

DEPARTMENT OF TRANSPORTATION
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D. C. 20591

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OFFICE OF
THE CHAIRMAN

September 2, 1970

Honorable John H. Shaffer
Administrator
Federal Aviation Administration
Washington, D. C. 20590

Dear Mr. Shaffer:

A Volpar Super 18, N137PA, operated by Pan Alaska Airways, crashed near the Kad River Airstrip, North Slope, Alaska, on October 31, 1969. The flight was on an IFR flight plan in known icing conditions and crashed while on approach when the left engine stopped. The crew was utilizing all available anti-icing and deicing equipment at the time. Investigators found ice buildup on the leading edge of the right wing, leading edge of the horizontal stabilizer, and the leading edges of the vertical stabilizers, as well as a buildup of about 1 1/2 inches on one blade of the left engine propeller near the hub assembly. Although the aircraft was approved for operation in known icing conditions, no tests were conducted or required on the airplane to prove that the ice protection equipment adequately served its intended function.

Although the investigator commented that improper utilization of the ice protection system contributed to the cause, the particulars of this accident prompted, quite naturally, an in-depth study of the Federal Aviation Regulations governing the operation of normal category aircraft in icing conditions and the attendant regulations concerning the operability and testing of ice protection equipment. This study reveals a serious disparity in the degree of regulatory control provided for various operations.

Specifically, Federal Aviation Regulation Part 25 and Special Federal Aviation Regulation Part 23 handle quite adequately the requirements for the testing of ice protection equipment with respect to transport type aircraft, employed in Part 121 or Part 135 operation and capable of carrying more than ten persons. On the other hand, there are no regulatory provisions for testing the capability of ice protection systems installed on other normal category aircraft. All that is re-

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quired for the operation of the smaller aircraft under Part 135 is that the installed ice protection equipment must be capable of functioning. The general operating and flight rules of Part 91 contain no standards relating to the capability and/or testing of ice protection systems.

Ideally, one might consider it appropriate to require that all ice protection systems installed on aircraft be tested to demonstrate ability to comply with the present certification standards of Part 25. Such action would result, however, in a considerable economic penalty with respect to the operators of older types of aircraft (e.g., DC-3) still in the transport fleet.

More realistically, therefore, the Board recommends that:

1. All ice protection equipment installed on aircraft in the future meet the appropriate certification requirements of Part 25.
2. Consideration be given to the establishment of a requirement whereby all aircraft employed by Air Carrier and Air Taxi Operators in the carriage of passengers would be required to meet these same Part 25 specifications.
3. An intensive educational program be conducted to alert the operators to the limits of effectiveness of their ice protection equipment.

Sincerely yours,



John H. Reed
Chairman