

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: August 7, 1974

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Forwarded to:

Honorable Alexander P. Butterfield  
Administrator  
Federal Aviation Administration  
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-74-58

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The National Transportation Safety Board's investigation of an Air Wisconsin Swearingen SA226-TC, N423S, incident which involved an in-flight failure of a propeller blade, indicates a need for corrective action.

The incident occurred near Chicago, Illinois, on May 16, 1974, at 7,000 feet when a propeller blade separated from the left propeller. The propeller blade was a Hartzell Model T10282HB, installed in a Hartzell Model DC-BTN3N-5C propeller hub assembly. The failed blade, S/N C-11415, had accumulated 144 hours since new.

The Board's investigation showed that a fatigue fracture about 10 1/2 inches from the hub assembly caused the blade to separate. The cracking began in a preexisting stress-corrosion crack about 1/2 inch long and 1/10 inch deep on the leading edge face of the blade, near the area of greatest camber and just under the rubber deicer boot. The Board believes that the stress-corrosion crack originated from a small manufacturing surface crack or flaw, since this area most likely had to have been exposed to corrosive elements before the wash primer, grey paint coating, and the rubber deicer boot were applied.

We have been advised that an Airworthiness Directive has been issued which requires that these propeller blades be inspected. We concur in and commend your prompt action. However, the Safety Board believes that the source of these cracks should be minimized during manufacture, and moreover, the quality control system should be improved to insure the detection of any cracks which might occur during the manufacturing process.

Honorable Alexander P. Butterfield (2)

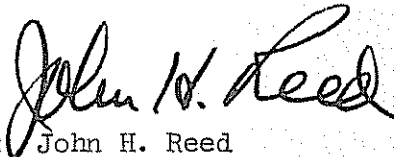
Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Require the modification of the Hartzell Model T10282HB propeller blade manufacturing processes and quality control procedures to correct:

- a. The manufacturing processes which may be causing surface cracks to originate.
- b. The surface treatment processes which may introduce corrosive elements into preexisting surface cracks.
- c. The quality control procedures to ensure the detection of small surface cracks.

Our technical staff is available for any further information or assistance.

REED, Chairman, McADAMS, THAYER, BURGESS, and HALEY, Members, concurred in the above recommendation.

  
By: John H. Reed  
Chairman

THIS RECOMMENDATION WILL BE RELEASED TO THE PUBLIC ON THE ISSUE DATE SHOWN ABOVE. NO PUBLIC DISSEMINATION OF THE CONTENTS OF THIS DOCUMENT SHOULD BE MADE PRIOR TO THAT DATE.