

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: May 27, 1980

Forwarded to:

Honorable Langhorne M. Bond  
Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-80-41 through -43

At about 2100 e.d.t., on May 30, 1979, N68DE, a deHavilland DHC-6-200, owned and operated by Downeast Airlines, Inc., crashed on approach to runway 3 at the Knox County Regional Airport, Rockland, Maine. Fifteen passengers and both pilots were killed; one passenger was seriously injured. Following its investigation of the accident, the Safety Board concluded that the flightcrew deviated from standard instrument approach procedures and allowed the aircraft to descend below the published minimum decision height, without the runway environment in sight. The accident occurred during a night nonprecision instrument approach. 1/ The Safety Board's investigation of this accident disclosed two areas of concern: one in maintenance practices and the other in operational factors.

In the area of maintenance factors it was found that there was a potentially hazardous situation regarding cockpit instrument lighting. Pilots who had flown the aircraft involved in the accident testified that the cockpit instrument lighting was poor. The cockpit lights had to be kept dim to prevent windshield/window glare, and there was a mixture of red and white light bulbs in the center instrument panel. Thus, if the rheostat was set low enough to eliminate glare from the white lights, the red bulbs did not provide enough light to properly illuminate the instrument in which they were installed. This problem was the result of a maintenance practice which allowed maintenance personnel to replace burned out light bulbs with new bulbs of either color. With this combination of white and red bulbs, the pilots were forced to choose between setting the white lights at a level that would allow them to read all the instruments, with the resulting glare and possible loss of night vision, or at a lower setting where the white lights did not cause glare but instruments would be unreadable.

In the operational factors investigation it was disclosed that there was a lack of standardized procedures for cockpit management and for two-pilot crew coordination at Downeast Airlines. The only procedures outlined in the company flight manual for the

1/ For more detailed information, read "Aviation Accident Report--Downeast Airlines, Inc., deHavilland DHC-6-200, N68DE, Rockland, Maine, May 30, 1979" (NTSB-AAR-80-5).

copilot were to maintain aircraft cleanliness, assure passenger comfort, and perform other duties as commanded by the captain. Consequently, there was neither clear delineation of responsibilities or workload in the cockpit nor procedural standardization among captains. The first officers' duties varied at the discretion of each captain.

The captain and first officer of the accident aircraft were qualified for single-pilot/autopilot operations in Piper Navajo aircraft, and for two-pilot operations in deHavilland DHC-6-200 aircraft. When a flightcrew is dual-qualified in this manner, and pilots frequently shift from one aircraft to the other, a clear delineation of duties and responsibilities when operating in the two-pilot crew environment is essential. Otherwise, the safety advantages inherent in the two-pilot crew concept are negated.

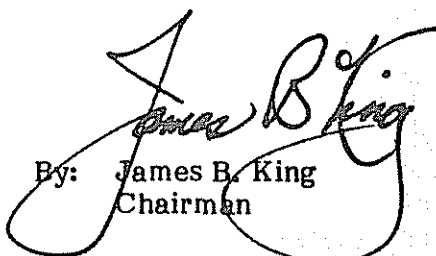
The Safety Board concludes that both areas of concern pose potential hazard to the safe operation of any flight. Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Publish a Maintenance Bulletin to alert Federal Aviation Administration maintenance inspectors to the safety hazard associated with installation of mixed-color cockpit instrument lighting. The bulletin should require that the practice of installing mixed-color lighting be discontinued and that, where this practice has been implemented in the past, the lighting be changed to a uniform configuration. (Class II, Priority Action) (A-80-41)

Require that 14 CFR 135 operators emphasize crew coordination during recurrent training, especially when pilots are qualified for both single-pilot/ autopilot and two-pilot operations. These requirements should be outlined in an operator's approved training curriculum. (Class II, Priority Action) (A-80-42)

Upgrade flight operations manuals of 14 CFR 135 operators to assure standardization by clearly delineating operational duties and responsibilities of all required cockpit crewmembers. (Class II, Priority Action) (A-80-43)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in these recommendations.

  
By: James B. King  
Chairman