

Recommendation Report

Friday, May 15, 2009

REC-A-03-053

Log Number 2900

Issue Date 12/2/2003

Eveleth MN

10/25/2002

On October 25, 2002, about 1022 central daylight time, a Raytheon (Beechcraft) King Air A100, N41BE, operated by Aviation Charter, Inc., crashed while the flight crew was attempting to execute the VOR approach to runway 27 at Eveleth-Virginia Municipal Airport, Eveleth, Minnesota. The crash site was located about 1.8 nautical miles southeast of the approach end of runway 27. The two pilots and six passengers were killed, and the airplane was destroyed by impact forces and a postcrash fire. The airplane was being operated under the provisions of 14 Code of Federal Regulations (CFR) Part 135 as an on-demand passenger charter flight. Instrument meteorological conditions prevailed for the flight, which operated on an Instrument flight rules flight plan.

Recommendation # A-03-053

Overall Status
OAA

Priority

The National Transportation Safety Board makes the following recommendation to the Federal Aviation Administration: Convene a panel of aircraft design, aviation operations, and aviation human factors specialists, including representatives from the National Aeronautics and Space Administration, to determine whether a requirement for the installation of low-air-speed alert systems in airplanes engaged in commercial operations under 14 Code of Federal Regulations Parts 121 and 135 would be feasible, and submit a report of the panel's findings.

FAA

Open - Acceptable Response

4/12/2004 Addressee Letter Mail Controlled 4/12/2004 12:32:08 PM MC# 2040165 The FAA shares the Board's concern regarding flightcrew awareness of low airspeed situations. As noted in the Board's letter dated December 2, 2003, failure to maintain adequate airspeed can result in unsafe circumstances like loss of control, impact with terrain or water, hard landings, and tail strikes. The Board further states that it has investigated numerous accidents and incidents involving commercial flightcrews that inadvertently failed to maintain airspeed. For example, the Board has investigated at least 11 events since 1982 involving 14 CFR Part 135 flights and at least seven events involving 14 CFR Part 121 flights in which stall or failure to maintain airspeed during approach or landing phases was cited as a causal or contributing factor and in which icing was not cited as a factor.

Current rules require stall warning (stick shaker or natural buffet) for both small airplanes and transport airplanes. The Board acknowledges the existing requirements for stall warning, but challenges the premise that stall warnings and flightcrew vigilance provide adequate low airspeed awareness. The Board states that a low airspeed alert, which would be activated at some airspeed higher than stall warning, would provide additional protection against low airspeed conditions that may lead to stall. The Board noted the existing installation of a low airspeed alert in the Embraer 120. The FAA required this alert as an interim solution until Embraer redesigns the stall warning system to account for icing conditions adequately.

Many current transport airplanes include additional cues on airspeed indicators. These cues are intended to provide improved low airspeed awareness. While not alerts, these color-coded symbols indicate the low airspeed region (the maneuver margin, typically at about 1.3 V_{stall}) in which the airplane is approaching the stall warning speed. As noted by the Board, such displays are now becoming available for use in less sophisticated general aviation airplanes.

Additionally, the Board has recognized that there are unresolved technical, operational, and human factors issues that will need to be carefully evaluated and addressed in connection with the design and implementation of a low airspeed alert system.

On January 21, 2004, the Board provided the FAA with more complete information on the 18 accidents cited by the Board to support these safety recommendations. The FAA will include a review of these 18 accidents in determining what action needs to be taken to address the safety issue. The FAA will also consider efforts already accomplished or in progress under the Safer Skies programs and other initiatives dealing with airspeed awareness.

I will keep the Board informed of the FAA's progress on these safety recommendations.