

# NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: January 11, 1980

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Forwarded to:

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

SAFETY RECOMMENDATION(S)

A-80-5 through -7

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During 1978 there were at least 19 accidents or incidents involving various models of high wing Cessna aircraft in which engine power was lost because of water in the fuel. Many of these are documented at the FAA's Maintenance Analysis Center in Oklahoma City.

Typical of these is an accident which occurred at Cape Girardeau, Missouri, on August 30, 1978. The Cessna 182 crashed while maneuvering for an emergency landing after loss of engine power. The investigation revealed water in both the carburetor and fuel strainer. This model airplane had the fuel strainer drain control knob located inside the cabin so that the operator could not see the fuel as it was drained. Also there were no quick-drain valves installed in the sumps. The pilot stated that he "drained the strainer three times"; however, it was apparent that he did not have a full understanding of the proper way to eliminate water from the fuel lines and sumps.

Owners manuals for Cessna 150, 172, 182, 210 for model years from 1957 to 1977 were reviewed. This review showed that there are inadequate instructions and descriptions as to the proper method of eliminating water from the fuel system.

The Safety Board discussed fuel contamination in some detail in its 1974 Special Study of General Aviation Accidents Involving Fuel Starvation. At that time, the Safety Board made recommendations to the Federal Aviation Administration (A-74-35 and A-74-36) directed to making more specific, detailed information available to pilots. Both the FAA and the General Aviation Manufacturers Association (GAMA) agreed with the intent of the recommendations. However, except for the reissuance of Advisory Circular 20-43C in October 1976 in limited distribution, the Safety Board is not aware of any effort on the part of either FAA or the manufacturers to make such information available.

The Safety Board believes that Advisory Circular 20-43C presents the kind of explanation and details which pilots need in order to properly purge water

from their airplane's fuel systems. We also believe that the same type of information should be provided in Airplane Flight Manuals or Owner's manuals.

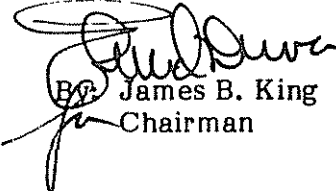
Accordingly, the Safety Board recommends that the Federal Aviation Administration:

Distribute among general aviation pilots and operators the information in Advisory Circular 20-43C concerned with eliminating water from fuel. (Class II, Priority Action) (A-80-5)

Require that all Accident Prevention Specialists in FAA District Offices make elimination of water from fuel systems an item for special emphasis in their contacts with general aviation pilots and operators. (Class II, Priority Action) (A-80-6)

Require that Cessna include in Pilots Operating Handbooks or Flight Manuals for all its aircraft models a detailed discussion of, and specific instructions for, the detection and elimination of water from the fuel systems of these aircraft. (Class II, Priority Action) (A-80-7)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in these recommendations.

  
By James B. King  
Chairman