bucaramanga, probably on either Avianca or SAM, Avianca being the one that I would trust the most, 4 accidents since 1970 only two of which can be blamed on
Avianca. Anyway to get to the point Avianca use 4 types of plane - MD83(VERY SAFE), 2 types of 757's(safe)_757-2YO + 757-259 ER_, and finally Fokker F27 MK 050.

I know very little about the F27 and I would be very interested in your opinion of both Colombian aviation and the Fokker F27.

Thanks again for you help,
Steve Hogan

From: John Barry Smith <barry@corazon.com>
Date: August 21, 1997 6:44:01 PM PDT
To: <stephenh@tinet.ie>
Subject: Columbia

So I will have to fly a domestic Colombian airline from Bogota to Bucaramanga, probably on either Avianca or SAM, Avianca being the one that I would trust the most, 4 accidents since 1970 only two of which can be blamed on Avianca. Anyway to get to the point Avianca use 4 types of plane - MD83(VERY SAFE), 2 types of 757's(safe)_757-2YO + 757-259 ER_, and finally Fokker F27 MK 050.

I know very little about the F27 and I would be very interested in your
opinion of both Colombian aviation and the Fokker F27.

Don't know enough to give opinion, sorry.
Here's what you can do:
1. Only fly in good weather. Find out the destinatin weather and if it's bad, cancel, and to another time.
2. Look close at plane. Look for leaks, condition etc. If it looks patched, don't take it.
3. Check out pilots. Look professional? Ok
4. If problems occur on taxi and plane has to return to ramp for repairs, cancel and go next day.
Only fly when it feels right.

Do those things and you will have done just about all you can do.
Cheers, John Barry Smith

From: liskd.skynet@dnet.co.uk (David Lisk)
Date: August 25, 1997 1:43:08 PM PDT
To: barry@corazon.com
Subject: From: SkyNet, Cargo door research
Reply-To: liskd.skynet@dnet.co.uk

Barry,

I must say your site is very comprehensive, excellent. I have added a
link from my "Airline Crash Research site" which is a collection of
articles and sites on air incidents. This is located at:

http://www.d-n-a.net/users/dnetGOjg/Research.htm
My own sites are included at this location, "Major Airline Disasters 1920-1997" and my own research Paper, "Structural Breakup of Commercial Airliners" however this is not as detailed as your work yet.

Regards,
David Lisk

---

From: John Barry Smith <barry@corazon.com>
Date: August 25, 1997 6:10:38 PM PDT
To: liskd.skynet@dnet.co.uk
Subject: Nice site

Well done, David, very comprehensive, we the civilians are doing what the government should be doing. Patterns can emerge from your data collection.

There are two reports I am interested in which may be cargo door related. It's when that pesky number three engine fods and falls off. Could be fod from the baggage compartment. Two engine three falling off crashes:
29/12/1991

Wanli, Taiwan

47-2R7F

Air China

Engine Fell off
If you ever get those reports, please tell me so I can examine them to rule them in or out for cargo door.

Thanks for linking to and reporting on my site. It is a big deal. I linked to you on my contents page, it's in the Links section.

Sincerely,
Barry Smith

From: "russell" <tinman@wf.net>
Date: August 24, 1997 5:33:11 PM PDT
To: <barry@corazon.com>
Subject: I hear ya.

Barry,
I want you to know that I wish I would have knew that you were out there a year ago when I took a trip out to Las Vegas. I left DFW with my
girlfriend at 6:00am to Phoenix. I had only flew once and that was in a cropduster and I knew from the experience that if I could handle that, (which I enjoyed), the big plane would not bother me, however as we neared the city, I could hear them bumping the landing gear which I told my girlfriend. She at first told me I was jumping to conclusions but as we starting circling the city and as we were sitting on the wing and feeling it through our feet she concurred. We did land safely after coming in nose down and I questioned the flight crew as we were leaving the plane but they denied any problem but I watched while we were waiting for the next flight and instead of leaving at the scheduled time that plane pulled off to the side and was still there when our flight left. Needless to say, I did not have a good time on my vacation not because of the possibility of a problem, but because I was lied to and if I was ignorant I would have never known there was a problem and I will never get on a plane again unless it is life or death and then it wouldn't matter anyway. I have never forgotten the flight that came into Sioux Falls in 89 and at that time flying wouldn't have bothered me. The info you gave seems to
lead to something that someone should acknowledge. Have they ever contacted you?
Seems to me that the main problem is that our planes are old that they were built during the time that oil prices were good and production was great and people were traveling all over the world not worried about prices because the people that were traveling were oilfield or oilfield related, and now we have people from all kinds traveling that much more and the airlines are struggling and really when you get down to it, people don't take pride in their work anymore. Look around you at your friends at what kind of pride they take in their work and you think I am going to risk my family with those kind of work problems? I don't think so!!!!!!!!!!
Later.

From: Bill Long <b_long@intertex.net>
Date: August 27, 1997 2:10:23 PM PDT
To: barry@corazon.com
Subject: AERO webring
Reply-To: b_long@intertex.net

Please see http://www.intertex.net/aero/airring.html for instructions
on downloading the HTML code to run the ring. Place the code on
your page, please not on a separate links page. Be sure to make the
&id= parameter changes to reflect your site id. You may re-
design
the HTML to better fit your page or translate the English into
your native language. Please let me know when the code is in place
and I will activate your page.
Thanks for your interest in the AERO webring.
Keep it on the center-line,
Bill Long
Houston, TX

From: Aviation Ring <b_long@intertex.net>
Date: August 27, 1997 1:24:24 PM PDT
To: barry@corazon.com
Subject: Aviation Ring submission
Reply-To: b_long@intertex.net

Your site has been registered with the Webring below:

    Ring: Aviation Ring (aero)

Your site information (as submitted)

    Site ID: 138   (don't forget this!)
    Title: TWA 800 Pan Am 103 Air India 182 crash causes
    URL: http://www.corazon.com/crashcontentspagelinks.html
    E-mail: barry@corazon.com
    Password: m20cc   (don't forget this!)
Please note that your site is NOT yet in the ring. The next step is to have the ringmaster (b_long@intertex.net) add you to the ring. Instructions can be found on the Aviation Ring homepage at

http://www.intertex.net/aero/airring.html

If the information above is incorrect, you can edit your site information by entering your Site ID and password at the URL

http://http://www.webring.org/cgi-bin/webring?ring=aero;edit

Aviation Ring
b_long@intertex.net

From: Dana J <DanaJ1@sj.bigger.net>
Date: August 27, 1997 6:57:53 PM PDT
To: barry@corazon.com
Subject: I have read this...

And just HAVE to ask if you have of course reported you conclusions to
F AA, NTSB, or TV shows such as Dateline, Primetime, etc.
Have you heard
ANYTHING back from these? From all of the speculation that I have
followed over the past year, your theory sounds the most logical.
I hope SOMEBODY listens.
DJ

From: John Barry Smith <barry@corazon.com>
Date: August 27, 1997 7:07:38 PM PDT
To: Dana J <DanaJ1@sj.bigger.net>
Subject: Yes.

And just HAVE to ask if you have of course reported you conclusions to
F AA, NTSB, or TV shows such as Dateline, Primetime, etc.
Have you heard
ANYTHING back from these? From all of the speculation that I have
followed over the past year, your theory sounds the most logical.
I hope SOMEBODY listens.
DJ

Yes, Yes, Yes, Yes, little, little, no, no. Thanks. Me too.
Regards, John Barry Smith

From: rees <kokomo1@ccc.cnchost.com>
Date: August 28, 1997 6:39:40 AM PDT
To: barry@corazon.com
Subject: Your web site
Read your pages (most of them anyway).

Regarding your letter to the Boeing engineers: your letter would seem a little more believable if you stopped to consider that a great many Boeing engineers are female - you've entirely disregarded them.

Seems kind of sexist to me...and if you can't acknowledge the fact that women have brains, are intelligent and can design airplanes? Well, I'd say you don't have a firm grip on reality; therefore, why should I believe anything you say?

I'd also say that you have greatly misjudged all Boeing engineers if you actually believe they would keep their mouths shut in order to protect their own jobs. You make them sound like robots or automatons, when in fact, they ARE fathers, mothers and concerned members of society.

The only reason why you label them inaccurately is because they haven't come running to support your theory. Seems a little arrogant to me...contrary to your opinion, the government, airplane manufacturers, et al. -- ALL have an interest in FINDING the problem, not covering it up.
I agree with you on one point. The Internet is a valuable communication tool -- instant access to millions worldwide. Unfortunately, the ease of publishing a web site often gives millions worldwide access to the ravings of an egocentric, sensationalist hero-wannabe...bet you're pretty happy about that, huh?

Get a grip, fella. There's enough real problems in the world for someone like you to deal with. You write fairly well -- why don't you put that to good use on a real problem instead of seeking the exploit these tragedies?

From: Albert Casanovas i Marull <egipto@arrakis.es>
Date: August 29, 1997 3:22:42 AM PDT
To: barry@corazon.com
Subject: hello from spain
Reply-To: egypto@arrakis.es

hello barry,my name is albert ,im interesting a crash a boeing«s 747 PAN AM and KLM in "los rodeos" airport ,Tenerife island (Spain),data 27.03.1977.
thank you and excusme or my englihs.
hello barry, my name is albert, i'm interesting a crash a boeing 747 PAN AM and KLM in "los rodeos" airport, Tenerife island (Spain), data 27.03.1977.

thank you and excuseme or my englihs.

Here's something:

Regards,
John Barry Smith

# 6) 27.03.77 (17.06) Boeing 747-121 N736PA (19643/11) Pan American World Airways 335 fatalities / 396 occupants + 248 Location: Tenerife (Spain) Nature: Non Scheduled Passenger Phase: from: Tenerife-Norte Los Rodeos to: Las Palmas Flightnr.: PA1736 At 12.30h a bomb explodes in the Las Palmas passenger terminal. Because of warnings of a possible second bomb, the airport was closed. A large number of flights were diverted to Tenerife, a.o. KLM Flight 4805 from Amsterdam and PanAm Flight 1736 (coming from Los Angeles and New York).

Las Palmas Airport opened to traffic again at 15.00h. Because the PanAm passengers remained
on aboard it was possible to leave Tenerife at once. The
taxiways were congested by other
aircraft however. This meant the PanAm crew had to backtrack
on Runway 12 for take-off on Runway 30. The
entrance to Runway 12 however,
was blocked by the KLM Boeing. The PanAm flight had to wait
for almost 2 hours before all KLM passengers (except
1) had reboarded and refuelling had
taken place. The KLM flight was then cleared to backtrack
Runway 12 and make a 180deg. turn at the end. Three
minutes later (at 17.02h) Pan Am
1736 was cleared to follow the KLM aircraft and backtrack
Runway 12. The PanAm crew were told to leave the
runway at the third taxiway and
report leaving the runway. At 17.05:44h KLM 4805 reported
ready for take-off and was given instructions for a Papa
beacon departure. The KLM crew
repeated the instructions and added "We are now at take-off".
The brakes were released and KLM 4805 started the
take-off roll. Tenerife tower,
knowing that Pan Am 1736 was still taxying down the runway
replied "OK ...... Stand by for take-off, I will call you." This
message coincided with the PanAm
crew's transmission "No ... uh we're stil taxiing down the runway,
the Clipper 1736". These communications
caused a shrill noise in the KLM
cockpit, lasting approx. 3.74 seconds. Tenerife tower replied:
"Papa Alpha 1736 report runway clear.", wereupon the
PanAm crew replied: "OK, will
report when we're clear". This caused some concerns with the
KLM flight engineer asking the captain: "Is he not clear
then?" After repeating his question
the captain answers emphatically: "Oh, yes". A number of second
before impact the KLM crew saw the PanAm Boeing still taxiing down the runway. The crew tried to climb away and became airborne after a 65ft taildrag in an excessive rotation. The PanAm crew immediately turned the aircraft to the right and applied full power. The KLM aircraft was airborne, but the fuselage skidded over the PanAm's aft fuselage, destroying it and shearing off the tail. The KLM aircraft flew on and crashed out of control 150m further on, sliding another 300m bursting into flames. PROBABLE CAUSE: "The KLM aircraft had taken off without take-off clearance, in the absolute conviction that this clearance had been obtained, which was the result of a misunderstanding between the tower and the KLM aircraft. This misunderstanding had arisen from the mutual use of usual terminology which, however, gave rise to misinterpretation. In combination with a number of other coinciding circumstances, the premature take-off of the KLM aircraft resulted in a collision with the Pan Am aircraft, because the latter was still on the runway since it had missed the correct intersection."


# 7) 27.03.77 (17.06) Boeing 747-206B PH-BUF (20400/157) KLM Royal Dutch Airlines
248 fatalities / 248 occupants + 335

Location: Tenerife (Spain)

Nature: Non Scheduled Passenger

Phase: Take-off from: Tenerife-Norte Los Rodeos to: Las Palmas Flightnr.: KL4805

At 12.30h a bomb explodes in the Las Palmas passenger terminal. Because of warnings of a possible second bomb, the airport was closed. A large number of flights were diverted to Tenerife, a.o. KLM Flight 4805 from Amsterdam and PanAm Flight 1736 (coming from Los Angeles and New York).

Las Palmas Airport opened to traffic again at 15.00h. Because the PanAm passengers remained on aboard it was possible to leave Tenerife at once. The taxiways were congested by other aircraft however. This meant the PanAm crew had to backtrack on Runway 12 for take-off on Runway 30. The entrance to Runway 12 however, was blocked by the KLM Boeing. The PanAm flight had to wait for almost 2 hours before all KLM passengers (except 1) had reboarded and refuelling had taken place. The KLM flight was then cleared to backtrack Runway 12 and make a 180deg. turn at the end. Three minutes later (at 17.02h) Pan Am 1736 was cleared to follow the KLM aircraft and backtrack Runway 12. The PanAm crew were told to leave the runway at the third taxiway and report leaving the runway. At 17.05:44h KLM 4805 reported ready for take-off and was given instructions for a Papa beacon departure. The KLM crew repeated the instructions and added "We are now at take-off". The brakes were released and KLM 4805 started the
take-off roll. Tenerife tower, knowing that Pan Am 1736 was still taxiing down the runway replied "OK ...... Stand by for take-off, I will call you." This message coincided with the PanAm crew's transmission "No ... uh we're still taxiing down the runway, the Clipper 1736". These communications caused a shrill noise in the KLM cockpit, lasting approx. 3.74 seconds. Tenerife tower replied: "Papa Alpha 1736 report runway clear.", wereupon the PanAm crew replied: "OK, will report when we're clear". This caused some concerns with the KLM flight engineer asking the captain: "Is he not clear then?" After repeating his question the captain answers emphatically: "Oh, yes". A number of second before impact the KLM crew saw the PanAm Boeing still taxiing down the runway. The crew tried to climb away and became airborne after a 65ft taildrag in an excessive rotation. The PanAm crew immediately turned the aircraft to the right and applied full power. The KLM aircraft was airborne, but the fuselage skidded over the PanAm's aft fuselage, destroying it and shearing off the tail. The KLM aircraft flew on and crashed out of control 150m further on, sliding another 300m bursting into flames. PROBABLE CAUSE: "The KLM aircraft had taken off without take-off clearance, in the absolute conviction that this clearance had been obtained, which was the result of a misunderstanding between the tower and the KLM aircraft. This misunderstanding had arisen from the mutual use of usual terminology which, however, gave rise to misinterpretation. In combination with a number of other coinciding circumstances, the premature
take-off of the KLM aircraft resulted in a collision with the Pan Am aircraft, because the latter was still on the runway since it had missed the correct intersection."


From: John Barry Smith <barry@corazon.com>
Date: August 29, 1997 9:42:11 PM PDT
To: san_k11@ns.aanet.ru
Subject: Re: about the cause of the crash of BOEING-747,TWA800

Thank you, checking out website address.
Best regards, John Barry Smith

Please look at http://www.aanet.ru/nauka/siniakov/
Best regards professor Alexandre Siniakov

From: "Hovav Frenkel" <hfrenkel@sprynet.com>
Date: August 30, 1997 2:56:10 PM PDT
To: <barry@corazon.com>
Subject: 4X-AXG El Al (Israel)
Reply-To: "Hovav Frenkel" <hfrenkel@usa.net>

Hello Barry,

I visited your 747 Crashes site. Great work. Can you tell me
where I can find info (on the Net) regarding the crash of El Al B747 Cargo (subject matter above)?

Thanks and have a good weekend.

Hovav Frenkel

---------------------------------------------------------------
Please respond to <hfrenkel@usa.net>

Visit me at http://www.geocities.com/SouthBeach/Lights/1042
---------------------------------------------------------------

From: John Barry Smith <barry@corazon.com>
Date: August 30, 1997 4:21:55 PM PDT
To: hfrenkel@usa.net
Subject: Re: 4X-AXG EL AL (Israel)

Can you tell me where I can find info (on the Net) regarding the crash of El Al B747 Cargo (subject matter above)?

Thanks and have a good weekend.

Hovav Frenkel
Dear Hovav Frenkel, let's stay in touch, what is your interest in El Al 1862? I'm trying to buy the official report from Israel but can't get an address. I'm about to add this crash to the Cargo door page.

What does Honza thinks about the cargo door crash causes? Boui...my wife is from the Philippines.
Sincerely, Johnny B. Goode Barry Smith

Boeing 747
Confirmed forward cargo door caused incidents/accidents:
UAL 811
PA 125
Probable forward cargo door caused accidents:
AI 182
PA 103
TWA 800
Possible forward cargo door caused accidents:
China Airlines
El Al Flight 1862

Two possible cargo door caused crashes, pending further investigation are:
December 29, 1991, Boeing 747-2R7
China Airlines (Taiwan) Freighter, five on board, all killed.
Wanli; near (Taiwan)
Aircraft reported two starboard engines lost and crashed shortly after takeoff.

October 4, 1992, Boeing 747-258F
El Al (Israel) Four on board, all killed and 47 on the ground
Amsterdam (Netherlands)
Aircraft crashed shortly after takeoff.

The number three engine of above two Boeing 747s came off in flight, it then took number four engine with it as it fell away.
Both aircraft subsequently crashed killing all aboard. The official cause was corroded fuse pins had failed. The fuse pins hold the pylon which holds the engine to the wing.

The various permutations that two airplanes with four engines could have with each having an 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 would not be considered, for only one could the opening 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 three that failed, defying the random chances of corroded fuse pins failing. In addition, the flight mode of climbing (increasing internal air pressure,) is when most cargo door openings occur. More confirming evidence is required but difficult to get from China or Israel.

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 cargo door caused crashes of Boeing 747s, the number three engine was fodded and detached from the wing early in the destruction sequence. On the fourth cargo door caused accident, engines number three and four were fodded so badly they vibrated and were about to fail when they were shut down by the flight crew and remained attached. When a sudden unexpected mechanical event occurs, certain mechanical events follow. There have been four confirmed instances where pylon fuse pins fail and the aircraft is there to be available for inspection. Certain sequences occurred when those fuse pins failed.

JAL, Evergreen, Air India, and NWA. They occur during a stress event such as severe turbulence or hard landing.

In flight for JAL and Evergreen:
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. Things fall from the aircraft.
There have been two unconfirmed but official explanations of fuse pin failure for two Boeing 747 crashes. The mechanical sequence which occurs after the initial sudden unexpected mechanical event does not follow the confirmed sequence, 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 a certain sequence was followed. PA 125 for the first item and UAL 811 for all. 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 is severely affected up to failure. Flaps are affected. Things fall from the aircraft. Fire for engine number 3 was caused by objects from forward baggage hold after cargo door opened. Engine number 4 object damage caused by baggage objects and debris from on fire failing engine number 3. The two possible cargo door caused crashes, El Al 1862 and the Wanli China airlines, followed a mechanical sequence after the sudden unexpected event. 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.
Things fall from the aircraft.
The crash pattern for El Al and China Wanli fits the forward cargo door opening sequence better than the confirmed fuse failing, pylon and engine falling off sequence.
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 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 fire and they indicated they later lost an engine but they did not indicate loss of thrust. 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 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.]"

So, which one is more credible? 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 occurred?

Assume the pilot was correct and the crew reports corroborate the eyewitness report of fire on right wing. Can a fuse pin failing cause a fire and knock off adjacent engine? Maybe, never been done but possible. Fuse pin failing did not affect adjacent engine in confirmed fuse pin failures. Can a door opening and stuff pushed out and foddering engine causing fire in number 3 and affecting adjacent engine? Certainly, been done on confirmed accident.

If fuse pins goes, the engine does not dangle there for a while. It goes immediately.

If door opens and engine Fodded, it catches fire and continues to hang on to wing up to delayed destruction.

Reading the CVR for El Al as a foddered number 3, the sequence all fits with eyewitness corroboration, crew reports and destruction sequence which does things that have happened before.

For fuse pin the crew has to be wrong, the corroborated eyewitnesses have to be wrong, the destruction sequence has to do things that haven't happened before.
Note pilot was consistent. He said fire on three and lost 3 and four later on. He's not confused, like the tower. Crew was precise, repeating the important stuff. Between fire call and 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 wiring to fit a pin explanation is not right.

To assume crew was correct, corroborated eyewitnesses, and previous similar accidents are correct is right. More information is required to rule in or rule out forward cargo door opening in flight for El Al and China Wanli.

FLIGHT SAFETY FOUNDATION
Vol. 53 No.1 For Everyone Concerned with the Safety of Flight
January 1996
Accident Prevention
Two Engines Separate from the Right Wing and Result in Loss of Control and Crash of Boeing 747 Freighter
marginal controllability, a safe landing became highly improbable, if not virtually impossible.Ó
The investigation was hampered because the cockpit voice recorder (CVR) was never found. The digital flight data recorder (DFDR) was severely damaged, but the data concerning the accident flight were recovered.
The B-747-200 freighter was owned and operated by El Al Israel Airlines. The accident aircraft arrived in Amsterdam at 1540 hours local time, after flying from John F. Kennedy International Airport, New York, New York, U.S., the report said. The accident crew (captain, first officer and flight engineer) and a nonrevenue passenger boarded the aircraft after it was fueled and loaded with cargo.
At 1921, the flight departed Amsterdam. The takeoff and initial
climb were normal until 1927:30, the report said. As the aircraft climbed through 6,500 feet, the No. 3 and No. 4 pylons and engines separated from the right wing. The first officer then transmitted to air traffic control (ATC), ÒEl Al 1862, Mayday, Mayday, we have an emergency,Ó the report said. ÒThe aircraft turned to the right and, according to witnesses on the ground, started dumping fuel,Ó the report said. The Amsterdam Radar controller acknowledged the flightÕs emergency call, and cleared the area of other traffic. After confirming that the crew wanted to return to Schiphol Airport, the controller instructed the flight to turn to a heading of 260. The crew of the Boeing 747-200 freighter made a normal takeoff from Schiphol Airport, Amsterdam, Netherlands, on an instrument flight rules (IFR) flight plan to Tel Aviv, Israel. Seven and a half minutes later, while the aircraft was climbing through 6,500 feet (1,982 meters), the No. 3 pylon and its engine separated from the right wing and damaged part of the wingÕs leading edge. The No. 3 engine then struck the No. 4 engine, causing it to also separate from the aircraft. While attempting to return to Schiphol Airport, the crew lost control of the aircraft, which crashed into an apartment building in a suburb of Amsterdam. The three crew members and one nonrevenue passenger were killed. In addition, 43 persons on the ground were killed, 11 persons were seriously injured and 15 persons received minor injuries in the Oct. 4, 1992, accident. The final report of the Netherlands Aviation Safety Board (NASB) concluded that the probable causes of the accident were: ÒThe design and certification of the B-747 pylon was found to be inadequate to provide the required level of safety. Furthermore, the system [designed] to ensure structural integrity by inspection failed. This ultimately caused Ñ probably initiated by fatigue in the inboard midspar fuse pin Ñ the No. 3 pylon and engine to
separate from the wing in such a way that the No. 4 pylon and engine were torn off, part of the leading edge of the wing was damaged and the use of several systems was lost or limited.Ó The report concluded: ÒThis subsequently left the flight crew with very limited control of the airplane. Because of the The official report of the Netherlands Aviation Safety Board concluded that the original design of the engine pylons, together with the continuous airworthiness measures and the associated inspection system, did not guarantee the minimum required level of safety of the Boeing 747 at the time of the accident.

Editorial Staff
2 FLIGHT SAFETY FOUNDATION ¥ ACCIDENT PREVENTION ¥ JANUARY 1996

degrees. ÒAt 1928:17, the crew reported a fire on engine No. 3 and, subsequently, they indicated [a] loss of thrust on engines No. 3 and No. 4,Ó the report said. [The report attributed the flight crew’s announcement of a fire on the No. 3 engine to a Òdouble fault indication of the (engine-fire detection) system,Ó which, according to the system logic, triggered a fire warning, and the crew’s limited field of view from the cockpit to the wing area.Ó] ÒWitnesses heard one or more banging sounds, and saw a dark plume of smoke trailing the aircraft,Ó the report said. ÒSome witnesses saw objects fall. Other witnesses also saw fire on the right wing which eventually disappeared. When the aircraft turned right, two vapor trails were seen to emerge from the wingtips.Ó At 1928:57, the controller told the crew that Runway 6 was in use, and that the wind was from 40 degrees at 21 knots. ÒThe flight crew, however, requested Runway 27 for landing,Ó the
report said. ÒBecause the aircraft was only seven miles [11.3 kilometers] from the airport, and still flying at an altitude of 5,000 feet [1,525 meters], a straight-in approach was not feasible, and the crew was instructed to turn right to heading 360 and descend to 2,000 feet [610 meters]. The crew was again informed about the wind (by then 50 degrees at 22 knots).Ó

About one minute later, the controller asked the crew about the distance required for their approach. The crew replied that they needed Ò12 miles [19.3 kilometers] final for landing,Ó the report said. Together with this reply, the call ÒFlaps oneÓ could be heard in the background.

The controller instructed the crew to turn right to 100 degrees, then asked the crew about the aircraft status. The crew replied, ÒNo. 3 and [No.] 4 are out and we have problems with our flaps,Ó the report said. The aircraft turned through 100 degrees, maintaining a heading of 120 degrees. ÒNo corrective action was taken by the controller,Ó the report said. The aircraft was now maintaining 260 knots, and was in a gradual descent.

The flight was cleared for the approach, and given a heading of 270 degrees to intercept the final approach course, the report said. The aircraft was at approximately 4,000 feet (1,220 meters), and on a heading of 120 degrees. At this point, the aircraft was three nautical miles (NM) (5.5 kilometers) north of the extended centerline of Runway 27, and about 11 miles (17.7 kilometers) from the runway. ÒAccording to the radar plot, it took about 30 seconds before the aircraft actually changed heading,Ó the report said.

The controller noticed that the flight was going to overshoot the localizer, and instructed the crew to turn further right to a heading of 290 degrees, to intercept the localizer from the south, the report said. Twenty seconds later, the controller instructed the flight to turn to 310 degrees, and to descend to
1,500 feet (457 meters).
At 1935:03, the crew acknowledged the controller’s instructions and added, “and we have a controlling problem,” the report said.
About 25 seconds later, the first officer radioed, “Going down 1862, going down ...” the report said. “In the first part of this transmission, commands from the captain to raise all the flaps and to lower the landing gear could be heard. During the middle part of this transmission, a sound was heard, and in the final part of the transmission, another sound was audible. These sounds were later analyzed and determined to be the stick shaker and the ground-proximity warning system respectively,” the report said.
At 1935:42, the aircraft crashed into an 11-story apartment building, approximately 13 kilometers (eight miles) east of Schiphol Airport. “The impact was centered at the apex of two connected and angled blocks of apartments, and fragments of the aircraft and the buildings were scattered over an area approximately 400 meters [1,320 feet] wide and 600 meters [1,980 feet] long,” the report said. The aircraft collided with the two buildings while in a right bank of slightly more than 90 degrees, and in a nose-down attitude of approximately 70 degrees.
“Fire-fighting and rescue operations started shortly after the crash,” the report said. The aircraft was destroyed by the impact and the ensuing fire. The two apartment buildings were partly destroyed, and later demolished.
The report described the wreckage pattern: “The initial impact area in the frontal face of the buildings was small. Pavement and walkways along the initial impact area, and rather high trees immediately in front of the building remained undamaged. Most of the structure in front of the wings of the aircraft was recovered from this area. Parts of the cockpit
section, cockpit interior, controls and human remains of the crew were recovered at the right hand side of the apex [of the two buildings].Ó
The report continued: ÒGround water level, mud and [local] repeatedly ensuing fires formed generally hazardous conditions, seriously impairing the possibility of retrieving the flight recorders, which were not found in the main wreckage area. The DFDR was recovered after a scrutinious inspection of the already removed mixture of debris of the aircraft and rubble. The possibility has to be considered seriously that the CVR was stolen from the area, as were several other parts, [e.g.], the left-hand steering wheel.Ó
The DFDR was heavily damaged by the crash impact and postcrash fire, the report said. Nevertheless, the DFDR tape was recovered. ÒThe tape itself was found broken at four places, where it was not wound on the reels. The tape exhibited cracks, discoloration and contamination, particularly at the section that contained the information of the last two and a half minutes of the flight. A small amount of water was also found in the crash-protection unit of the recorder. Notwithstanding the damage, a readout was accomplished on some parameters.Ó

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When investigators examined the wreckage, they determined that the Òaircraft configuration at impact was TE [trailing-edge] flaps up, LE [leading-edge] flaps partially extended, stabilizer trim approximately 4.2 units aircraft nose-up, wing gears up, body gears and nose gears in transit,Ó the report said.
The No. 1 and No. 2 engines were found in the main impact area near the apartment building. ÒExamination of the engine
fragments and analysis of the damage indicated that the engines were operating at high power up to the impact with the ground, the report said. No evidence was found of pre-existing damage to the engines which might have been caused by an external or internal source.

Engines No. 3 and [No.] 4 were dredged from the lake located below the aircraft's flight path, together with the engine pylons and many parts of their nose cowls and thrust reversers, the report said. Internal rub marks and other witness marks indicated that when the engines hit the water they were either at a low rotating speed or had stopped. Internal examination of engine [No.] 3 and [No.] 4 showed no abnormal signs of pre-existing damage.

Investigators reviewed the possibility of a bird strike on the accident aircraft, and found no evidence of bird impact on the No. 3 and No. 4 engines or the engine cowlings, the report said. The possibility of sabotage was also examined, and no evidence was found that sabotage caused the accident, the report said. The maintenance records for the accident aircraft were reviewed, and all the required inspection and maintenance actions had been completed, and all applicable airworthiness directives (ADs) had been accomplished, or were in the process of being accomplished within the specified time limits, the report said.

Examination of the service records, crew write-ups, action items, trend monitoring data and flight recorder data of previous flights did not reveal any significant deviations.

The NASB determined that the accident sequence was initiated by the in-flight separation of the No. 3 engine pylon from the wing, the report said. Engine and pylon No. 3 separated from the wing and collided with engine No. 4, in an outward and rearward direction. In view of the amount of LE flaps and LE structure found, the right wing leading edge must
have been damaged up to the front spar of the right-hand wing, over an area approximately one meter [3.3 feet] left of pylon No. 3 to approximately one meter right of No. 4. It is assumed that [because of] the speed of the aircraft, the aerodynamic distortion and turbulence, some parts were blown off the leading edge of the right-hand wing up to the front spar.Ó After the No. 3 and No. 4 pylons and engines separated, investigators believed, the crew flew the aircraft under the following conditions:
¥ The right wing leading edge was severely damaged;
¥ The right wing leading-edge flaps were partially damaged;
¥ The right outboard aileron was ÒfloatingÓ at five degrees trailing edge up;
¥ There was limited roll control because no outboard aileron was available, and the spoiler system was only partially available;
¥ There was limited rudder control because of a lagging of the lower rudder for unknown reasons;
¥ The right inboard aileron was probably less effective because of disturbed airflow created by the damaged wing leading edge and the loss of the No. 3 pylon; and,
¥ Engines No. 1 and No. 2 were at high thrust settings.

The NASB concluded that Òthe separation of the engine pylon was caused by a failure of connecting components that attach the pylon to the wing of the airplane,Ó the report said. ÒTo determine the initial failure origin, a total of nine different scenarios were identified, each of which could lead to the separation of the engine pylon from the wing.Ó Investigators believed that the most likely sequence of events that led to the separation of the engine pylon was Ò(1) a fracture initiated by a fatigue crack of the shear face of the inboard midspar fuse pin,Ó the report said, Ò ... followed by (2) a
sequential failure of the outboard lug of the inboard midspar fitting. Then (3), the outboard shear face. Finally (4), the inboard shear face of the outboard midspar fuse pin. The subsequent pylon engine separation occurred during the flight out of Schiphol Airport at 6,500 feet and at an IAS [indicated airspeed] of 367 knots.

The NASB analyzed the U.S. Federal Aviation Administration’s (FAA’s) supervision of the continued airworthiness of the B-747. This organization [the FAA] carries out its responsibility mainly by issuing airworthiness directives [ADs], many of which were originally Boeing service bulletins [SBs], the report said. In [the] case of the Boeing 747, the FAA issued a large number of ADs addressing numerous fatigue problems in the pylon structure, including fuse pins, lugs and fittings. Nevertheless, new cracks and failures were discovered frequently, giving doubt about the ultimate strength of the structure.

The report continued: In addition to the fatigue problems, a static problem was identified in service. On several occasions, so-called crank-shafting of fuse pins was reported. Apparently, a plastic deformation of the fuse pins can occur at operational load conditions. Over a time period of 15 months, three pylons ([on airplanes operated by] China Airlines, El Al and Evergreen) have failed in flight, resulting in two fatal [accidents] and one serious accident.

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[The other fatal accident occurred on Dec. 29, 1991. While passing through 5,200 feet (1,586 meters) on a climbout, a China Airlines B-747-200 freighter experienced separation of pylons and engines No. 3 and No. 4. All five crew members were killed when the airplane collided with a hillside near]
Taipei, Taiwan, while attempting to return to the airport. An Evergreen International Airlines B-747-121 freighter encountered severe turbulence at 2,000 feet (610 meters) during climb after takeoff from Anchorage, Alaska, U.S. The No. 2 pylon and engine separated from the wing. Despite having extreme difficulty in controlling the aircraft, the crew made a successful emergency landing.

The NASB concluded: ÔThe original design together with the continuous airworthiness measures and the associated inspection system did not guarantee the minimum required level of safety of the Boeing 747 at the time of the accident.Ó

As a result of this accident, and other occurrences of wing-pylon problems on the B-747, ÔBoeing developed a stainless steel fuse pin with a considerably improved fatigue and crack growth life,Ó the report said. ÔFurthermore, the static strength and fatigue, and crack growth analysis, will be supported by tests.Ó

The U.S. National Transportation Safety Board (NTSB) recommended that the FAA take a number of actions relating to the design of, and inspection procedures for, the B-747:

¥ Reduce the recurrent inspection interval for the old-style fuse pins from 500 flight cycles to 100 flight cycles or fewer, and specify a time for removing the old-style fuse pins from service;
¥ Reduce the inspection intervals for the new-style fuse pins if a need for reduction is indicated by inspections;
¥ Require an ultrasonic inspection, in place of visual inspection, of the wing spar lug and pylon clevis of the midspar attachments;
¥ Establish an inspection requirement for the upper-link and diagonal-brace attachment hardware;
¥ Apply the inspection program for the new-style pins and the pylon-attachment fittings to General Electric (GE)-powered
airplanes;  
- Require Boeing to obtain flight test data to be used in engineering analysis to validate that the pylon-to-wing attachments have adequate safety margins for all flight conditions and engine configurations; and,  
- Require Boeing to make available a newly designed fuse pin for the B-747 engine pylon-to-wing midspar attachment to replace current fuse pins that are susceptible to corrosion or fatigue cracking.

By the end of July 1995, the NTSB had classified the FAA’s responses to these recommendations “closed — acceptable action,” meaning that the recommendations had been implemented or alternate actions taken to the same effect.

One other NTSB recommendation was:  
- Require the installation of a midspar fuse pin indicating stripe on each side of the B-747 engine nacelle struts, in accordance with a Boeing service bulletin, and require a check for wing-to-pylon misalignment before each flight.

The FAA disagreed with the recommendation to require preflight inspections on the grounds that misalignment could be too small to detect from the ground during visual inspection.

The background and qualifications of the flight crew were reviewed. The captain, age 59, held an Israeli Airline Transport License (ATPL), with type ratings in the B-747, Boeing 707 and McDonnell Douglas DC-3. He had 25,000 hours total flying time, and 9,500 hours in the B-747. The captain had flown 233 hours in the B-747 in the 90 days preceding the accident. He held a current first-class medical certificate, with a requirement to wear corrective glasses while exercising the privileges of his certificate, the report said.

The first officer, age 32, held an Israeli ATPL, with type ratings in the B-707 and the B-747. He had 4,288 hours total flying
time, and 612 hours in the B-747. The first officer had flown 151 hours in the B-747 in the 90 days preceding the accident. He held a first-class medical certificate with no limitations, the report said.

The flight engineer, age 61, held an Israeli flight engineer license, with ratings for the B-747 and B-707. He had 26,000 hours total flying time, and 15,000 hours in the B-747. The flight engineer had flown 222 hours in the B-747 in the 90 days preceding the accident. He held a first-class medical certificate, with the requirement to wear corrective glasses while exercising the privileges of his certificate, the report said.

The day before the accident flight, all three crew members had flown together on the route from Tel Aviv to London, then to Amsterdam, the report said. The crew reported for duty on the day of the accident flight after resting for 20 hours.

When the accident flight departed Amsterdam, the first officer was the pilot flying, and the captain was communicating with ATC, the report said. After the engines separated from the right wing, the Mayday call and all following communications were made by the first officer. ÔThe captain clearly took over control and kept control of the airplane throughout the remainder of the flight,Ô the report said.

Investigators reviewed the performance of the flight crew after the engines separated. DFDR data revealed that the captain

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was at times using full rudder pedal deflection, and control wheel deflections from 20 degrees to 60 degrees to the left, the report said. ÔThe Boeing training manual states that in an asymmetric flight condition with two engines inoperative on one side, there should be enough rudder authority to allow the control wheel to be almost neutral up to MCT [maximum
continuous thrust] at maneuvering speed, the report said. During a flight in a B-747 simulator, it was noted that with flaps up (which locks out the outboard ailerons) under the above-mentioned conditions and with maximum deflection, approximately 30 degrees left wing-down control wheel deflection was needed to maintain straight flight, the report said.

In the case of El Al 1862, the damage to the right wing and the up-floating right outboard aileron required even more left wing-down control wheel deflection. The report noted: This supports the hypothesis that the crew faced a very unusual situation. At 260 knots, the airplane was almost out of control with full deflected rudder and 60 to 70 percent of maximum control. This was very different from what the crew would expect from their knowledge of an experience with an aircraft with two engines inoperative. Investigators then evaluated the crew's handling of the aircraft in the final moments of the flight. Until the last phase of the flight, aircraft control was possible, but extremely difficult, the report said. The aircraft was in a right turn to intercept the localizer, and the crew was preparing for the final approach, and may have selected the leading edge flaps electrically ...

The aircraft decelerated when the pitch attitude was increased, probably to reduce the rate of descent. The report continued: The associated increase in angle-of-attack caused an increased drag. Additional drag of a sideslip and possible extended leading-edge flaps resulted in a further speed decay. This speed decay was probably the reason to increase thrust on the two remaining engines, No. 1 and [No.] 2. Those conditions resulted in an increased roll moment to the right caused by:
asymmetric lift generation at an increased angle-of-attack;
high-thrust asymmetry;
a loss of aerodynamic efficiency of the right inboard aileron at an increased angle-of-attack; and,
possible asymmetric lift caused by leading-edge flaps operation.

The resulting roll moment exceeded the available roll control, the report said. Near the end of the flight, the crew was clearly confronted with a dilemma. On the one hand, they needed extra thrust to decrease the rate of descent and maintain speed, but on the other hand the higher thrust increased the control difficulties. In general, in case of degraded performance, thrust should be confined to that level at which aircraft control can be maintained.

Investigators reviewed the crew's immediate decision and actions to return to Schiphol Airport. The decision to land as soon as possible committed the crew to perform under extreme time constraints. The complexity of the emergency, on the other hand, called for time-consuming and partly conflicting checklist procedures. Warnings and indications in the cockpit were most likely compelling and confusing. Furthermore, the pilots were confronted with a controllability and performance situation which was completely unknown to them, and they were not in a position to make a correct assessment.

The report concluded: The [NASB] is of the opinion that given the situation of the crew as described above, and the marginal controllability, the possibility for a safe landing was highly improbable, if not virtually impossible.

The performance of the air traffic controllers who handled the accident flight was reviewed. The NASB believed that the exchange of information during the emergency was at times inadequate. The crew only gave sparse information
concerning their problems and intentions, the report said. The controller occasionally used nonstandard phraseology which was not as explicit or understandable as would be desirable in an emergency situation ... Pilots and ATC personnel should be aware that for the adequate handling of an emergency, it is vital to use standard phraseology, and to exchange all necessary information about the urgency and the severity of the situation.

In evaluating the radar vectors provided by ATC, the report said: The attempt of the controller to position the airplane by radar vectoring to a point 12 NM on the localizer for Runway 27 was not completely successful. A wider than normal setup of the circuit would have better allowed for the possible steering errors and slow reactions to heading changes which occurred, and which may be expected in emergency situations.

The NASB also commented on the controller's vectoring of the accident flight over the city of Amsterdam during the emergency. The [NASB] feels that in the handling of emergency situations, not only the safety of airplane and passengers, but also the possible risk to third parties [on the ground] should be taken into account, the report said.

The weather at the time of the accident was reviewed. The conditions at Schiphol Airport at the time of the crash consisted of 1/8 alto-cumulus clouds at 13,000 feet (3,965 meters), and the visibility from the ground to 2,000 feet was 15 kilometers (9.3 miles), the report said. The surface wind was from 40
As a result of its investigation, the Netherlands Aviation Safety Board concluded the following:

¥ ÒThe airplane was inspected and maintained in accordance with El Al and Boeing maintenance procedures;
¥ ÒThe flight crew was trained and certificated in accordance with appropriate Israeli CAA [Civil Aviation Authority], El Al and industry standard procedures;
¥ ÒAt an altitude of about 6,500 feet, the No. 3 pylon failed. This pylon and No. 3 engine separated from the right wing;
¥ ÒThe No. 3 engine struck the No. 4 engine, causing the No. 4 pylon and engine to separate from the wing;
¥ ÒThe leading-edge flaps and a portion of the fixed leading edge of the wing back to the front spar were extensively damaged. The No. 3 and [No.] 4 hydraulic systems were completely [disabled] and the pneumatic system was partially disabled;
¥ ÒThe flight crew reported a fire on the No. 3 engine to ATC. Given the system logic, a fire warning may have been the result of a double fault indication of the system;
¥ Ò[Because of] the limited field of view from the cockpit to the wing area, the flight crew was not able to observe the separation of the No. 3 engine, [or] the damage to the wing;
¥ ÒPerformance and controllability were so severely limited that the airplane was marginally flyable;
¥ ÒCurrent standard industry training requirements and procedures do not cover complex emergencies like [that] encountered by El Al 1862;
¥ ÒAfter declaring an emergency, the flight crew decided to return to Schiphol Airport immediately and land on Runway 27, although Runway 6 was in use for landing;
¥ ÒBecause the airplane became too high and too close to the airport to accomplish a straight-in landing, the flight
crew was vectored through an approximate 360-degree pattern of descending turns to intercept the final approach course;

During the vectoring to the final approach, the flight crew stated to air traffic control that they were experiencing a problem with the aircraft’s flaps. Shortly before intercepting the final approach, they reported controlling problems;

ATC Transcript of El Al 1862’s Final Moments
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 Ñ 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?
19:29:02 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: ÒintendingÓ or ÒreturningÓ] landing.
19:29:32 ATC: El Al 1862, roger, copied about your emergency, contact 118.4 for your line-up.
19:29:49 CREW: Schiphol, 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.

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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, youÔre 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: ÒRaise all the flaps, all the flaps raise, lower the gear.Ó]
19:35:47 ATC: Yes, El Al 1862, your heading.
¥ ÒDuring preparation for final approach, speed reduction made the airplane exceed the limits of its remaining control capability. The airplane crashed into an apartment complex;
¥ ÒExchange of information between El Al 1862 and ATC was not always adequate;
¥ ÒThe effectiveness of the fused- pylons concept in protecting the wing structure and fuel tank against the consequences of pylon overloads was based on the history of the similar fuse-pin design of the Boeing 747;
¥ ÒCertification of the B-747 pylon included a fail-safe analysis of the nacelle and pylon concept. At that time, this analysis, however, did not address the specific fail-safe requirement assuming a fatigue failure or partial failure of a single structure element;
¥ ÒA then state-of-the-art fatigue analysis of the pylon structure was made to establish the maintenance requirements. In real life, this did not turn out to be sufficiently reliable. From August 1979 on, a large
number of SBs and ADs were issued addressing numerous fatigue problems in the pylon structure including fuse pins, lugs and fittings;

¥ ÒInspection and analysis performed by specialists on recovered parts of the pylon construction revealed severe damage [caused by] fatigue;

¥ ÒNo firm conclusion could be drawn whether or not the fatigue crack in the outboard midspar fuse pin was detectable at the last ultrasonic inspection;

¥ ÒAfter analyzing the possibilities, it is assumed that the separation was initiated by a fatigue crack in the inboard shear face of the fuse pin in the inboard midspar fitting;

[and,]¥ ÒOver a period of 15 months, three pylons have failed in flight, resulting in two fatal [accidents] and one serious accident. The original type design together with the continuous airworthiness measures and associated inspection system did not guarantee the minimum required level of safety of the Boeing 747.Ó

The NASB issued the following recommendations as a result of its investigation:

¥ ÒRedesign the B-747 pylon structure, including attachment to engine and wing. All SBs and ADs should be terminated after the redesign;

¥ ÒThe redesign program for the pylon should include a full-scale fatigue and fail-safe test; Source: Netherlands Aviation Safety Board

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Subscriptions: US$80 (U.S.-Canada-Mexico), US$85 Air Mail (all other countries), twelve issues yearly. ¥ Include old and new addresses when requesting address change. ¥ Flight Safety Foundation, 601 Madison Street, Suite 300, Alexandria, VA 22314 U.S. ¥ Telephone: (703) 739-6700 ¥ Fax: (703) 739-6708 ¥ "A large-scale in-flight fleetwide fatigue load measurement program should be carried out, both on wing, fuselage and fin-mounted engines in order to establish more realistic load spectra for fatigue evaluations; ¥ Review present methods of controlling structural integrity, such as nondestructive inspection techniques and airworthiness directive requirements, in the current-design B-747 pylon assembly; ¥ If a structural design concept is used as the basis for the certification of another design, in-service safety problems for both designs should be cross-referenced; ¥ Evaluate and where necessary improve the training and knowledge of flight crews concerning factors affecting aircraft control when flying in asymmetrical conditions such as with one or more engines inoperative, including: < advantages and disadvantages of direction of turn; < limitation of bank; [and,]
use of thrust in order to maintain controllability;
¥ ÒEvaluate and where necessary improve the training and knowledge of flight crews in cockpit resource management in order to prepare them for multiple systems failures, conflicting checklist requirements and other beyond-abnormal situations;
¥ ÒExpand the information on in-flight emergencies in appropriate guidance material to include advice [on] how to [ensure] that pilots and air traffic controllers are aware of the importance to exchange information in case of in-flight emergencies. The use of standard phraseology should be emphasized;
¥ ÒEvaluate and where necessary develop common guidelines on emergency procedures and phraseology to be used between ATC, fire brigade, airport authorities and RCC [rescue coordination center];
¥ ÒExpand the training of pilots and ATC personnel to include the awareness that in the handling of emergency situations, not only the safety of airplane/passengers, but also the risk to third parties, especially residential areas, should be considered;
¥ ÒReview design philosophy of fire-warning systems, to preclude false warnings upon engine separation;
¥ ÒReview flight control design to ensure that flight control surfaces do not contribute adversely to airplane control in case of loss of power to a control surface;
¥ ÒFire resistance of DFDR and CVR should be improved;
¥ ÒInvestigate the advantages of [the] installation [of] cameras for external inspection of the airplane from the flight deck.Ó©
Editorial note: This article was adapted from El Al Flight 1862, Boeing 747-285F, 4X-AXG, Bijlmermeer, Amsterdam, October 4, 1992, Aircraft Accident Report no. 92-11, prepared by the
Netherlands Aviation Safety Board. The 81-page report, which was published in February 1994, is in English and includes diagrams and illustrations.

From: "Hovav Frenkel" <hfrenkel@sprynet.com>
Date: August 30, 1997 5:50:20 PM PDT
To: "John Barry Smith" <barry@corazon.com>
Subject: Touching Base -- 4X-AXG El Al (Israel)
Reply-To: "Hovav Frenkel" <hfrenkel@usa.net>

Hello John!

Thank you so much for such a quick response. I worked for LY in the security department '77 - '88. I worked on 4X-AXG (on the ground) many times. My interest in this case stems from the controversy over the type of cargo (or part of cargo) that this aircraft carried on its final flight. According to the Israeli paper "Yedioth Aharonot" the Dutch and Israeli governments are holding info from the public. I'm not sure if you are aware of it. Supposedly, the aircraft carried some substance that -- following the crash -- has been causing health deterioration and deformation of newborns in the crash vicinity. I have not discussed the crash/cargo door subject with Honza, but I'll do it next week, when he will arrive here (Cleveland) from Prague. I'll keep you posted.
I worked in the Philippines. Great country and great people, despite of (or maybe thanks to...) the multi-cultural and unique geographical structure.

Speaking of Asia... I guess it is safe to say that, given the choice, I will definitely tie my future with an Asian, rather than with overly westernized, lady...

Take good care.

Hovav.

------------------------------------------------------------------------
Please respond to <hfrenkel@usa.net>

Visit me at http://www.geocities.com/SouthBeach/Lights/1042

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

From: Bob <navybob@computer4u.com>
Date: August 31, 1997 6:48:48 PM PDT
To: barry@corazon.com
Subject: TWA Forward Cargo Door.
I am making a flight to Tel Aviv Israel soon (Sept. 20th) Has the AD solved the problem? What should I look for? I'm (ex- EOD) Explosive Ordnance Disposal Officer and don't like to buck the odds. Being careful is how I survived two years in Viet Nam.

Any info would be appreciated. Thanks.

Bob

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(0000AC2C)

This message has the following attachments:
   file://localhost/Users/barry/Library/Mail/
   Attachments/.DS_Store

From: John Barry Smith <barry@corazon.com>
Date: August 31, 1997 7:27:46 PM PDT
To: navybob@computer4u.com
Subject: Re: TWA Forward Cargo Door.

I am making a flight to Tel Aviv Israel soon (Sept. 20th) Has the AD solved the problem?

I don't think so.
What should I look for?

Fly in new airplanes.
Fly in good weather.
Fly in clean airplanes.
Fly with sober crew.

I'm (ex- EOD) Explosive Ordnance Disposal Officer and don't like to buck the odds. Being careful is how I survived two years in Viet Nam.

Thanks for flag, cool.

I was in Navy for fourteen years and use my Navy training all the time.
I belong to a discussion group on TWA 800 and much expert opinion is needed, especially about ordnance. The missile guys have shrapnel in the bodies and I say the shrapnel would have ID markings on them of missile or bomb.

Please check out site and contribute if you wish. We need explosive opinion. We have cargo door, mechanic, center tank fire opinion.
http://www.lsoft.com/flight-800.html

Below is latest submission and talk about shrapnel which we don't know much about but important.

Then later is neat story from CIA archives. I was on carrier in Gulf when all that was happening.
Sincerely,
I admire your spunk, sir, you are coming closer. Yes, it must be traveling towards a ground level observer. We agree. Finally.

Well, then it's impossible for a ground level observer to see a falling cargo door and perceive it as traveling upwards.

No, not impossible, possible when your one condition is met, coming toward observer. Well, then it's possible for a ground level observer to see a falling cargo door and perceive it as traveling upwards.....if the falling door is falling at an angle toward the observer. Not straight down. Not level. But falling at an angle to impact behind the ground observer. Of course after a few seconds of falling toward observer, the door falls away and is perceived as descending streak, then it switches back or does whatever an airfoil shaped object does when launched at 300 knot two miles high.
So, close, falling door seen as ascending streak only when door falls towards observer. True, you said it and I agreed. So, door falls toward observer. Condition met. Up streak could be down door.

perception of moving object in space viewed by observer" bit, when it's been shown that for an object that's flying level to be perceived as rising, it must be traveling towards a ground level observer.

Your words and true.

You have another problem. Missile climbing and moving away from observer appears as descending streak. See Shuttle at the Cape, it goes up and then starts moving away still climbing. Put your finger on it and your finger moves down, not up, as Shuttle flies far downrange. So for you to trumpet ascending streak as ascending missile is dangerous. Ascending missile moving away would appear as descending streak.

Do the comet test. Comet it big so close, stays still so slow, and goes in direction opposite of tail. All wrong wrong wrong. All are visual perception problems with object in space and one observer view. Thank god for corroboration. You can tell us why the comet is moving fast, far away, and goes in a different direction and how we know that because we can't by just looking at it. Just like streak.
A cargo door (stall attached to the plane in any event)

No, not attached to the plane in any event. Did you see the ripped metal tears around the top of the door seal hinge in the picture. And there is no plane to be attached to, it is disintegrating, understand disintegration? And cargo door shown to land first far away in debris pattern, far away from 'plane' which is essentially a larger smaller pieced debris field.

Were there eyewitnesses to an object emitting light rising up towards the plane before it fell out of the sky? No, good question, AI 182, UAL 811 and PA 103 took off late at night and event happened at pitch dark or 100 miles from land. No reflection, no streak. 800 had the sun angle and was close in to be seen and was, streak.

Radar tracks of multi-mach objects closing the doomed jet

Well, actually, radar dots were there for PA 103 and UAL 811. No? Then we're looking at two different sets of circumstances and whatever happened to UAL 811 isn't pertinent to TWA 800.

Well, put your head back in the sand, here's some pertinent stuff. Those pesky facts again:
Now, is TWA 800:
1 A high time
2 Boeing 747.
3 during climb
4 experienced an event near the leading edge of the wing
5 that caused a sudden loud sound on the CVR,
6 an abrupt power cut to the FDR,
7 missing bodies,
8 fodded number 3 engine that caught fire,
and the initial thought was that a bomb had gone off?

Now to UAL 811:
In a high time Boeing 747. That during climb experienced an
event near the leading edge of the wing that caused a sudden
loud sound on the CVR, an abrupt power cut to the FDR, missing
bodies, fodded number 3 engine that caught fire, and the initial
thought was that a bomb had gone off? I refer of course to UAL
811 and the facts come from NTSB AAR 92/02.

To say that the two are not related and one is not pertinent to the
other is head in sand time.
And pieces of bone used for DNA ID is not a found body, it is a
missing body, found tiny parts. It's what happens when people go
into the sky mulcher, just like 811, confirmed body into jet.

When you convert to cargo door, Mr. Missile Guy, then we tell
you it was all a trick, and yes you were right all along, it was a
missile, those damn Navy guys, we had to cover it up, you
understand, don't you?

Just joking on the above, there is no coverup. At least...
RH said:
The primary event had to happen at 13,700 feet. No one saw a large fuel type explosion at that altitude. Major Meyer said he saw an ordnance type explosion. The front portion of the fuselage separated at approximately that altitude causing some of the passengers to be thrown from the aircraft. Finally at a lower altitude the leaking fuel which produced a fuel cloud around the aircraft combusted forming the huge fireball seen by the witnesses.

Agreed and igniton source is detached, fodded, flaming engine number three, retrieved showing burn marks, according to news.

From news reports attached:

In the Long Island hangar, investigators began tearing apart the No. 3 engine, the only one of the three recovered so far that shows fire damage. It's the engine closest to the fuselage on the right side.

Shrapnel: need autopsy reports. The burns and who had them, decompression injuries, impact injuries, shrapnel, injuries are all
important and not been released yet. A disintegrating aircraft that just suffered decompression has stuff flying everywhere. A coke can in the back of the head or seatback could be called shrapnel. Need more specific data before conclusion of warhead.

I know I have probably put some of the list members to sleep with my reports on the CWT.

Not me, Richard, I'm all ears.

So far, I'm scratching a flying cargo door as well as an exploding CWT from my list of possibilities.

Because of the word 'shrapnel' made by a unknown person not in a position to know?

Well, OK, good bye. You can always come back. Fickle.

I see the shrapnel in the victims bodies as the smoking gun in this investigation.

Shrapnel....Ka boom, ka blooey....of course none of the shrapnel has any of the identifying marks that pieces of missiles or mortars, or artillery shells or bombs leave. Just stealth shrapnel from a stealth bomb warhead from a stealth missile from a stealth plane/ship fired from stealth officer giving stealth orders over stealth communication lines.

Too thin, too thin.

Cheers,
Rough seas plague TWA divers

August 13, 1996
Web posted at: 6:45 p.m. EDT

WASHINGTON (CNN) --

The choppy seas delayed retrieval of the Boeing 747's fourth engine from the waters off Long Island, where the jumbo jet exploded and crashed July 17. All 230 people aboard were killed.

Investigators are looking closely at the engines, especially the third engine, which reportedly showed evidence of fire damage.

The attention of investigators has shifted toward the center of the plane, where the right wing was attached to the fuselage, as a likely location for the explosion.

Investigators say pieces from the center of the jet show extensive burn
damage. From that area, investigators will try to piece together one of the plane's kitchens, the "C" galley, located in front of the wing of the aircraft.

Sources close to the investigation say the galley suffered "crushing damage." Investigators want to study how the metal is bent to see if it was caused by impact with the water or by a possible bomb brought aboard on a food cart.

Beam is twisted

The investigators hope to reassemble all five of the plane's galleys if they can recover the parts. But, they're not holding out much hope of finding vital evidence in them.

"There is a lot of galley that is out in the hangar and I don't think ... it's extraordinary," Francis said.

At a lab in Washington, investigators are looking closely at a beam recovered from the center section. Sources say it is twisted and bent in a way consistent with an explosion. The beam was found in an area where the center fuel tank is located. Investigators believe the tank exploded, but it's not clear how or why.

In the Long Island hangar, investigators began tearing
apart the No. 3 engine, the only one of the three recovered so far that shows fire damage. It's the engine closest to the fuselage on the right side.

Workers also planned to lay out carpets, blankets and other items from the cabin to see if any holes or tears can provide clues to the location of the explosion.

The investigative process involves eliminating possibilities as much as trying to prove them, and is painstakingly slow. But officials are convinced they will learn what caused TWA Flight 800 to fall from the sky.

Correspondent Carl Rochelle contributed to this report.
Investigators completed a meticulous tear-down of the right inboard engine of TWA Flight 800 yesterday and sent debris that had been sucked into the apparently still-running engine to FBI and National Transportation Safety Board labs in Washington.

Those pieces -- and evidence of what investigators call "FOD," or foreign object damage, in the engine -- could pinpoint the location of the explosion that brought down the Paris-bound Boeing 747 on July 17.

Meanwhile, investigators were still studying the possibility that the plane's central fuel tank exploded, and a source said Navy divers were ordered to bring up all wreckage from the ocean floor.

Investigators working at the former Grumman plant in Calverton are also in the process of tearing down the two other engines that have been recovered, but attention has focused on the right inboard engine because of the ingested material. The engine is closest to the point where the front fuselage is believed to have first broken off, just where the leading edge of the wing meets the fuselage.

The ingested pieces could turn out to be important clues to the puzzle, experts say.

"You would identify the parts and where they may have come
from," said Frank Taylor, a former NTSB investigator. "If there was

an explosion in the forward part of the airplane, and that debris has been sucked into the engine because the engine is still running, it tells you the explosion occurred in that particular location of the fuselage."

However, investigators said the FBI lab in Washington has completed metallurgical testing in addition to explosive residue testing on all parts of the plane that have been brought up, and so far, there have been no signs of any deformity that would indicate a bomb. Some parts of the plane are also being tested in an NTSB basement laboratory in Washington, where an electron microscope will help investigators look for minute changes in metal that could point to or away from a bomb blast.

The massive Pratt & Whitney JT9D-7A engines are built to withstand foreign objects, although anything large can cause a problem. Before the engines are put into use, they are tested by firing dead game birds and huge chunks of ice at 180 mph into them as they're running. "It can tolerate a certain amount of junk, but the idea is that it can spit it out," said Mark Sullivan, a Pratt & Whitney spokesman. "Anything of much size can cause damage. It's a very delicately balanced piece of machinery. It's very rugged, but think of a very large Swiss watch."

The foreign-object damage to the right inboard engine also supports the theory that the engines continued to run for a short time after the front of the fuselage broke off, sucking up the first debris to fly off the plane. In the case of Pan Am Flight 103,
engine
damage helped investigators determine the source of the
bomb blast that brought down the plane, also a Boeing 747 with the
same model engines.

On the air intake of the engine closest to that explosion, the
inboard left engine, Lockerbie investigators found indications that
debris had been sucked into the engine while it was running. A dent in this area matched the size of a cable used on a baggage container. This helped confirm other evidence and led investigators to conclude that the suitcase holding the bomb exploded
inside a baggage container and blew debris out through the fuselage wall, where it was sucked into the engine.

Yesterday, conflicting reports surfaced about the likelihood of a fuel-tank explosion, which could account for the fireball reported
by pilots in the area. A senior law-enforcement official who asked not to be identified said yesterday that while some parts of the
fuel tank have a lot of fire damage, others don't, leading them to believe the tank, located between the wings, did not explode.
Another source said an opening in the tank "was seen as indicating the lack of a primary explosion," meaning the fuel may have leaked out, accounting for the fireball.

But another federal investigator said he was told the tank showed "physical evidence of a blowout," but that officials believe the
explosion was a secondary event, probably caused by fuel vapors that ignited as the plane plunged toward the water.

The rough seas that hampered recovery efforts Tuesday calmed yesterday, and divers were back in the water. A senior law-enforcement source said Navy divers have been instructed to bring up everything from the crash on the ocean floor.

"We have told the Navy divers to bring it all up as quickly as possible," the source said. "Looking for a key piece would only slow us down."

Divers from the Grasp, working in a large debris field containing the middle and rear of the plane, brought up mostly small debris yesterday, the NTSB said. The Grapple's remote-operation vehicle spent 10 hours recovering debris from an area closest to Kennedy Airport containing parts that first blew off the plane.

"People are forgetting that we are still missing the roof, the flooring and the undercarriage" as well as a lot of material from the section behind the cargo area, near the front wings, a source said.

Sources said the debris recovered yesterday included a section in the forward cargo hold about eight feet from the nose of the plane, and part of the rear cargo-handling system.

Taylor, the former accident investigator, said he wouldn't be
surprised if the NTSB were considering contracting a fleet of fishing boats to use nets to literally sweep the bottom of the ocean floor. That happened when a Boeing 727 crashed in 250 feet of water in Lake Michigan in the 1970s, he said. "I would think they have that under consideration," Taylor said.

Matthew Cox, Robert E. Kessler, Shirley Perlman, Knut Royce and Ellen Yan contributed to this story.

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Last Engine Brought to Surface

By Sylvia Adcock and Matthew Cox
Staff Writers

Navy salvage ships yesterday brought to shore the last of the four engines that powered TWA Flight 800, badly mangled with two-thirds of its titanium fan blades in front knocked off.

The right outboard engine -- in the worst shape of the four -- was pulled up from beneath the Grasp and taken to the former Grumman plant at Calverton last night, where investigators will disassemble it to look for clues to what caused the destruction.

The engines on the right side of the plane both suffered more damage than those on the left, but the recovery of all four diminished the possibility that a heat-seeking missile caused
the crash by destroying an engine. Investigators repeated, however,
that they had not eliminated any theory -- bomb, missile or mechanical failure -- and noted that it was still conceivable that a radar-guided missile hit the plane.

Investigators have said the right side of the Boeing 747, near where the wings meet the fuselage, suffered the most smoke and fire damage. The right inboard engine was relatively intact but suffered "foreign object damage" from debris sucked in while it was apparently still running. That material, recovered Tuesday, was still being analyzed in federal labs yesterday.

The fourth engine was "badly banged around," said a senior law enforcement source, but the source said it wasn't clear if the damage came from an explosion or the impact of hitting the water. Only 15 of the engine's 46 fan blades remained.

Salvage efforts by the Grasp yesterday also yielded two large fuselage sections from the area where the airline's rear parts have been found; one of them had six windows that appeared singed. The Grapple, working in an area closest to the airport containing debris that is believed to have blown off the plane first, recovered a galley section and small pieces of debris. Investigative sources said yesterday that among other items, they are interested in a dumbwaiter from the front galley section used to transport food.

Also recovered yesterday were part of the plane's tail and the
two flaps, or elevators, on either side. And two more bodies were retrieved, the first since Sunday, bringing the total to 201.

In a sign that the central fuel tank beneath the wings is still of interest, investigators plan to send the tank's pumps to the manufacturer, Hydro-Aire of Burbank, Calif., for further inspection. Investigators have said that some pieces of the center fuel tank are marked with soot and fire damage while others are not, raising questions as to whether the tank played a role in the plane's breakup by exploding.

In a mid-1970s crash of a 747 owned by the Iranian air force, an explosion in the partly filled left-wing fuel tank was discovered to be the cause even though some of its pieces were clean of blast damage.

From Flight 800's cockpit, the flight engineer's panel is headed for a federal lab in Washington where technicians will try to decipher dozens of dials.

In Calverton, investigators continued to work toward reconstructing a 41-foot section from the center of the plane between the wings. The section's interior includes one of the galleys, seats from about rows 13 to 27, and the rear of the forward cargo hold. The area below, where the wings meet, includes the central fuel tank.

Robert E. Kessler, Earl Lane, Shirley Perlman and Ellen Yan
By 1965, US policy in Laos had evolved into a strategy of war against the Communist Pathet Lao (PL) to regain control of the remote and mountainous northern provinces, particularly Louang Phrabang, which included the strategic Plain of Jars, and the Communist stronghold of Samneua, where Phou Phathii, the Sacred Mountain, was located. Because of restrictions placed on military presence and operations in Laos by increasingly irrelevant international agreements, this war became the nearly exclusive responsibility of CIA.

Samneua was central to the strategy because it was the principal gateway between Laos and North Vietnam: the North Vietnamese used the region to infiltrate troops and supplies into Laos, and the United States used the area to conduct surveillance and support operations against North Vietnam. In August 1966, to support the escalating air war against the North, a Tactical Air Navigation (TACAN) station was first constructed on the mountain above Lima Site (for landing site) 85.

The remote mountain in northeastern Laos known as Phou Phathii to the Laotians and "the Rock" to the Americans who served there is a dramatic
5,600-foot ridgeline that is just flat enough on top to support a few buildings built into the rock of the mountain and a small clearing that was used as a helicopter landing site. Located 100 miles south of Dien Bien Phu, 160 miles west of Hanoi, and just 25 miles from the PL capital of Samneua, Phou Phathi was a place of great religious significance to the local Hmong and Yao tribesmen. They believed the forbidding mountaintop was inhabited by great phi, or spirits, who exercised supernatural control over the lives and circumstances of the Hmong people. US Ambassador to Laos William Sullivan, however, believed the mountain was a poor choice for the location of secret Air Force navigational equipment because it was too close to Samneua and the PL.

A Sensitive Facility

Nevertheless, because of the geography of the area and the need for a site that would be within radio and radar range of North Vietnam--a difficult problem in the exceptionally rugged terrain of the Laos--North Vietnam border area, the Air Force in 1966 installed a TACAN transmitter on Phou Phathi. A TACAN station is a nearly autonomous radio transmitter that provides military aircraft with a bearing and distance in miles relative to the station location. To support operation of the station on Phou Phathi, the Air Force rotated several technicians to and from the Rock for maintenance and resupply of the transmitter and its associated generator. The Rock was supplied weekly by a secret Air Commando unit,
codenamed PONY EXPRESS and based at Udorn Airbase in Thailand, via the 700-foot Lima Site (L.S.) 85 strip in the valley below.

In 1967 the facility was upgraded with a bombing-control radar to improve the control and accuracy of the bombing campaign in North Vietnam. This upgrade brought in more Air Force personnel, "sheep-dipped" to look like civilians, and (allegedly) genuine civilian technicians from Lockheed Aircraft. In reality, the men on Phou Phathi were all Air Force CIRCUIT RIDER teams from the 1st Mobile Communications Group in Udorn who rotated to the site every 24 hours. The PL and North Vietnamese watched developments at Phou Phathi with interest.

Map: South East Asia (167k)

The CIA and Hmong Gen. Vang Pao, the joint commanders of the war against the PL in Military Region (MR) II, which included the provinces of Samneua and Xiangkhoang, realized the ultimately untenable position of these Americans on Phou Phathi and arranged for the mountain to be guarded by 300 Thai mercenaries reinforced by local Hmong troops led by CIA paramilitary officers.

In 1967 the military situation in MR II was starting to deteriorate under pressure from the PL, the North Vietnamese, and the Chinese, who were building a series of roads in northern Laos, delivering aid to the PL, and generally adding a wild card factor to the balance of power in the area. The
Chinese had concerns about the intentions and loyalties of the Tai and Hmong peoples of northern Laos and southern Yunnan Province, and they apparently believed an active presence was the best policy to maintain control. Phou Phathi continued to receive more equipment and manpower, and it attracted increasing PL attention.

The Opium Factor

In addition to the American military and intelligence interest and Hmong religious beliefs surrounding Phou Phathi, there was another factor affecting the strategic value of the Rock: opium. Phou Phathi was in the center of a major Hmong poppy-growing region, making it a major financial interest. Opium poppies were and are the major cash crop of the highland tribes of Laos. Vang Pao, based at Longtiang, is suspected to have used the proceeds from opium production to help finance the war. There has been much controversy about possible CIA involvement in drug trafficking in Laos, but considerable research has not turned up any evidence of an Agency connection.

The Campaign

L.S. 85 was one of the most critical bases for the Hmong guerrilla army for some time before the US Air Force took interest in the site as a desirable location for a navigational aid. The airstrip and the helipad on top of the mountain resupplied a small command post, used by the Hmong officers
and CIA paramilitary advisers, which in turn controlled harassing operations against the PL and North Vietnamese.

The mountain had been captured briefly by the PL in 1959, using Hmong guides who had defected. These guides were necessary because only the local tribesmen who had spent a lifetime in the immediate area were able to navigate the difficult terrain and sheer rock cliffs of the Phou Phathi ridgeline. The loyalist Hmong had not forgotten this incident, and they had vowed to prevent its reoccurrence. History, however, remained against them.

In the fall of 1967, CIA detected substantial activity associated with road construction along Route 19 leading to Nam Bac from Dien Bien Phu and along Route 6 which lead to Phou Phathi. Because the North Vietnamese totally depended on road transportation for heavy units, these developments were considered ominous. By November up to 19 North Vietnamese battalions were observed in the Samneua area, confirming the worst fears of the Embassy and 7th Air Force in South Vietnam that a substantial offensive, most likely against Phou Phathi, was in the offing.

Because of their dependence on roads and overland travel, the North Vietnamese and PL only began offensives during the dry season, which in Laos normally begins in mid-October and lasts through early June. The US Air Force had begun upgrading the TACAN site on Phou Phathi in June.
1967 with a TSQ-81 COMBAT SKYSPOT radar bomb scoring and impact system. The TSQ-81, a modified air-mobile version of a SAC range-instrumentation radar, would significantly increase bombing capabilities in poor weather conditions (October through April in North Vietnam) in areas of North Vietnam and Laos. It became operational in early November 1967, almost exactly coincidental with the end of the rainy season in Laos.

The Communist offensive began in December, initially with small-scale skirmishes. But by 15 December Hmong reconnaissance patrols and CIA lookouts detected several battalions moving against Nam Bac, a crucial stronghold of the Royal Lao Army, and toward Phou Phathi. Two PL companies took Phou Den Din, only 12 kilometers east of Site 85, on the 16th, although the Hmong recovered the position later in the day. The attacks focused serious attention on the security of Site 85 and the enemy's determination to take the mountain.

The Air Force and CIA directed numerous airstrikes of F-4, F-105, and A-1 fighter-bombers from Thailand and Vietnam, many using the new radar at Site 85, against the massed columns of enemy appearing to encircle the site. The strikes were increased, even using Air Commando A-26 Invaders to attack at night, in an attempt to turn the twin advances on Routes 19 and 6. This air campaign peaked at 45 sorties on 3 January 1968, but it succeeded only in weakening the North Vietnamese and PL.
The battle around Nam Bac intensified in early January, and on the 14th the base was taken by four NVA battalions. There were no survivors, and a massive amount of material and documents were captured.

The operations of the TSQ-81, nicknamed COMMANDO CLUB, were beginning to have real effect, with 23 percent of total strikes over North Vietnam in January coming under control of Site 85's radar. Even in poor weather, the COMMANDO CLUB system was able to direct bombing accurately throughout the Hanoi--Haiphong complex as well as in the immediate area of Phou Phathi for its own defense. This capability seems to have given the Air Force and Ambassador Sullivan an exaggerated sense of the defensibility of the site using air power. Although CIA and Air Force analysts had warned of the vulnerability of the site and the Ambassador himself had serious reservations about its advisability, the strategy in early January called for its operation up to the last minute, with close air support to keeping attackers from reaching the summit until the technicians could be evacuated by helicopter. And, as so often is the case in warfare, the one contingency not considered proved fatal.

The situation at Site 85 in early January was pessimistic. The Air Force technicians on the site continued to be rotated from Udorn in teams of 12, but the COMMANDO CLUB nickname was becoming more apt by the day. Because of their sheep-dipped status as ostensible civilian employees of Lockheed Aerospace, the CIRCUIT RIDERS of the 1st Mobile
Communications Group were prohibited from carrying small arms. According to Air Force accounts, this regulation was actually obeyed almost to the last days of the site. Radar vans and antennas had no identification and were rigged with explosives for demolition. Fearing sympathetic detonation of their own charges by artillery falling in the areas, however, the technicians dismantled the explosives and threw them over the cliff.

Because of the political sensitivity of the facility, no other US military personnel were permitted in the area to defend the site, so defense of Phou Phathi depended on the two CIA paramilitary officers in the area and the approximately 1,000 Hmong they advised. This situation was not reassuring; the enemy in the area knew of Americans on the mountain, knew who they were, and knew what they were doing. A notebook taken from an NVA officer killed in February described the site in detail and referred to the "TACAN" in English.

First Attacks

Two-hundred Hmong guarded the ridgeline, and the other 800 were in the valley below. They were fierce and courageous fighters who were strongly motivated to defend the mountain. Although the Hmong were effective at guerrilla-style hit-and-run actions, they were ill prepared to conduct a static defense against overwhelming odds. The Air Force and the US Embassy in Vientiane knew this, but they accepted the odds based on the
confidence that the CIRCUIT RIDERS could be evacuated in the last minute by helicopters of the US Air Force and of Air America (CIA's proprietary airline) supported by fighter bombers. Ambassador Sullivan had sole authority for ordering the evacuation, a circumstance that was to prove costly.

In the first week of January, the enemy continued to shell and probe other sites in the vicinity of Phou Phathi to clear the roads leading from Samneua to positions surrounding the mountain. On 10 January the Hmong engaged and dispersed a five-man PL patrol at the base of the ridge.

On 12 January, CIA lookouts reported a four-plane formation heading in the direction of Site 85. Two aircraft split off, but the other two continued to Phou Phathi, where they bombed, strafed, and fired rockets at the ridgeline. Several local Hmong were killed. The CIA officers and the local Air Force forward air controller (FAC) fired on the slow-moving Antonov-2 Colt biplanes and called in an Air America helicopter in the area to assist. The helicopter, a Bell 212, the civilian version of the Huey, proved faster than the Colts. The Air America pilot flew alongside the Soviet-made biplanes and fired a submachinegun at them through the door. Both aircraft were shot down, and the rudder from one was taken to Longtiang, an Air America base, as a souvenir.

The Embassy believed the air attack was an attempt to eliminate
the radar without resorting to a costly ground attack. It also considered, rightly, that the attack was highly unusual and was unlikely to be repeated. The North Vietnamese did not have the air assets to squander.

After the air attack, ground activity abruptly increased. On 19 January an informant at Samneua reported that a five-battalion group of NVA and PL had moved west and divided into two groups. Three battalions with a 105-mm howitzer moved into position to attack Phou Den Din, a key position in control of the Phou Phathi area. The other two battalions moved southeast of the mountain in an encircling maneuver. The American and Hmong forces at the Site 85 command post, a ramshackle structure next to the helicopter landing area, recognized another major assault in the making. They realized that, if the enemy were willing to accept heavy losses, the ridgeline could not be held.

Defensive Vulnerabilities

At this point, the Air Force personnel manning the radar at the summit were still unarmed and dependent upon orders from the Ambassador to evacuate in the event of a major attack. The officers who were in charge of the detachment that continued to rotate in and out of the site had no authority to defend their troops or to order a retreat if the ridge was overrun. Communications with Vientiane were maintained from the command post at the helipad, a 20-minute walk down the ridge from the
radar vans on the peak. The Air Force personnel realized their predicament, but they continued to direct large numbers of airstrikes daily both in Vietnam and Laos. They also began looking for an escape route.

On 25 January the site conducted an autonomous self-defense exercise that apparently consisted of diverting fighters to suspected enemy positions around Phou Phathi. This exercise seems to have indicated that the plan for COMMANDO CLUB self-defense using close air support was unlikely to succeed. This test also angered the 7th Air Force because it violated procedures and caused embarrassment. The CIRCUIT RIDERS and CIA officers, however, felt that they were risking more than embarrassment. After the exercise, the Air Force technicians developed a plan to descend down the sheer rock face of Phou Phathi on ropes if the major attack came.

After the fall of Phou Den Din on 22 January, the North Vietnamese temporarily halted offensive operations to regroup and resupply. The COMMANDO CLUB radar operators continued to direct airstrikes on weakened enemy positions, and FACs from Longtiang directed other available missions and Royal Laotian Air Force aircraft to every potential enemy target in range of Site 85. The enemy apparently was delaying the next offensive until more artillery could be brought up.

A Lull
On 30 January enemy troops detonated some of the defensive mines planted on the approaches of the American compound and brought the ridgeline under mortar fire. A friendly patrol sent to investigate did not meet serious resistance, and the commander of the COMMANDO CLUB reported that only a minor testing of the defenses had taken place and no further action was required.

Following the skirmish on 30 January, the North Vietnamese settled into a containment perimeter approximately 12 kilometers in diameter around Phou Phathi. Engagements between the Hmong and the North Vietnamese became infrequent, but those few encounters that did occur involved enemy formations of at least company strength. Through 14 February airstrikes in defense of the COMMANDO CLUB were scarce and a sense of confidence infected the US Embassy in Vientiane and the 7th Air Force in Vietnam regarding the safety of Site 85.

Casual Attitude

During this period, there was ample intelligence indicating that the enemy was gradually encircling Phou Phathi and massing for a major attack. This information, however, did not materially affect US strategy toward the operation or defense of the site. The PL were not hiding their intentions: numerous informers and spies reported the enemy planned to take Site 85 in late February. CIA reported in an estimate on 25 February that it was extremely unlikely that the site could be held beyond 10 March.
Still, no significant changes were made to the strategy for defense of Phou Phathi, and Vientiane retained control of the evacuation plan.

This casual approach probably was the result of the constant air communications with the site and the continuing practice of rotating men out of it every day or every other day. The planners in the Embassy evidently believed that, in the event that the COMMANDO CLUB radar bunkers were seriously threatened, the team would be airlifted out and not replaced. They may not have realized that the situation could deteriorate rapidly or that a communications breakdown could leave the COMMANDO CLUB team stranded.

In any case, responsibility for the fate of Site 85 was maintained at the Embassy and 7th Air Force level. The local commander was never given the authority to order an evacuation or to supervise his own defense.

In late February, CIA and the Air Force FACs knew the ridgeline was in peril, but they believed it could be defended for the present. On 18 February an NVA officer was killed in an ambush. His captured notebook confirmed a major assault on the summit was planned, gave the strength of the attacking force, and described the timing for the attack.

The Air Force and the Embassy responded by ordering more airstrikes near the mountain, believing that bombing could deter or dissuade the enemy. Bombing, however, was ineffective against troops in
In the deep jungle.

On 21 February the Ambassador authorized the Local Area Defense Commander (alternately the senior CIA officer or the FAC) to use the TSQ radar to direct any and all strikes within 12 kilometers of the summit. Starting on the 20th and continuing until the fall of Site 85 on 11 March (and beyond, as the Air Force tried to destroy the captured radar system), the area was saturated with airstrikes of increasing intensity. Between the 20th and 29th, 242 sorties hit within 30 kilometers of Phou Phathi.

By 26 February, Ambassador Sullivan was pessimistic about the site's survival. Citing a CIA report that predicted the site's fall by 10 March, the Ambassador wrote to the Air Force Chief of Staff,

> ... in the final analysis, it seems doubtful that the site can be held in the face of consistent enemy determination. Therefore, we are in touch with USAF authorities on evacuation and destruction plans. We are fairly certain these can be carried out in an orderly fashion.

Why, then, was this not done?

**Evacuation Planning**

At the end of February, the airstrikes had caused the enemy to pull back temporarily to regroup, and the evacuation plans were completed. Three Air Force HH-1 "Jolly Green Giant" helicopters and two Air
America Bell 212 Huey helicopters with a combined capacity of 155 people were to be used. The plan also called for the evacuation of the Hmong guerrillas defending the immediate area of the summit. To provide immediate response in case of surprise attack, the two Air America choppers were to remain on alert at nearby Lima Site 98. The Air Force aircraft were to fly from Thailand. The wild card in the plan was weather. Low ceilings and visibility, common in northern Laos in March, could keep any aircraft from landing on the tiny mountaintop clearing.

In early March the Air Force reinforced the TSQ facility with five more technicians from Udorn to provide for 24-hour operation of the radar in the site's own defense. At this point, the CIRCUIT RIDERS also began to arm themselves with rifles, grenades, and other light weapons. A series of slings or ropes were lowered down the front face of the mountain to allow the technicians to lower themselves down the sheer rock face and hide in the crags of the 1,400-foot cliff. There was no place to go from this position, but it also was difficult to reach or attack. The senior CIA adviser's comment later was, "The technique of personnel hanging over the cliff by straps was not discussed as a serious escape or evasion plan."

Closing In

By 9 March the enemy had the mountain surrounded, skirmishes were almost constant at the lower elevations, and the authority to
evacuate still
depended on the order from Ambassador Sullivan, who in turn
depended on the radio link at the CIA command bunker near the
helipad. The rules
for airstrikes in the area had been gradually liberalized until the
radar operators at the site could do nearly anything they liked
except communicate
directly with the attack aircraft. There were now four full
battalions of the NVA 766th Regiment, including one PL
battalion, within striking range of
the COMMANDO CLUB.

Shortly after 1800 on 10 March an artillery barrage commenced
against the summit. The 105-mm howitzer being used by the
Hmong received a
direct hit, and the living quarters for the TSQ personnel were
also damaged. The technicians sought shelter in a bunker just
outside immediately
after notifying Udorn that they were under attack and were
abandoning the radio in the TSQ building. The attack had begun
near nightfall because
the enemy knew the Americans would not bomb so close to
friendly troops at night.

The Hmong, possibly reinforced by a battalion of the Thai Army
operating clandestinely as "mercenaries," were dug in on the
southeast face of
Phou Phathi. They believed they were in a good position to repel
a frontal assault. The Communists, however, believed they were
strong enough to
try it.

Commencing the attack with three battalions, the NVA fought up
the southeast slope of the mountain. On the north side, 20 heavily armed local Hmong who had defected to the PL began to scale the cliff with the intention of surprising the Americans in their undefended rear. (This strategy was identical to the successful attack on Phou Phathi in 1959, even including the use of Hmong sappers.)

The Air Force at Udorn began urgently preparing night airstrikes, which required flare ships and specially configured night-attack A-26 Invaders from the 506th Special Operations Wing. Evacuation of the personnel still was not contemplated.

At 1945 the artillery barrage ceased, and the Air Force technicians returned to the TSQ facility. The aircraft flying to the site's defense were diverted to other targets. There was only minor damage to the TACAN antenna and no casualties. Some of the F-4s and A-26s continued to Site 85 and hit targets in the area until 0320 on 11 March. At 2020 on 10 March, the Ambassador considered the situation critical enough to permit direct TSQ control of airstrikes on the lower slope of the mountain. The approaching enemy was alleged to be using flashlights, while the Hmong sappers were at this point scaling the northeast face.

Deferring a Decision

An entry in the 7th Air Force log indicates that at 2115 the
Ambassador was considering evacuating personnel from Site 85 at first light. The deputy commander of 7/13 Air Force contacted the Embassy in Vientiane and indicated that evacuation should be commenced only as a last resort if the situation became untenable. These interactions indicate that the Ambassador, the 7th Air Force, and the men at the site did not believe as late as 2100 that the situation had become perilous. The danger appeared manageable, and the security of the ridgeline was believed intact. All concerned had good intelligence about the disposition and intentions of the enemy, so there must have been inordinate faith in the remoteness and defensibility of the mountain. When the shelling resumed at 2121, the Ambassador, still in close communication with the site, ordered that nine of the 16 CIRCUIT RIDER technicians be evacuated at 0815 the next morning.

Sapper Attack

The situation remained comparatively stable until 0300 on 11 March. One five-man TSQ crew had continued to operate the equipment while another had descended the slings to sleep in a grotto on the northwest face. At this point, the Hmong sappers reached the summit. They infiltrated silently past its defenders, seemed familiar with the site, and began methodically destroying the buildings with grenades.

Hearing the noise of the battle, the TSQ technicians ran out the
front door of the operations building into small-arms fire. Three were killed instantly, including the TSQ commander, while the rest scrambled over the side of the cliff. The invaders then began throwing grenades toward the grotto where the off-duty crew had been sleeping, waking them and killing two.

The CIA commander at the helipad, described as a former Green Beret named Huey Marlow, observed an explosion that destroyed the TACAN antenna. He began advancing on the summit, armed with an automatic shotgun and several grenades and accompanied by a few Hmong. After engaging in hand-to-hand combat between the helipad and the TSQ compound, Marlow reached the summit only to encounter an emplaced machinegun position. He killed the crew and rescued the FAC who had been hiding behind one of the TSQ buildings.

The technicians who had gone over the cliff were hanging in slings among the rocks below, still under fire from the mysterious attackers. Their return fire forced the enemy to pull back momentarily from the precipice. Marlow and his Hmong, with the FAC from Vientiane, who were still under fire from the opposite direction, fought their way back to the helipad. Marlow was later awarded the Intelligence Cross.

Evacuation Attempt

At the Embassy in Vientiane, the Ambassador lost touch with the situation after 0300, and radio contact was not re-established at
the helipad until about 0500. He then ordered full evacuation at 0715, an hour ahead of schedule. The Air America helicopters were standing by and immediately tried to reach the site, as incoming fire had apparently ceased just before 0700. Approaching the summit, however, they drew fire from the sappers.

Marlow, observing this, estimated that the TSQ area was in enemy hands and called in A-1E Sandys on the facility. This strike forced at least one enemy soldier to flee over the cliff where the surviving Air Force technicians were hiding. There was then a furious firefight on the side of the cliff, and the soldier was killed.

Following the airstrike by the Sandys, the Air America helicopters were able to approach the ridgeline and evacuate some of the Americans. The Air Force combat SAR Jolly Green Giants did not join in the rescue, perhaps because of their inability to land on the tiny clearing. The Air America Hueys went in repeatedly and extracted the two CIA officers, the FAC, and five of the technicians who had hidden in the craggy rocks on the cliff face. One technician was hit during the extraction, and he died on the way to Udorn.

Return flights were able to recover or account for eight of the 11 Americans killed on Phou Phathi, as well as some wounded Hmong defenders. The other three, who were among those who scrambled over the side of the cliff after abandoning the TSQ, were believed blown off
the cliff by the constant artillery and mortar fire and airstrikes. Later in the morning a counterattack was contemplated at Udorn, but this plan was temporarily set aside in favor of continued search and rescue.

Destroying the Site

By midday hopes of recovering the missing Americans were discarded and attention turned to destroying the radar to prevent it from falling into the hands of the North Vietnamese, along with the documentation and operational information that was left in the COMMANDO CLUB operations building. The North Vietnamese evidently did not realize what they had captured, or, if they did, did not care. No effort to remove or exploit the TSQ was detected in the hours immediately following capture of the site. The Air Force, however, was not going to give the enemy a chance to think about it. Beginning in late morning on 11 March, airstrikes were directed against the summit every day for a week to obliterate all traces of the COMMANDO CLUB on Phou Phathi. Between the 12th and 18th,

95 sorties were directed to destroy the radar; and on the 19th, two A-1 Sandys leveled every building on the ridge. This aerial barrage had the collateral effect of probably obliterating the remains of any Americans who were left on the mountain.

Postmortem
After the situation became clearer in the days following the battle, Ambassador Sullivan and 7th Air Force ordered a postmortem on the fiasco. The Ambassador recorded his comments in a PERSONAL FOR message to General Momyer at Tan Son Nhut:

. . . In hindsight, it seems to me we should have pulled all technicians out morning of 10 March even if this means losing the last few hours of the installation's capabilities.

What concerns me most is not the defensive action, but the disruption of the preplanned evacuation procedure. It is still not clear why technical personnel went over cliff to narrow ledge rather than down trail to chopper pad. CAS [euphemism for CIA] personnel subsequently went up same trail to installation, so we know trail was traversable, even under artillery fire. It is also not clear to me how small Vietnamese suicide squad got to the installation site, although it seems they must have scaled the cliff. . . .

Why did the COMMANDO CLUB technicians go over the cliff? That action seems to have caused most of the casualties.

The answer probably lies in the training of the Air Force personnel. The sheep-dipped technicians, unarmed and posing as civilians, were not really combatants, yet they were in a position where close combat was almost inevitable. As is often the case in war, things did not go according to Plan A.
and the COMMANDO CLUB did not have a Plan B. The Air Force did not train the CIRCUIT RIDERS to fight as infantry to defend themselves.
This was the real tragedy of Phou Phathi. If the technicians had organized their own defense, with armed sentries manning a defensive perimeter around their facility, possibly even incorporating the Hmong guerrilla troops in their effort, their chances of survival would have been much greater.
The tactic of climbing over the side of the mountain, rather than maintaining a defensible position, was not militarily sound. The CIA advisers and the Ambassador apparently realized this.

Epilogue

The loss of Site 85 was not really an intelligence failure because accurate information about the nature of the situation was available from the start.
But it was a failure of command and control and leadership because the local forces did not have full authority for their own defense and depended almost wholly on local irregular troops led by CIA advisers. Nonetheless, the Hmong and the CIA nearly saved the COMMANDO CLUB; they probably would have if it had not been for the amazing feat of the sappers scaling the northeast face.

The fall of Phou Phathi was the beginning of a major enemy offensive in Laos that was to exact a heavy toll on Vang Pao's Hmong army. In fact, it was the beginning of the end for the non-Communist forces in Laos. The Hmong suffered severe casualties in the last months of
1968, and PL advances were inexorable.

By September the North Vietnamese and PL had over 20 battalions in the Samneua area—the largest concentration of forces in Southeast Asia at the time. The US Air Force continued to strike hard at these forces. Although there were fearsome losses among the enemy units, the Vietnamese and Lao Communists accepted the losses with no change in strategy.

Vang Pao continued to insist on retaking Phou Phathi, even though the Embassy in Vientiane did not believe this was necessary or wise. At one point, Ambassador Sullivan told Vang Pao he would not provide air support for an offensive against the Sacred Mountain in the wet season, so Vang Pao said he would walk there by himself. The Ambassador relented, and the offensive went forward, but it ended in deadlock near Muong Son in late July.

Finally, with heavy support from CIA and Air Force resources, the Hmong reached the base on Phou Phathi. On 18 July a few Hmong commandos managed to reach the destroyed helipad and TSQ facility, but they were unable to hold the ridgeline. The 148th NVA Regiment sent Vang Pao's troops reeling, while taking heavy casualties. Phou Phathi was never recaptured.
Dear Major Meyer,

My name is John Barry Smith. I have an alternative explanation for the crash of TWA 800 which fits your eyewitness description.

But first, credentials:
I flew in P2V-5FS in VP 10 off Cuba during the Fall of 62 taking pictures of Soviet ships with missiles inside. You were there in Cuba.
I flew as RA5C recon navigator off North Vietnam with RVAH1 onboard USS Enterprise in 1968. You were there in Vietnam.
I was Air Intelligence Officer with NAIRU, Naval Air Intelligence Reserve Unit, Alameda in 1970-1974. You were there in the Guard.
I am a retired major. You are a major.
I was in a sudden night fiery fatal jet airplane crash in 1967. You
were there with TWA 800.

I know what happened to cause the sudden night fiery fatal jet airplane crash you witnessed on the evening of July 17, 1996.

The initial event was the inadvertent opening of the forward cargo door in flight. The streak was the double car garaged sized door spinning away reflecting evening sunlight to observers. The explosion was the many seconds later fireball caused when the torn off nose aircraft fell and disintegrated into fuel vapor and debris and ignited by detached falling free Fodded and on fire number 3 engine. The sudden loud sound on the CVR is the start of the explosive decompression when door opened. The abrupt power cut is the sudden disruption to the floor near the main equipment compartment when door goes. The ultimate destructive force is not the explosive decompression, it is the tornado force 300 knots on the weakened nose of 747 with huge 10 by 30 foot hole in side.

My conclusion has been reached after eight years of research into cargo door caused crashes of high time Boeing 747s. The research is fully documented and displayed at web site. http://www.corazon.com/crashcontentspagelinks.html

UAL 811 confirmed cargo door caused crash of 1989 out of Honolulu is my reference, NTSB AAR 92/02. The evidence of UAL 811 matches TWA 800 from sudden loud sound on the CVR, to abrupt power cut to FDR, to missing bodies, to things falling off plane, to foddled engines, in addition to being a high time Boeing 747 taking off at night and suffers an event near the leading edge of the wing.

I invite your attention to the site for discussion should you wish.
Major Meyer, I give you my personal assurance, as a former Naval officer, combat veteran and jet crash survivor, inadvertent openings of the forward cargo door are causing high time Boeing 747 crashes, one of which is TWA 800.

I am available at phone 408 659 3552 or email at barry@corazon.com

Respectfully,

John Barry Smith
MAJ USA (Ret)

From: David Goldberg <D.Goldberg@law.gla.ac.uk>
Date: September 4, 1997 8:48:05 AM PDT
To: barry@corazon.com
Subject: another instance?

Dear Barry

I read your site with interest! I did once meet a guy in hotel in Tallin, Estonia in 1992 who claimed, on the basis of professional knowledge, that the PA103 wreckage was not consistent with an explosion/blast. However, my question to you is: are you considering the KAL 747 crash on Guam in the same light as your other examples?

Best wishes
David

From: John Barry Smith <barry@corazon.com>
Date: September 4, 1997 8:12:27 AM PDT
To: David Goldberg <D.Goldberg@law.gla.ac.uk>
Subject: Re: another instance?

However, my question to you is: are you considering the KAL 747 crash on Guam in the
same light as your other examples?

No. It does not have the required similarities, sudden loud sound, abrupt power cut, damaged right side engines, missing bodies, fire on on number 3 engine. Recent KAL crash does classic pilot error flight into ground in bad weather.

But thanks, I've considered all 28 747 crashes. The only two new possibles are the El Al crash into Amersterdam and Chine airlines crash near Wanli in 91 92. Those two act more like cargo door than they do fuse pin failure. PA103 and TWA 800 and AI 182 are probable cargo door crashes based on confirmed UAL 811 and PA 125.

Cheers, Barry

==============================================

David Goldberg

School of Law

University of Glasgow

G12 8QQ Scotland,UK

email: d.goldberg@law.gla.ac.uk
Barry,

I was just interested in knowing just how fast (MPH) a 747 can fly?
and what is the average crusing altitude. I couldn't find this info in your web site. Please let me know if you get a minute.

Thanks a bunch!

Jason
cconcept@bitstream.net

Barry,

I was just interested in knowing just how fast (MPH) a 747 can
fly?

Anecdotally it has gone supersonic in a dive. But for usual it's high subsonic, about 480 knots true airspeed for about 520 mph. The indicated airspeed is 300 knots.

and what is the average crusing altitude.

Assigned by ATC and usually between 31000 and 37000 feet.

Cheers,
Barry

From: Robert Smith <smithrw@SLU.EDU>
Date: September 15, 1997 9:27:12 PM PDT
To: barry@corazon.com

My question is regarding the 747-400 high capacity (569 passengers) jet. How many seats abreast are there at the widest point in the fuselage?

Rob

From: John Barry Smith <barry@corazon.com>
Date: September 15, 1997 8:43:45 AM PDT
To: Robert Smith <smithrw@SLU.EDU>
Subject: Re:
My question is regarding the 747-400 high capacity (569 passengers) jet. How many seats abreast are there at the widest point in the fuselage?

Rob

Sorry, no idea, Boeing Public relations may help, try boeing .com
Cheers, Barry

From: "Nth Degree" <nth.degree@trellis.net>
Date: September 15, 1997 6:57:16 PM PDT
To: <barry@corazon.com>

Barry;

Is it possible to get a list of the flight attendents names? A friend of mine worked for Pan Am years ago and was curious who they might have been.

Thank you,

Nth

From: John Barry Smith <barry@corazon.com>
Date: September 15, 1997 7:12:24 PM PDT
To: "Nth Degree" <nth.degree@trellis.net>
Subject: Re:

Barry;
Is it possible to get a list of the flight attendents names? A friend of mine worked for Pan Am years ago and was curious who they might have been.

Thank you,

Nth

Hmmm....I don't know. There should be PA 103 web sites devoted to that. Use search engines for Pan Am 103. I have tried to stay away from the emotional part of the crash and concentrate on the machine/mechanical aspect.

Cheers,
Barry

From: "Nth Degree" <nth.degree@trellis.net>
Date: September 16, 1997 1:14:56 PM PDT
To: <barry@corazon.com>

Barry;

Thank you for responding!

I'll keep looking.

Nth

From: John Barry Smith <barry@corazon.com>
Barry;

Is it possible to get a list of the flight attendents names? A friend of mine worked for Pan Am years ago and was curious who they might have been.

Thank you,

Nth

The Crew of Pan Am 103

When a plane has crashed, much attention is payed to the victims, and almost only to the passengers. Less attention from the public is payed to the flight crews, unless they suspect the captain might have screwed up.... This page is dedicated to the crew of Pan Am 103, that couldn't do much to avoid the disaster:

The Cockpit Crew:

Captain James Bruce MacQuarrie, 55, from Kensington, New Hampshire, USA (10910 flight hours of experience)

First Officer (co-pilot) Raymond Ronald
Wagner, 52, from Pennington, new Jersey, USA (11855 flight hours of experience)

Flight engineer Jerry Don Avritt, 46, from Westminster, California, USA (8068 fh/experience)

The Pursers:

Mary Geraldine Murphy, 51, Twickenham, UK
Milutin Velimirovich, 35, Hounslow, UK (czechoslovakian)

The Flight Attendants:

Elisabeth Nichole Avoyne, 44, Croissy-sur-Seine, France, French
Noelle Lydie Berti, 41, Paris, France, French
Siv Ulla Engstrom, 51, Windsor, UK, Swedish
Stacie Denise Franklin, 20, San Diego, USA
Paul Isaac Garret, 41, Napa, USA
Elke Etha Kuhne, 43, Hannover, BRD, German
Maria Nieves Larracoechea, 39, Madrid, Spain
Lilibeth Tobila Macalolooy, 27, Kelsterbach, BRD, Phillipino
Jocelyn Reina, 26, Isleworth, UK, American
Myra Josephine Royal, 30, Hanwell, UK, Dominican Republic
Irja Syhnove Skabo, 38, Oslo, Norway, Finnish

I haven't been able to find any other information about the flight crew, i.e. pictures, background, flight history etc. This proves, that whenever there
happens an aircraft disaster, focus is put on the passengers, despite that it is the flight crew who often has the worst and hardest job of calming passengers, forgetting their own fright and fear.....

From: "Nth Degree" <nth.degree@trellis.net>  
Date: September 20, 1997 4:28:07 AM PDT  
To: <barry@corazon.com>

Barry;

Thank you so much. I am sure my friend will appreciate this. You were a real sport to keep looking. I gave up after an hour or so on the net.

Thank you again.

Nth

From: CUnderw356@aol.com  
Date: September 21, 1997 12:58:04 PM PDT  
To: barry@corazon.com  
Subject: your site

Just visit your site there seem to be a problem, can't read anything, everything is fuzzie.

cunderw356@aol.com
Barry,

I am a flightsim hobbyist.

I am trying to find out if the airfoil type varies from root to tip of the wings in the Boeing 747-400. Also what relatively standard NACA or similar designation is close to the actual design. I would also appreciate data on the 737 and 777.

Please help me if you can

Jules

Julian Wasserman

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Please help me if you can

Jules

Julian Wasserman

Sorry, too technical for me. Good questions. Boeing may help. My 747 web site has a lot on construction. Good Luck,
John Barry Smith

From: <JLNWSRMN@vms.huji.ac.il>
Date: September 22, 1997 9:26:00 AM PDT
To: John Barry Smith <barry@corazon.com>
Subject: Re: Airfoils

<SNIP...SNIP>

Barry,

Thanks a lot for your VERY prompt and sympathetic reply. I saw your web site. Great. That's how I got your e-mail address. I have sent an e-mail to Boeing. Please keep me in mind. If you can think of any other source let me know.
Oh. I likled your web site in a post I made to our X-Plane list server.
Jules

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Julian Wasserman

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John Barry Smith

Email: barry@corazon.com
http://www.corazon.com/811bigholephotobetter.html
From: John Barry Smith <barry@corazon.com>
Date: September 22, 1997 11:14:30 AM PDT
To: <JLNWSRMN@vms.huji.ac.il>
Subject: Re: Airfoils

stanwatson@mail2.theonramp.net

The above is a good long time friend who designs and builds model sailplanes. He also does a lot of flight sim flying on his computer. He talked me into taking flying lessons.

He may be able to help. His name is Stan Watson. He calls me JB.

Sincerely, Barry Smith

<SNIP...SNIP>

Barry,

Thanks a lot for your VERY prompt and sympathetic reply. I saw your web site. Great. That's how I got your e-mail address. I have sent an e-mail to Boeing. Please keep me in mind. If you can think of any other source let me know. Oh. I liked your web site in a post I made to our X-Plane list server.

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I would also appreciate data on the 737 and 777.

Please help me if you can

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Julian Wasserman

Sorry, too technical for me. Good questions. Boeing may help. My 747 web site has a lot on construction. Good Luck,
John Barry Smith

Email: barry@corazon.com
http://www.corazon.com/811bigholephotobetter.html
To: barry@corazon.com
Subject: Air India

Can you explain the traces of chemicals consistent of explosives found on recovered crash particles months after the incident? Or the fact that wire tap conversations by the Canadian Security Intelligence Service, which were ruled inadmissible do to the lack of a Warrant, confirmed the placement of a bomb in a suitcase placed on board at Mirabel Airport (YMX) by a known Sikh radical (who, by the way, was killed in a police shoot out last year in India). I don't think this was a Cargo Door conspiracy.

Regards
Paul Scalzo

From: John Barry Smith <barry@corazon.com>
Date: September 25, 1997 8:37:04 PM PDT
To: Paul Scalzo VE2KBW <nsc@total.net>
Subject: Re: Air India

Can you explain the traces of chemicals consistent of explosives found on recovered crash particles months after the incident?

Maybe like the TWA 800 traces that were shown to be benign.

Or the fact that wire tap conversations by the Canadian Security Intelligence Service, which were ruled inadmissable do to the lack of a Warrant, confirmed the placement of a bomb in a suitcase placed on board at Mirabel Airport (YMX) by a known Sikh radical (who, by the way, was killed in
a police shoot out last year in India).

Haven't heard anything about wiretaps. RCMP and Indians had bomb placed aboard in Vancouver BC. Oh well, bomb conspiracy theorists can never get their stories straight. Like PA 103, now there's some good stories.

I don't think this was a Cargo Door conspiracy.

Me either.

Cheers, John Barry Smith

From: "varsha shetty" <varshaavel@hotmail.com>
Date: September 27, 1997 1:45:16 AM PDT
To: barry@corazon.com
Subject: airindia 747 1985

Hi Barry,
I went to the site and read about the disaster in 1985. Do you have more info on the passengers. And any pics of the wreck?

Varsha

Get Your Private, Free Email at http://www.hotmail.com
Hi Barry,
I went to the site and read about the disaster in 1985. Do you have more info on the passengers. And any pics of the wreck?

Varsha

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Get Your Private, Free Email at http://www.hotmail.com

sm148@prism.gatech.edu

Dear Varsha, I sent your request to the above email, he may be able to help. Say Hi if you wish. He may have passenger list too. The only pictures I have are on the website in the AI 182 Indian report. The pictures are terrible, bad copying from the authorities.

Sincerely
John Barry Smith

From: Sua9999com@aol.com
Date: September 29, 1997 12:48:25 PM PDT
To: barry@corazon.com
Cc: Sua9999com@aol.com
Subject: help needed

BARRY,

MY NAME IS DAVID W SUAREZ, AND I'M A COLLEGE STUDENT AT KENT STATE UNIVERSITY IN OHIO. PRENTLY I AM ENROLLED IN AN AVIATION LAW & SAFETY CLASS. I AM DOING A REPORT ON NTSB/AAR-93-06. THE IN-FLIGHT ENGINE SEPARATION OF JAPAN AIRLINES,INC.,FLIGHT 46E. I HAVE THE ACTUAL NTSB REPORT, BUT I COULD USE SOME MORE INFORMATION HOW IT HAPPEN AND ANY PHOTOS AVAILABLE OF THE AIRPLANE DAMAGE. THANK YOU FOR ANY INFORMATION PROVIDED.
SINCERELY,
W SUAREZ  DAVID
From: John Barry Smith <barry@corazon.com>
Date: September 29, 1997 3:40:00 PM PDT
To: Sua9999com@aol.com
Subject: fuse pin/cargo door

BARRY,

MY NAME IS DAVID W SUAREZ, AND I'M A COLLEGE STUDENT AT KENT STATE UNIVERSITY IN OHIO. PRENTLY I AM ENROLLED IN AN AVIATION LAW & SAFETY CLASS. I AM DOING A REPORT ON NTSB/AAR-93-06. THE
IN-FLIGHT ENGINE SEPARATION OF JAPAN AIRLINES, INC., FLIGHT 46E. I HAVE THE ACTUAL NTSB REPORT, BUT I COULD USE SOME MORE INFORMATION HOW IT HAPPEN AND ANY PHOTOS AVAILABLE OF THE AIRPLANE DAMAGE. THANK YOU FOR ANY INFORMATION PROVIDED.

1. Don't write in capitals.
2. All I have is the report to go on too, it's scanned in and on web site www.corazon.com
3. What is interesting is that this fuse pin failure of 46E is used to explain the 747 crashes of El Al and China Airlines yet the evidence does not match fuse pin explanation but does match cargo door explanation.
4. Have your instructor email me if he wishes to explore cargo door explanation for Pan Am 103 and others.

Sincerely,

John Barry Smith

From: "Rod Miller"<rmiller@icrc.org>
Date: September 30, 1997 7:29:37 AM PDT
To: barry@corazon.com
Subject: Open-door policy

Dear Barry,

Have been looking at some of your stuff on cargo doors departing from 747s
(not the only passenger aircraft to have that sort of trouble). Though an aviation buff and pilot, I have no expertise in the area. After reading what you have to say, I do have a few questions:

1) There would seem to be irrefutable evidence of the centre fuel tank exploding on TWA 800. What made that happen? (I mean, the investigators have withstood all the public clamour for a terrorist-bomb / naval-government-conspiracy explanation and are now leaning towards a supposition that rather implicates Boeing and TWA. In my eyes that isn't taking the easy way out and tends to restore their credibility).

2) Wasn't evidence of an onboard explosion (i.e. a bomb) found in the case of PA103?

I look forward to hearing from you.

Rod

From: John Barry Smith <barry@corazon.com>
Date: September 30, 1997 9:37:23 AM PDT
To: "Rod Miller"<rmiller@icrc.org>
Subject: Open-door policy

Dear Rod,
1) There would seem to be irrefutable evidence of the centre fuel tank exploding on TWA 800. What made that happen?

After nose comes off the falling debris ignites into fireball when engine number 3 is flaming and foded. CFT not as initial event for about 20 seconds later.

2) Wasn't evidence of an onboard explosion (i.e. a bomb) found in the case of PA103?

http://home.dc.lsoft.com/scripts/wa.exe?SUBED1=flight-800

Discussion group talking about the very things your brought up.

Cheers, John Barry Smith

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.
Based on the new research discovery that traces of explosive residue on aircraft fragments can be benign, the investigation into Pan Am 103 should be reopened on that information alone. If the traces are not from a bomb, then no bomb evidence. A small piece of plastic may give timer evidence, but no bomb evidence.

There is no such thing as a stealth bomb which leaves no residue and makes no sound unless explosive decompression is accepted which makes a loud sound, causes loose items to crash into each other, leaves no residue, and is not a bomb.

After all is said and done, it could have been a small blast which forced the door open, however, based on other accidents where the door opening led to destruction, the likely cause of the door opening is not a small blast in the forward cargo compartment but an electrical short which caused the door open motor to turn on, forcing the door to open past the cam locks, just like it did previously in three other instances of inadvertent cargo door openings.

OK, what about the wonderful spy story with foreign governments, CIA, coverups, bombs, timers, pants bought in Malta, etc, hey, great story, make a great movie, but not true; just entertaining fiction. That story has so many holes in it that it is incoherent. The tellers disagree among themselves every time they tell it. The exaggeration of the warning, the non explosion on the way from Frankfurt to
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Comment: How can so many experts be wrong? You'll have to ask the experts. There is no conspiracy, no coverup and no plot. Administrative errors are made and administrative errors get corrected. There was a small blast, but not a bomb. There was an explosion, explosive decompression, which makes a loud sound and mimics a bomb in consequences. Wishful thinking, blaming others, and avoiding responsibility leads to errors of fact. The explanation may end up with sequence in dispute: door opened then small blast, or small blast then door opened. PA 103 door with cam lock evidence resides in hangar in UK. AI 182 door at bottom of sea. TWA 800 door in hangar in USA. 27 Mar 97

From: "j p desgagns" <desgfont@microtec.net>
Date: October 2, 1997 6:35:24 PM PDT
To: <barry@corazon.com>
Subject: twa 800
who is responsible for the accident? A US Army manoeuvre seems to me the real cause of the crash

Very interesting. Well done.

Best,

Hamish Milne
Visitor 1325!

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Just a week ago Lester Coleman, who said he was part of a DEA coverup deal to bomb 103 recanted his story and said it was all fabricated.

Thanks,
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Pan Am

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forwardcargodoorpict.html
Schematic1
Schematic2
Schematic3
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Airworthiness Directive Amendment to 89-05-54 amending
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Cargo door accidents
Boeing747historycontents.html
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103reportcontents.html
811reportcontentpage.html
AirIndiareportcontents.html
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800newsreports2.html
800newsreports3.html
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aerodynamics.html
314accidentreport.html
811skiesdoorcontents.html
Contents
barry@corazon.com
From: "Robin Langford" <newsmakers@hotmail.com>
Date: October 3, 1997 12:45:18 PM PDT
To: barry@corazon.com
Subject: BOEING 747's

Dear Sir,

I read you internet site with great interest and have told many people.

Pardon what sounds like a very stupid question but what are "fodded engines" and "FOD".

More power to your arm!

Robin Langford

Get Your Private, Free Email at http://www.hotmail.com
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Robin Langford
Dear Mr. Langford,

Foreign Object Damage, a phrase to strike fear into any jet jock. My crash which killed my pilot was caused by a titanium bolt the size of a finger which fodded the engine causing it to fail.

Thanks for passing on cargo door explanation,

Cheers, John Barry Smith

From: Richard Wagenaar <R.Wagenaar@inter.NL.net>
Date: July 29, 1997 2:52:31 PM PDT
To: barry@corazon.com
Subject: Hi Barry,
Reply-To: R.Wagenaar@inter.NL.net
Which airplane is supposed to be safer in general, the Boeing 747 or the Mc Donald Douglas DC10? Do you have any Web sights which show statistical information about safety or crashes?

Thanks

Richard

From: John Barry Smith <barry@corazon.com>
Date: October 7, 1997 7:18:20 PM PDT
To: R.Wagenaar@inter.NL.net
Subject: Dutch aviation

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They are all safe relative to cars. Fly in new planes with good pilots in good weather to good airports and you'll be OK.

Below is great website

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Also, PA 103 is in the Hague court and it is not a bomb, but a cargo door.
Also, EL Am into Amsterdam might be a door also.

I would love to talk to a Dutch aviation professional, do you know any?

Cheers, Barry

Honderden onveilige Boeings vliegen nog

Door onze redacteur HARM VAN DEN BERG

AMSTERDAM, 4 OKT. Over de hele wereld vliegen nog 640 oudere Boeing 747 met dezelfde onveilige constructie die vijf jaar geleden de ramp met het vrachtvliegtuig van El Al in de Bijlmer veroorzaakte. Dit heeft fabrikant Boeing desgevraagd meegedeeld.

Aangezien deze constructie - een onderdeel van de motorophanging - een veiligheidsrisico inhoudt, adviseert de vliegtuigfabrikant de luchtvaartmaatschappijen de
bevestiging van de motoren intensief te
controlleren. Desondanks zijn er na de ramp in
een Amsterdam weer twee motoren van
Anchorage en Boeing 747 gevallen, in
in Miami.

Vandaag precies vijf jaar geleden,
op 4 oktober 1992, verloor een
volgeladen Boeing van de Israelische
luchtvaartmaatschappij El Al kort
achter elkaar de twee motoren van de
rechtersvleugel. Bovendien werd bij
het afbreken van de motoren ook de
voorzijde van de vleugel zwaar beschadigd.

Om vijf over half zeven in de avond stortte
het toestel op de flats Kruitberg-

Groeneveen in de Amsterdamse Bijlmermeer.

Vier personen aan boord van het
vliegtuig en 39 flatbewoners kwamen om het
leven.

De Raad voor de Luchtvaart en de Amerikaanse National Transportation and Safety Board stelden kort na het ongeluk vast dat de gehele ophangconstructie van de motoren „niet toereikend is gebleken om het vereiste veiligheidsniveau te verzekeren“. De fabrikant kreeg de aanbeveling om het ontwerp ervan te verbeteren. Waar niet direct mogelijk zou zijn, moesten intensievere 'visuele' inspecties worden verricht.

Fabrikant Boeing veronderstelde destijds dat de hele vervangingsoperatie binnen drie jaar achter de rug zou kunnen zijn. Dat blijkt te optimistisch, het schema is bij lange na niet gehaald. In totaal
948 toestellen die in de jaren tachtig zijn gebouwd, worden vernieuwd. Tot nu toe zijn er niet meer dan 308 verbeterd. „Maar van de rest zal grootste deel nog aan de beurt komen”, zegt D. Webb, woordvoerder van Boeing. De vliegtuigfabrikant betaalt de kosten van het ontwerp en het materiaal voor de nieuwe constructie. Over de kosten worden geen mededelingen gedaan, ingewijden schatten het totale bedrag op honderden miljoenen dollars. De luchtvaartmaatschappijen moeten de ingrijpende verbetering, die arbeidsuren vergt, voor eigen rekening uitvoeren. „Wij kunnen niet voor hen bepalen wanneer dat dient te
gebeuren'', aldus Webb.

Ondanks de snelle vaststelling van de oorzaak van de vliegramp, is nog altijd een belangrijk deel van de vracht aan boord van het neergestorte toestel niet bekend.

Vast staat dat er een grote hoeveelheid militaire goederen werd getransporteerd. Twee voormalige medewerkers van El Al zeggen in een Duitse tv-documentaire, die de WDR vanavond om kwart over zeven uitzendt, dat de Israelische maatschappij op het kantoor in Keulen jarenlang „een dubbele boekhouding” voerde om werkelijke aard van de lading te verdoezelen.

NRC Webpagina's
Hi Barry,

Thanks for you info. I also found a good page:

http://207.48.130.144/

I don't know any good aviation professional.

Here in the Netherlands we have currently hot discussions about the El Al excident 5 years ago. There are new proofs that the plane should have landed in the sea instead of in the center of Amsterdam. The El-Al lost two engines in the sea and decided to return back to land though it new it could never land with this overloaded 747 and only 2 engines.
They think the El Al did have some secret cargo because after the crash there was a team of a lot of people in white cloths doing something. The government in the Netherlands has always denied the existence of such a team but a lot of people have seen them.

Thanks

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adviseert de vliegtuigfabrikant de luchtvaartmaatschappijen de bevestiging van de motoren intensief te controleren. Desondanks zijn er na de ramp in Amsterdam weer twee motoren van een Boeing 747 gevallen, in Anchorage en in Miami. Vandaag precies vijf jaar geleden, op 4 oktober 1992, verloor een volgeladen Boeing van de Israelische luchtvaartmaatschappij El Al kort achter elkaar de twee motoren van de rechtervleugel. Bovendien werd bij het afbreken van de motoren ook de voorzijde van de vleugel zwaar beschadigd. Om vijf over half zeven in de avond stortte het toestel op de flats Kruitberg-Groeneveen in de Amsterdamse
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I don't know any good aviation professional.

Know any reporters? I would love to talk to a Dutch reporter about El Al crash and the Dutch accident report which I have. It has many ambiguities.
Sincerely,

John Barry Smith

From: Richard Wagenaar <R.Wagenaar@inter.NL.net>
Date: October 8, 1997 10:37:25 AM PDT
To: John Barry Smith <barry@corazon.com>
Subject: Re: Dutch aviation reporter
Reply-To: R.Wagenaar@inter.NL.net

I am not a reporter or have a job like that.
I don't know addresses.

Though I will check the newspapers if I can get some addresses of people which are busy with this.

It seems that there is a group which has enough proof to go to court here in the Netherlands. This group doesn't belief the stories of the government and El Al.

I have read a little bit about DC10 and 747.

Apparantly the DC10 has solved their door problems better than Boeing.

I heard some stories about problem with the engine construction in the end wing of the DC10. Something about steel fatigue around the engine. True?
If I compare the crash data it seems that the DC10 is safer than the 747 or?

Thanks

Richard

John Barry Smith wrote:

I don't know any good aviation professional.

Know any reporters? I would love to talk to a Dutch reporter about El Al crash and the Dutch accident report which I have. It has many ambiguities.

Sincerely,

John Barry Smith

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