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1 February 1995  
B-U01B-15118-ASI

Mr. H. N. Wolleswinkel  
Director, Department of Civil Aviation  
Aeronautical Inspection Directorate  
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<b>Luchtvaartinspectie</b>			
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Ter behandeling aan:			
Datum - 2 FEB. 1995			
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Subject: Recommendations of Accident Investigation Board  
EI AI 747-200F Accident - Amsterdam - October 4, 1992

Reference: (a) LI.95.900004, Wolleswinkel to Purvis, dated 4 Jan 95.  
(b) Netherlands Aviation Safety Board Aircraft Accident Report  
92-11

Dear Mr. Wolleswinkel:

The reference (a) letter requested an update regarding Boeing's response to the safety recommendations included in the reference (b) report. The recommendations and Boeing's update are as follows:

4.1 Redesign the B747 pylon structure including attachment to engine and wing. All SBs and ADs should be terminated after the redesign.  
UPDATE REQUEST: How is the Nacelle Strut Structural Modification Program going? Did the modification program start already? What is the present planning for the fleet as a whole?

**UPDATE:**

The Nacelle Strut Structural Modification Program is proceeding as planned. The Service Bulletins (747-54A2156, 2157, 2158 & 2159) have been approved by the FAA. Five airplanes were modified in 1994 to validate the accomplishment instructions in the Service Bulletins as well as the tooling and hardware that make up the kits for the bulletins. As of January 25, three airplanes have been modified by the airlines and five modifications are in process. To our knowledge, at least 97 airplanes are planned for modification in 1995. Boeing is providing technical assistance to the airlines in the form of one of three types of teams; "assist, instruct and advise"; "instruct and advise"; or "advise" only. Airline technical assist requirements and planned modification schedules are being tracked and updated weekly to ensure that the program needs are met. The compliance time for incorporating the structural modifications as approved by the FAA is as follows:

- 747 Classics with JT9D-3/-7 engines
  - Older than 15 years .....within 3 years
  - Older than 15 years .....within 5 years  
(with all AD related strut to wing service bulletins accomplished)
  - Younger than 15 years .....within 5 years
- 747 Classics with JT9D-70, RB211  
CF6-45/-50 engines.....within 5 years
- 747-300 with CF6-80C2 engines .....within 7 years
- 747-400 (all engine types) .....within 7 years



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- 4.2 The rede sign program for the pylon should include a full-scale fatigue and fail-safe test.  
UPDATE REQUEST: What is the present planning for the fatigue test? Did it start already? Are there any results? When will it be terminated?

UPDATE:

The fatigue test of a 747-400/PW4000 inboard strut is scheduled to begin approximately March 13, with a tentative completion date of Oct 1, 1995. The test will be based on 5x5 fatigue spectrum loading, and is planned to run at least 72,000 cycles. Prior to initiating the fatigue cycling, a static load survey will be accomplished.

- 4.3 A large scale inflight fleet-wide 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 evaluation.  
UPDATE REQUEST: How far is the update of the SSID for other Boeing models completed already?

UPDATE:

The Supplemental Structural Inspection Document (SSID) update for all models is scheduled to be complete by November 1995. This supports Boeing's certification plan for the JT9D-3/-7 models that was presented to the FAA in early 1994 and moves our date for release up for all other models.

- 4.4 Review present methods of controlling structural integrity, such as non-destructive inspection techniques and airworthiness directive requirements, in the current design B747 pylon assembly.  
UPDATE REQUEST: There is a relationship with recommendation 4.1. Are the present methods reliable enough to guarantee the integrity of the structure as long as the pylon has not been modified?

UPDATE:

All of the Service Bulletins and Airworthiness Directives relating to the 747 nacelle strut were reviewed during the Nacelle Strut Structural Modification Program. Boeing is confident and the FAA agrees that the current Service Bulletins and Airworthiness Directives are adequate to maintain the airworthiness of the 747 nacelle strut until the structural modifications are accomplished.

- 4.5 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.  
UPDATE REQUEST: Is there any experience already with the Airplane Safety Awareness Process?

The Airplane Safety Awareness Process (ASAP) was initiated in January 1994 to identify potential hazards, assess the risk, and prioritize need for action of potential safety problems. Of the items that were identified to date as potential

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safety concern, about 30% were applicable to more than one airplane model. After review, about 20% of the items were considered safety-related issues. The Service Related Problem (SRP) process is initiated for each issue to assure timely resolution. Boeing has found the ASAP and SRP processes to be an effective way of identifying and resolving safety related issues on all models.

Recommendations 4.6 through 4.12 No additional updates.

4.13 Fire resistance of DFDR and CVR should be improved.

UPDATE REQUEST: Are there any new developments, in particular in relation to the availability of solid state recorders that do meet EUROCAE EC-56-A?

UPDATE:

Boeing has no knowledge of an EC-56-A and will assume the request is addressing the ED-56-A. A new 2 hour solid state CVR being developed by Allied Signal and Loral will exceed the ED-56-A, fire protection requirements. First installation of this recorder will be on a KLM 767 to be delivered July 1995.

4.14 Investigate the advantages of installing cameras for external inspection of the airplane from the flightdeck.

UPDATE REQUEST: Is there any further information on external cameras?

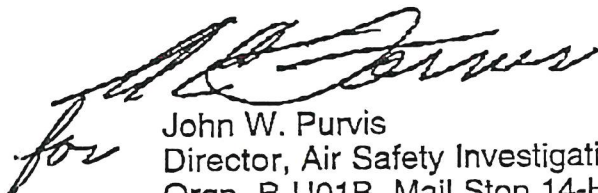
UPDATE:

Boeing is in the process of finalizing the design requirements for an external video system to be used strictly for ground maneuvering on the stretched 777 airplane.

If you have additional questions or require clarification of any of the above information, please contact the undersigned.

Very truly yours,

FLIGHT TEST



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