

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: November 15, 1974

Forwarded to:

Honorable Alexander P. Butterfield  
Administrator  
Federal Aviation Administration  
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-74-96

A significant number of general aviation airplanes are being modified with STOL components or systems in order to improve low speed characteristics and performance. The operating economy of commercial operations also tends to require increasingly efficient performance from conventional airplanes without STOL modifications. These factors make it essential that pilots understand thoroughly the airplane characteristics and operational techniques which are associated with relatively low speeds in, or near, the aerodynamic "region of reversed command." <sup>1/</sup>

The Federal Aviation Administration has recognized the importance of such knowledge in connection with aerial applicator operations, and on February 7, 1972, issued Advisory Circular 61-50. Because of the current potential for, and the increased emphasis on, STOL operations, it is equally important to disseminate similar information to other general aviation pilots.

An article in the June 1974 edition of Flying, entitled "Exploring the STOL Mode," outlines the fundamentals involved in STOL-type landing approaches and the operational considerations involved in an actual landing. The graphical relationships between airspeed, rate of descent, and power management, which are contained in the article, represent the kind of advisory information which the Safety Board believes should be made available to all general aviation pilots. The principles involved are just as applicable to conventional airplanes without STOL components as they are to STOL-equipped airplanes, since the operational implications and significance relate primarily to the landing approach.

<sup>1/</sup> The regime of flight speeds between the speed for minimum required power setting and the stall speed (or minimum control speed).

Honorable Alexander P. Butterfield

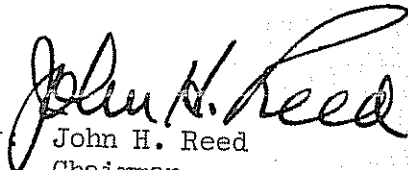
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To apply proper techniques safely and consistently for landing on short fields, for landing on soft or rough fields, for slow flight, or for accuracy landings requires a continued awareness of the relationships between the above-mentioned performance parameters and operational proficiency based on such information. Comprehensive knowledge of these relationships and improved operating efficiency in connection with these procedures should result not only in increased airplane utility but also in improved safety of flight, since such knowledge and efficiency constitute essential elements in effecting precautionary or forced landings and in preventing hard landings, undershoots, and stalls.

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

Issue an Advisory Circular to publicize the operational procedures and airplane characteristics associated with relatively low speeds in, or near, the aerodynamic "region of reversed command," and disseminate this Advisory Circular to general aviation pilots through the FAA/industry flight instructor refresher clinics and seminars and to manufacturers of STOL components for further distribution directly to purchasers of STOL equipment.

REED, Chairman, McADAMS, THAYER, BURGESS, and HALLEY, Members, concurred in the above recommendation.

By:   
John H. Reed  
Chairman

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DEPARTMENT OF TRANSPORTATION  
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