

Log 1575

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: September 19, 1983

Forwarded to:

Honorable J. Lynn Helms  
Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-83-64 and -65

On September 19, 1982, a Cessna Model U206F, N9530G, with two persons aboard made an emergency landing short of the West Plains, Missouri, airport after repeated attempts to restart the engine failed. During the descent for landing at the airport, the pilot had moved the fuel tank selector valve handle from the right fuel tank position to the left fuel tank position because the left tank contained more fuel. The pilot stated that the engine stopped immediately after he moved the selector valve handle. As a result of the emergency landing, the pilot received minor injuries caused by fuel spillage, and the airplane was damaged substantially; the passenger was not injured.

During the postaccident investigation, Safety Board investigators found the fuel tank selector valve in the OFF (center) position, and found that it remained in the OFF position when the fuel tank selector valve handle was moved to the left fuel tank or right fuel tank positions. An examination of the linkage between the fuel tank selector valve handle and the fuel tank selector valve revealed that the the roll pin, part No. (P/N) NAS561P3-6, which secured the fuel tank selector valve shaft yoke, P/N HE 1328, to the selector valve shaft, was missing. Without the roll pin, the yoke slips on the selector valve shaft and the selector valve is not moved from the OFF position by turning the selector valve handle. Apparently, when the pilot moved the fuel tank selector valve handle during the descent, the roll pin fell out of the yoke at the time the fuel tank selector valve reached the OFF (center) position.

The examination of the linkages between the fuel tank selector valve handle and the fuel tank selector valve in this airplane also revealed that roll pins are used in other areas of the linkages. The maintenance manuals for other Cessna model airplanes indicate that roll pins also are used in the linkages between the fuel tank selector valve handle and the fuel tank selector valve of those airplanes. Moreover, data obtained from the Federal Aviation Administration's (FAA) National Safety Data Branch and the Safety Board's data bank disclosed that, in the past 7 years, five Cessna Model 206 airplanes have been involved in incidents in which the roll pin fell from the fuel selector valve shaft yoke. Consequently, the Safety Board believes that this condition presents an obvious hazard to safe flight, and that the FAA and the Cessna Aircraft Company should develop a method to prevent the loss of roll pins in the fuel selector valve linkages of all applicable Cessna model airplanes. Furthermore, to alert owners/operators of the potential hazard associated with the loss of the roll pin, the FAA should publish in Advisory Circular 43-16 a description of the problem and prescribe a method for checking the linkage during the preflight check.

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

In conjunction with the Cessna Aircraft Company, identify all Cessna model airplanes that use roll pins to secure the fuel tank selector valve handle to the fuel tank selector valve shaft and to secure other linkages critical to proper operation of the fuel selector valve, and develop a method to prevent loss of pins during flight; thereafter require the Cessna Aircraft Company to modify the tank selector valve linkages on the applicable models of airplanes to prevent loss of roll pins. (Class II, Priority Action) (A-83-64)

Pending modification of the fuel tank selector valve linkages, publish in the General Aviation Airworthiness Alerts (Advisory Circular 43-16) a description of the problem associated with linkages to the fuel tank selector valve linkages or alternatively, a periodic inspection program adequate to verify that the linkages are secure. (Class II, Priority Action) (A-83-65)

BURNETT, Chairman, GOLDMAN, Vice Chairman, McADAMS, BURSLEY, and ENGEN, Members, concurred in these recommendations.

  
By: Jim Burnett  
Chairman