

NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: January 15, 1981

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

SAFETY RECOMMENDATION(S)
A-80-142

On September 15, 1979, a Beechcraft Model C45H, N600NA, crashed while on a ferry flight from Baltimore, Maryland, to Grand Rapids, Michigan. When the aircraft was about 10 miles southeast of Hastings, Michigan, the pilot reported an engine fire. He was informed that the Hastings Municipal airport was about 10 miles straight ahead, and the pilot indicated that he would land there. The pilot then transmitted "the flaps are on fire," followed by "the whole engine is on fire." There were no further communications with the aircraft. The aircraft crashed about 6 miles short of the airport and burned. The pilot and three nonrevenue passengers were fatally injured.

The National Transportation Safety Board's investigation revealed that the in-flight fire was concentrated in the left wheel well area, aft of the engine firewall. The aircraft's left heater and left combustion air blower, located in the left wheel well area, had separated at impact. They were found clear of other pieces of wreckage and outside the ground fire area. The stainless steel heater shroud was dark blue in several areas, which is indicative of exposure to temperatures of about 2,000° F.

The heater was disassembled and the following items noted:

1. The combustion air orifice was about halfway open, indicating that the heater was in operation.
2. There was soot in the combustion air chamber behind the fuel nozzle.
3. The fuel valve seat was cracked in two places.
4. The ignitor was corroded.
5. The gasket between the burner assembly and the heat exchanger was burned through and showed evidence of leakage before the accident.

The aircraft records indicated that the heater, a Stewart-Warner Model 8253A, had been installed in 1965. The operator's maintenance service manager stated there was no mechanical device nor were there any logbook entries to record hours of heater operation. The aircraft had flown about 2,900 hours since the heater was installed. The manufacturer recommends that the heater be inspected at 250-hour intervals and overhauled after 1,000 hours of operation. The aircraft records did not reveal that any of the heater manufacturer's recommended inspections had been performed.


Although the probable cause of this accident has not yet been determined, the Safety Board is concerned that there were numerous discrepancies noted during examination of the heater and that none of the manufacturer's recommended inspections had been accomplished since the heater was installed in 1965.

The Safety Board is aware that the Federal Aviation Administration recently issued AD 80-09-10 which applies to Janitrol heaters. This AD was issued as a result of an aircraft fire which originated from the combustion heater. The FAA determined that insufficient heater inspections, especially of the combustion liner, have allowed the condition of Janitrol combustion heaters to deteriorate to a level where heater malfunctioning can cause serious safety problems.

We believe this accident demonstrates a need for a similar Airworthiness Directive applicable to Stewart-Warner heaters. Accordingly, the Safety Board recommends that the Federal Aviation Administration:

Issue an Airworthiness Directive (AD) to require periodic inspection of Stewart-Warner heaters, similar to AD 80-09-10 which applies to Janitrol heaters. (Class II, Priority Action) (A-80-142)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in this recommendation.


By: James B. King
Chairman
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