

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: March 6, 1979

Forwarded to:

Honorable Langhorne M. Bond
Administrator
Federal Aviation Administration
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-79-6

On October 20, 1978, a Learjet, N100MK, crashed near Vickery, Ohio, during a copilot proficiency flight check. The aircraft struck the ground at high speed, approximately 4 miles from the position it was last seen on radar at an altitude of 16,500 feet. As a result, three persons were killed. In its ongoing investigation, the National Transportation Safety Board has learned that a simulated runaway pitch trim exercise may have been a factor in the accident. Interviews with other Learjet operators have disclosed that runaway pitch trim exercises have in the past resulted in dangerous nosedown attitudes at high airspeeds. Recovery from such an attitude was difficult.

Variations in the techniques used by operators to simulate the runaway trim condition, delays in recognizing the condition, and procedures in correcting the condition may be significant in creating a flight condition from which recovery is difficult. Also contributing to the problem are the rapid acceleration of the Learjet at nosedown attitudes, the nosedown pitch characteristic of deployment of the spoiler, and the apparent reduction in elevator effectiveness at the high airspeeds the Learjet may reach relatively quickly in a dive.

There have been other accidents in which Learjet pilots have found their aircraft in extreme nosedown, high-speed conditions from which they apparently could not recover. In at least one of these accidents, at Briggsdale, Colorado, in 1974, the Safety Board concluded from cockpit voice recorder data and physical evidence that control of the aircraft was lost during a demonstration by the instructor pilot of nosedown runaway trim.

Because of our accident investigation findings to date, and because the probability of a nosedown runaway trim in a Learjet is relatively low, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Issue an Alert Bulletin with the following proposed wording:

"A simulated runaway pitch trim exercise is suspected as a factor in a recent Learjet accident. Until the results of the ongoing investigation are final, it is recommended that all operators of Learjets review their requirement to practice a runaway trim. If practice runaway pitch trim exercises are deemed necessary, it is recommended that the exercise be performed in a manner which will not allow an excessive nosedown attitude or high airspeeds to develop. Interviews with some operators of Learjets have disclosed that runaway trim exercises have resulted in dangerous nosedown attitudes at high airspeeds and that recovery from these conditions was marginal." (Class I - Urgent Action) (A-79-6)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and HOGUE, Members concurred in the above recommendation.

By:  James B. King
Chairman