

To: gencaa@mail.caa.gov.tw/
From: John Barry Smith <barry@qp6.com>
Subject: China Airlines Flight 611 alternative explanation
Cc:
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X-Attachments: :MrX:158673:81192/02.pdf:

“How could the ASC jump hastily to its conclusions when half of the [section in question] has yet to be found?” asked CAA Director-General Billy Chang.

As might be expected, when a significant part of the wreckage, particularly part of the rear section of the fuselage was not recoverable, some of the findings in the report are less than certain. CAA Director-General Billy Chang.

Civil Aeronautics Administration of Transportation and Communications.
CAA Director General
Billy Kuo-Cheng Chang
Taiwan

Dear Mr. Chang, Tuesday, March 8, 2005 10:12PM

I agree with you that the ASC were hasty in their conclusion that a long crack from a repair doubler caused the inflight explosive decompression of China Airlines Flight 611 and that the ASC findings were less than certain.

There exists a more reasonable, plausible mechanical explanation with precedent; it is the shorted wiring/ruptured open cargo door/explosive decompression/inflight breakup explanation and the precedent is United Airlines Flight 811. This wiring/cargo door explanation exonerates China Airlines because the actual probable cause was not faulty repair but aging wiring and the design defects of a non-plug cargo door with only two midspan latches with no locking sectors.

May I first present the evidence from China Airlines Flight 611 which supports the wiring/cargo door explanation because it matches United Airlines Flight 811, picture below.



United Airlines Flight 811 was the Boeing 747 that had its forward cargo door inadvertently open in flight in 1989 after takeoff from Honolulu leading to explosive decompression and nine fatalities. "The National Transportation Safety Board determined that the probable cause of this accident was the sudden opening of the forward lower lobe cargo door in flight and the subsequent explosive decompression. The door opening was attributed to a faulty switch or wiring in the door control system which permitted electrical actuation of the door latches toward the unlatched position after initial door closure and before takeoff."

United Airlines Flight 811 and China Airlines Flight 611 both:

1. Early model -100 or -200
2. Sudden airframe breakup in flight (partial or total)
3. High flight time
4. Aged airframe
5. Initial event within an hour after takeoff
6. Initial event at about 300 knots while proceeding normally in all parameters
7. Initial event starts with sudden sound on CVR
8. Cargo door fractured in two longitudinally
9. Passengers suffered decompression type injuries
10. Structural failure considered for probable cause.

The probable cause for China Airlines Flight 611 according to the ASC

was: "3.1 Findings Related to Probable Causes 1. Based on the recordings of CVR and FDR, radar data, the dado panel open-close positions, the wreckage distribution, and the wreckage examinations, the in-flight breakup of CI611, as it approached its cruising altitude, was highly likely due to the structural failure in the aft lower lobe section of the fuselage. (1.8, 1.11, 1.12, 2.1, 2.2, 2.6)"

Mr. Chang, that is correct as the aft cargo door is in the aft lower lobe section of the fuselage. However, the ASC has the initial location in the aft lower lobe as the crack in the skin instead of the shattered nearby aft cargo door. From the ASC report:

"1. Aft Cargo Door The aft cargo door was retrieved in the red zone in three major segments. The upper portion of the door (item 723 in Figure 1.12-4 left) was recovered with the hinge intact and the actuators in the closed position. The lower portion of the door (item 741 in Figure 1.12-4 right), including three forward pairs of latches, was recovered still latched and the locks engaged. Only a few pieces of the skin and stringers remained on the frames. The lower aft portion of the door (item 2019 in Figure 1.12-5), including the aft pair of latches, was found separately. The lower portion of the door skin was bent outboard approximately in 45 degrees. Examination of the hinge, latches, and the other mechanisms was consistent with the aft cargo door being closed at the time of the aircraft breakup."

"2.1.6 Cargo Door Opening Wreckage examination indicates that the forward cargo door, aft cargo door, and bulk cargo door were closed and remained intact when the aircraft broke up. Therefore, the Safety Council ruled out the possibility of a cargo door opening as a factor of the in-flight breakup. "

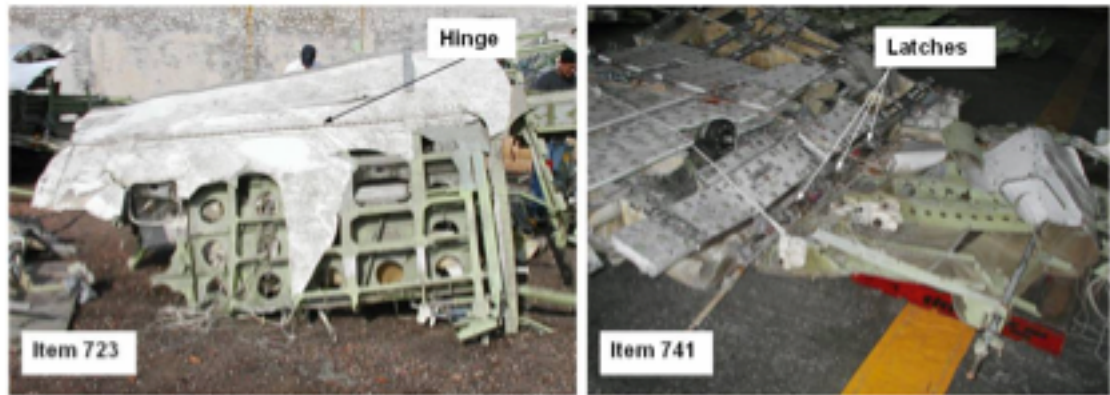


Figure 1.12-4 Item 723 (left) and item 741 (right)

Mr. Chang, the above conclusion by the ASC that the aft cargo door was closed at the time of the aircraft breakup is contradicted by the facts of the evidence. A cargo door retrieved in three main pieces far apart in the debris field did not 'remain intact when the aircraft broke up.' The ASC conclusion about ruling out the aft cargo door is proven wrong.

In fact the evidence points toward the aft cargo door failing in flight: From the ASC report: "The forward portion of item 640 includes the aft portion of the aft cargo door cut out frame. There are deformations at the lower latch fitting attachment location."

- Furthermore:
1. The door was shattered into three main pieces which landed far apart and early in the debris field which indicated the door pieces left early in the destruction process.
 2. The top half of the aft cargo door was split longitudinally with hinge intact similar to the United Airlines Flight 811 cargo door which ruptured open in flight.
 3. There are eight latches and eight locking sectors on the bottom of the door, only five were found for China Airlines Flight 611.
 4. There are two midspan latches, forward and aft with no locking sectors, neither of those midspan latches were recovered.
 5. The cargo door has a manual locking handle which was not recovered for examination for China Airlines Flight 611.

As you correctly stated, the ASC conclusion was hasty since many important parts of the aft section of China Airlines Flight 611 were not

recovered. It is impossible to declare a cargo door latched and locked at event time when the two most important latches as well as the manual locking handle are missing and therefore the latched state can not be determined.

Because of the many matches in evidence to United Airlines Flight 811, the shorted wiring/ruptured open cargo door/explosive decompression/inflight breakup explanation for China Airlines Flight 611 should be examined as carefully as the cracks near the repair doubler explanation. This comprehensive evaluation for the cargo door cause was not done.

Regarding the cracks causing the accident for China Airlines Flight 611:

From the ASC report:

"5. Residual strength analysis indicated that the main fatigue crack in combination with the Multiple Site Damage (MSD) were of sufficient magnitude and distribution to facilitate the local linking of the fatigue cracks so as to produce a continuous crack within a two-bay region (40 inches). Analysis further indicated that during the application of normal operational loads the residual strength of the fuselage would be compromised with a continuous crack of 58 inches or longer length. Although the ASC could not determine the length of cracking prior to the accident flight, the ASC believes that the extent of hoop-wise fretting marks found on the doubler, and the regularly spaced marks and deformed cladding found on the fracture surface suggest that a continuous crack of at least 71 inches in length, a crack length considered long enough to cause structural separation of the fuselage, was present before the in-flight breakup of the aircraft. (2.2, 2.5)"

Mr. Chang, a close reading of the above indicates that there was a short crack that could have led to a 40 inch crack that could have led to a 58 inch crack which could have led to a 71 inch crack which would be considered long enough to cause separation of the fuselage. Well, sir, that is not good enough. There is no mention of the crack splitting open, there is no evidence that the fuselage split open at the crack locations. There is no connection between the cracks and the

fuselage rupture, just 'facilitate', 'would be', 'believes', 'suggest', and 'considered'. The crack explanation is weak, vague, and without factual support that the cracks caused the accident. There is conclusive proof the cracks existed but none that they caused the accident.

There is, however, a shattered cargo door nearby in the aft lower lobe of the fuselage, pieces of which match another shattered cargo door which was caused by faulty wiring or switch. The sudden sound on the CVR for China Airlines Flight 611 is similar to the sound of an explosive decompression of that Boeing 747, United Airlines Flight 811.

The prime suspect for China Airlines Flight 611 should have been a ruptured open in flight aft cargo door. The reasons for that rupture can be investigated with many possible causes:

1. Bomb
2. Missile
3. Cracked fuselage
4. Cargo shift inflight.
5. Faulty wiring shorting on the cargo door unlatch motor.

The one probable cause that is irrefutable and which matches China Airlines Flight 611 is the event of United Airlines Flight 811 which was electrically caused. I have attached a copy in pdf format of NTSB AAR 92/02 for UAL 811 to this email for your consideration. That USA official report shows how a complete cargo door investigation should be carried out and still can be for China Airlines Flight 611.

It's not too late to ask for a further review of the probable cause for China Airlines Flight 611 to consider the shorted wiring/ruptured open cargo door/explosive decompression/inflight breakup explanation.

My interest is aviation safety as I am a survivor of a sudden fatal jet airplane crash. I was a navigator in a RA-5C two seat reconnaissance carrier jet in the US Naval Aviation service during 1966 to 1969 which suffered FOD while conducting touch and goes. My pilot told me to eject and I did but he died upon impact. I owe my life to him.

I am not associated with any legal team, manufacturer, airline, government entity or family member. I am an independent accident investigator who has been determining the causes of sudden inflight breakups of Boeing 747s of which there are several.

There is much more to discuss regarding this important issue, sir. The danger of another cargo door on a Boeing 747 rupturing open is current and real. The wiring is aging and another short to the door unlatch motor may occur at any time which would result in the rupture at the midspan latches causing fatal explosive decompression.

I make myself available for questioning via email, telephone, or letter at your convenience, sir.

Regards,
Barry

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From CAA web site:

Flight safety

Safety is the first concern of civil aviation, on which the operation, maintenance and repair of an air carrier have a direct impact. CAA for many years has untiringly worked for the amelioration of airport facilities, airway installations and flight services. Based on the stipulations of the Civil Aviation Law, it undertakes to oversee the functions of airline companies and conduct flight safety inspections. Such inspections cover flight operation and airworthiness, to make sure that flight crews are qualified, trained and judiciously dispatched, air carriers operate in full compliance of the law and receive periodical maintenance and repair to stay airworthy. Airline companies will be notified of any deficiency uncovered at flight safety checks and subject

to follow-up checks until improvement is made.

In a related aspect, a confidential, non-punitive voluntary report system has been instituted along with the setting up of a “Director General’s Letter Box” to encourage report on any potential threat to flight safety so that action can be taken to eliminate that threat.