

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: July 7, 1978

Forwarded to:

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

SAFETY RECOMMENDATION(S)

A-78-43 and 44

The National Transportation Safety Board is concerned by the continued occurrence of stall/spin accidents in recent years. The accident statistics are alarming and reinforce our belief that positive, innovative action by the Federal Aviation Administration must be taken to alleviate the situation. From 1974 to 1976, there were 723 stall/spin accidents which resulted in 668 fatalities and 246 serious injuries. Many of these accidents could have been prevented if FAA had implemented past Safety Board recommendations relating to stall/spin problems.

When it recognized that directed remedial measures were imperative to reduce stall/spin accidents, particularly in view of the growing general aviation fleet, the Safety Board conducted a special study of these types of accidents.^{1/} As a result, the Safety Board made nine recommendations to FAA. Several of these dealt with improved and supplemental pilot training which the Board considered essential in preventing stall/spin accidents. In response, the FAA contracted for a related study entitled, "General Aviation Pilot Stall Awareness Training Study." The objective of this study was to determine the weaknesses of current flight training syllabi, the methods of training used, and the flight instruction provided in the stall/spin area; to conceive an experimental stall/spin increment to an established flight and ground training syllabus; and to conduct flight and ground test evaluations of this syllabus change and the flight instruction techniques required. The study concluded that:

- o Additional ground training in the subject of stalls and spins tends to reduce the occurrence of unintentional stalls and spins.

^{1/} NTSB-AAS-72-8, Special Study: General Aviation Stall/Spin Accidents 1967-1969, September 13, 1972.

o Additional flight training on stall awareness or intentional spin training, or both, has a positive influence toward reducing inadvertent stalls and spins.

o The most effective additional training was slow flight with realistic distractions, which exposed the subjects to situations where they are likely to experience inadvertent stalls.

The flight training syllabus given to flight instructors participating in the above study included scenarios of typical flight situations where stall/spin accidents frequently occur such as engine failure on takeoff or initial climb, go-around with full noseup trim, and cross controlled turns to final approach. The syllabus also included stall avoidance practice at minimum controllable airspeed, spin avoidance practice (rudder effectiveness in delayed stalls), and full spin training.

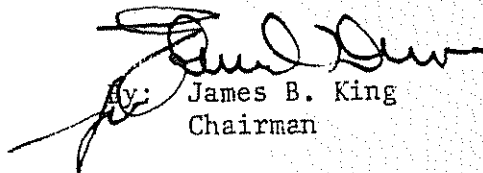
The Safety Board believes that the supplemental, uniquely oriented training developed and outlined in this study can be effective in avoiding stall/spin accidents. However, the Board is aware of no effort or plans on the part of FAA to implement the results of this study through the pilot training requirements contained in 14 CFR Parts 61 and 141.

In view of the above, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Incorporate all of the essential elements of the ground and flight training increments developed in the "General Aviation Pilot Stall Awareness Training Study," or their equivalent, in FAR Parts 61 and 141. (Class I, Urgent Action) (A-78-43)

Send the detailed stall/spin ground and flight training syllabus developed in this training study to all certificated flight schools and commercial flight instructors. (Class I, Urgent Action) (A-78-44)

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


By: James B. King
Chairman