



log# 1981

National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: March 31, 1987

In reply refer to: A-87-27 and -28

Honorable Donald D. Engen
Administrator
Federal Aviation Administration
Washington, D.C. 20591

On March 4, 1987, Northwest Orient AirLink Flight 2268, a CASA C-212-CC, N160FB, was operating as a regularly scheduled passenger flight between Mansfield, Ohio, and Detroit, Michigan, with an en route stop in Cleveland, Ohio. About 1434 eastern standard time, the airplane crashed in visual meteorological conditions on final approach to runway 21R at the Detroit Metropolitan Wayne County Airport. Witnesses reported that the airplane appeared to be fast and slightly high on the approach. They observed the airplane make a sharp roll to the left and enter a descending nosedown attitude, followed by a roll to the right before it struck the ramp area in a right wing-down, nosedown attitude 650 feet left of the runway centerline and 1,350 feet beyond the runway threshold. The airplane flipped upside down and skidded about 400 feet before striking three ground-support vehicles. It came to rest upside down and burned in front of Concourse F at gate 10. Nine of the 19 occupants, including 2 flightcrew members, were killed in the accident. Five occupants sustained serious injuries and five escaped with minor injuries. Three ground-support personnel sustained minor injuries in the accident. Although the investigation is continuing and the probable cause(s) of the accident has not yet been determined, the Safety Board has serious concern regarding the United States certification of the CASA C-212, particularly with respect to the lack of an adequate stall warning system.

On March 11, 1987, Federal Aviation Administration (FAA) airworthiness and aircraft certification personnel briefed Safety Board staff on the certification history of the CASA C-212. They related their concerns about some possible adverse flight characteristics of the CASA C-212. Specifically, they questioned whether or not the airplane met the transport category airworthiness standards of 14 CFR Part 25 in the area of stall characteristics, stall warning, directional stability, and engine-out controllability. They stated their intention to dispatch a flight test team to Spain to conduct an evaluation of the airplane in coordination with the manufacturer and the office of the Director General of Civil Aviation in Spain. The staff also was informed that Canadian and Australian Civil Aviation authorities required an artificial stall warning system in the CASA C-212.

On March 24, 1987, the FAA flight test team briefed Safety Board staff on the results of the flight test evaluations undertaken the week of March 16 through March 20. The FAA team reported that the airplane did not meet the stall warning requirements of 14 CFR 25.207, but that it demonstrated compliance with the other areas of concern. The Safety Board staff was advised that United States operators of the CASA C-212 had been telephoned on March 20 by FAA personnel to report the flight test team's findings and to instruct the operators to insure that they have adequate stall maneuver training for flightcrews.

The Board also was informed that the FAA contemplated publishing a Notice of Proposed Rule Making (NPRM) which would require the installation of an artificial stall warning system in the airplane. The rationale given for the NPRM was based on the recognition that it would take some time to develop, approve, and install a stall warning device in CASA C-212 airplanes operating in the United States and that comments from the industry would be helpful in seeking possible alternative solutions. Also, FAA representatives reported that a review of the approved airplane flight manual for the CASA C-212 showed that it contained descriptive representative language believed sufficient to alert flightcrews of the nature of the stall warning characteristics of the airplane.

According to CASA Aircraft USA, Inc., there are 8 CASA C-212 owner/operators, operating about 30 of the airplanes in the United States. The Safety Board staff has been advised that five operators are commuter operators.

The Safety Board understands the FAA flight test team's findings and the rationale for the contemplated corrective actions based on the status of a stall warning kit and information supplied in the approved airplane flight manual. Furthermore, the Board notes that the airplane flight manual for the CASA C-212 indicates an adequate margin between computed landing reference speed (1.3 Vs) and the actual stall speed for various weights and landing configurations.


However, based on its communications with CASA C-212 operators in the course of its investigation of the accident in Detroit, the Safety Board has learned that operators of the CASA C-212 have not been notified of the findings of the FAA flight test and that they are not being fully apprised of the nature of this development. It also appears that some operators and aviation safety inspectors may become confused about the flight test team's findings without adequate background information. The Board believes that, in order for the corrective actions to be effective, the FAA must insure that all operators and FAA aviation safety inspectors are immediately and fully aware of these findings.

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

Issue a general notice (GENOT) immediately to all United States owners and operators of the CASA C-212 airplane describing the background and significant findings of the recent flight test of the CASA C-212. The notice should provide an evaluation of the existing CASA C-212 stall characteristics, operational precautions, and training procedures to preclude inadvertent stalls until an approved artificial stall warning system is installed. (Class I, Urgent Action) (A-87-27)

Expedite the rulemaking action to require installation of an artificial stall warning system on the CASA C-212 airplanes. (Class I, Urgent Action) (A-87-28)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER and NALL, Members, concurred in these recommendations.


By: Jim Burnett
Chairman