

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: December 19, 1979

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Forwarded to:

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

} SAFETY RECOMMENDATION(S)

A-79-93

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On February 10, 1978, Columbia Pacific Airlines, Flight 23, a Beech 99, crashed during takeoff from the Richland Airport, Richland, Washington. After liftoff, the aircraft climbed steeply to 400 feet above the ground, stalled, and crashed 2,000 feet beyond the end of the runway. The 17 persons on board were killed, and the aircraft was destroyed.

The National Transportation Safety Board's investigation <sup>1/</sup> revealed that the aircraft's steep climb was caused by an extreme noseup stabilizer trim position, which the flightcrew did not detect before takeoff. Probably contributing to the crew's failure to recognize the out-of-trim condition were a faulty pitch trim indicator and an inoperative stabilizer out-of-trim warning system. The crew also was not aware that the warning system was inoperative.

On August 11, 1978, the Safety Board issued recommendation A-78-55 which requested the Federal Aviation Administration to change the Beech 99 minimum equipment list (MEL) to require a functional out-of-trim warning system for flight. The FAA rejected the recommendation on the grounds that a visual check of the stabilizer trim is a sufficient safeguard. However, the July 1979 FAA approved MEL requires the out-of-trim warning system to be operational for flight.

In April 1979, the FAA, in General Aviation Airworthiness Alert No. 9, recommended to Beech 99 and 100 operators that the manufacturer's inspection program be rigidly followed to preclude operating aircraft with inoperative trim indicating/warning systems which could result in an unsafe condition.

<sup>1/</sup> Aircraft Accident Report: Columbia Pacific Airlines, Beech 99  
Richland, Washington, February 10, 1978. (NTSB-AAR-78-15)

On July 3, 1979, the FAA issued Operations Bulletin No. 79-1 on the Beech 99 stabilizer trim problems and procedures. The Bulletin stressed the need for visual inspection of the stabilizer position during preflight, coordination between crew members regarding their respective responsibilities and duties, and increased emphasis during proficiency flight checks on pilots' knowledge of the stabilizer trim system.

However, this Bulletin, Airworthiness Alert No. 9, and the FAA-approved flight manuals do not require that a crew verify the operational status of the stabilizer out-of-trim warning system. These FAA actions may not preclude a flightcrew from taking off in a hazardous out-of-trim condition.

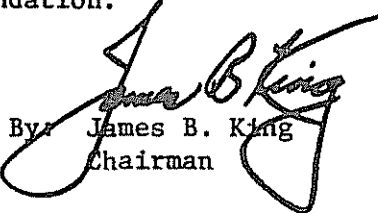
Whenever the stabilizer is not within the takeoff range and the left throttle is advanced past the position that corresponds to the 90 percent N1 setting, the out-of-trim warning system sounds a warning horn. To test the warning system, d.c. electrical power is required but it is not necessary to start either engine.

The Beech 99 and 100 aircraft have almost identical trim and trim warning systems, and neither of the associated FAA-approved flight manuals require the crew to perform a check of the stabilizer out-of-trim warning system. Unless the out-of-trim warning system has been previously "written up" in the aircraft's maintenance forms, the crew has no way of knowing the operational condition of the system. Since the system is required for flight by the minimum equipment list, the crew should also be required to determine the operational status of the system before flight. The manuals require that the trim system be checked, exclusive of the out-of-trim warning system, before the first flight of the day and require an even less comprehensive trim check for quick "turn-around" flights. The manuals do not require a preflight visual inspection of the stabilizer during a quick "turnaround," although Operations Bulletin 79-1 emphasized the importance of a visual check before flight.

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Require that the Beech 99 and Beech 100 flight manuals include a checklist procedure that requires the crew to verify the operational status of the stabilizer out-of-trim warning system. (Class II, Priority Action) (A-79-93).

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in this recommendation.

  
By: James B. King  
Chairman