

UNITED STATES OF AMERICA  
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: June 29, 1972

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD  
at its office in Washington, D. C.  
on the 7th day of June 1972

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FORWARDED TO: )  
Honorable John H. Shaffer )  
Administrator )  
Federal Aviation Administration )  
Washington, D. C. 20591 )  
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SAFETY RECOMMENDATIONS A-72-74 & 75

In September 1971, at the request of the U. S. Air Force, personnel of the National Transportation Safety Board and the Federal Aviation Administration participated in the investigation of a fatal accident involving an Air Force C9A airplane on September 16, 1971. This airplane is essentially a McDonnell-Douglas DC-9, configured for the Air Force mission.

A major factor in this accident was the failure of a first-stage fan blade of the No. 2 engine during a go-around on a training flight. Since November 1968, more than 50 failures of this type have occurred in Pratt & Whitney JT8D engines in DC-9, Boeing 727, and Boeing 737 aircraft. Although Airworthiness Directive 70-26-5, effective December 29, 1970, required an inspection of these blades, more than 16 blade failures have occurred since the effective date, many of which had been inspected in accordance with the AD.

We are aware that even before this accident occurred, the Eastern Region Powerplant Engineering group had been working, together with the manufacturer and the operators through the Air Transport Association, toward a more effective means of detecting and eliminating suspect blades. The Board is pleased to note that the result is an extensive and comprehensive program of inspection, repair, and replacement conducted jointly by the manufacturer and certain operators, with surveillance by the FAA.

However, while the voluntary nature of the program is commendable, such a program cannot, in our view, adequately serve as a means for complying with FAR Part 39.1. Clearly, mandatory action is indicated

since there is little doubt that the subject failure constitutes an "unsafe condition" and the "condition is likely to exist or develop in other products of the same type design." The FAA publication of AD 70-26-5 in 1970, would seem to indicate that these blade failures are a serious safety problem.

Another aspect of the voluntary compliance approach to such safety problems that concerns us involves the foreign operators of U. S.-manufactured products. Compliance by these operators cannot always be assured unless you initiate AD action, since the various foreign governments usually key their mandatory action on issuance of an AD. Accordingly, to assure fulfillment of our international responsibilities relative to U. S. products, we believe the FAA should issue a new or amended AD on these blades.

Finally, the Safety Board believes that something additional should be done to reduce the contemplated 2-year blade-replacement-program interval. We recognize that there are practical, time-related manufacturing and air-line replacement scheduling problems associated with the implementation of a program of this type. However, we believe that the potential catastrophic consequences of a blade failure, as illustrated by the subject accident, dictate priority treatment of this problem.

Therefore, the Board recommends that the Federal Aviation Administration:

1. Require mandatory compliance by all JT8D engine operators with Pratt & Whitney Service Bulletin 3580, dated January 4, 1972.
2. Establish a completion date which would assure compliance in less than 2 years, so as to reduce to a minimum the exposure to possible fan-blade failure.


This has been discussed with members of the Flight Standards Service.

Our Bureau of Aviation Safety staff is available for additional discussion of this matter if desired.

These recommendations 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.

Reed, Chairman, Laurel, McAdams, Thayer, and Burgess, Members,  
concurred in the above recommendations.

  
By: John H. Reed  
Chairman