

3.2 Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the failure of Continental Express maintenance and inspection personnel to adhere to proper maintenance and quality assurance procedures for the airplane's horizontal stabilizer deice boots that led to the sudden in-flight loss of the partially secured left horizontal stabilizer leading edge and the immediate severe nose-down pitchover and breakup of the airplane. Contributing to the cause of the accident was the failure of the Continental Express management to ensure compliance with the approved maintenance procedures, and the failure of FAA surveillance to detect and verify compliance with approved procedures.

4. RECOMMENDATIONS

As a result of its investigation of this accident, the National Transportation Safety Board makes the following recommendations to the Federal Aviation Administration:

In cooperation with aircraft manufacturers and airlines, conduct a review of the regulations, policies, and practices related to establishing required inspection items (RIIs) for airline maintenance departments with the view toward developing more specific identification of RIIs. (Class II, Priority Action) (A-92-79)

Require that airlines operating under 14 CFR Parts 135 and 121 study the feasibility of developing a means to advise flightcrews about recent maintenance, both routine and nonroutine, on the airplanes that they are about to fly, so that they have the opportunity to be alert to discrepancies during preflight inspections and possibly to make an additional inspection of critical items, such as required inspection items (RIIs), that may affect the safety of flight. (Class II, Priority Action) (A-92-80)

Also, as a result of this investigation, on February 28, 1992, the Safety Board issued two safety recommendations to the FAA to:

A-92-6

Enhance flight standards surveillance of Continental Express, to include sufficient direct observation of actual maintenance shop

practices, to ensure that such practices conform to the Continental Express General Maintenance Manual and applicable Federal Aviation Regulations.

A-92-7

Enhance flight standards Program Guidelines, including the National Aviation Safety Inspection Program, to emphasize **hands-on** inspection of equipment and procedures, unannounced spot inspections, and the observation of quality assurance and internal audit functions, in order to evaluate the effectiveness of air carrier maintenance programs related to aircraft condition, the adherence to approved and prescribed procedures, and the ability of air carriers to identify and correct problems from within.

The FAA responded to these two recommendations in a letter dated May 15, 1992. The Safety Board's response to that letter, and to other letters from the FAA about open safety recommendations on FAA surveillance of air carrier operations and maintenance practices, is attached as Appendix I.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

Susan Coughlin
Vice Chairman

John K. Lauber
Member

Christopher A. Hart
Member

John Hammerschmidt
Member

Chairman Vogt did not participate.

John K. Lauber, Member, filed the following dissenting statement: