

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA22LA239

WRECKAGE EXAMINATION SUMMARY

December 5, 2023

A. ACCIDENT

Location: Hawkinsville, GA
Date: May 5, 2022
Time: 0930 EDT

Airplane: Thrush S2R-H80, N6216M

B. WRECKAGE EXAMINATION SUMMARY

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GE Engines

C. DETAILS OF THE INVESTIGATION

1.0 Accident Site

N/A, not observed.

2.0 Airframe Examination

The airplane was first observed at the recovery company salvage yard. The wings had been removed and the elevator had been cut for transportation. The engine mounts were cut by recovery personnel and the engine was on a pallet. All of the instruments were removed and boxed up by the recovery personnel. All primary flight control surfaces were present and accounted for. The focus was on the fuel system. The fuel shut off valve was tested by blowing air through the valve. No anomalies noted.



Figure 1 - Fuel Shutoff Valve



Figure 2 - Fuel Pump Switches

The main fuel pump and emergency fuel pump were tested by connecting 24 volt battery to the wiring. The main fuel pump did not rotate, the emergency fuel pump rotated when connected. The main fuel pump was disassembled, and large amounts of carbon were noted within the armature and housing of the pump. One carbon brush was completely worn down and the other brush was missing, as was the push block and spring. The connecting wire was hanging loose in the housing. The emergency fuel pump was disassembled and although it was working, there were also large amounts of carbon deposits in the armature. Both the carbon brushes in the emergency pump motor measured 3/16 inch long.



Figure 3 - Fuel Pumps



Figure 4 - Main pump Motor

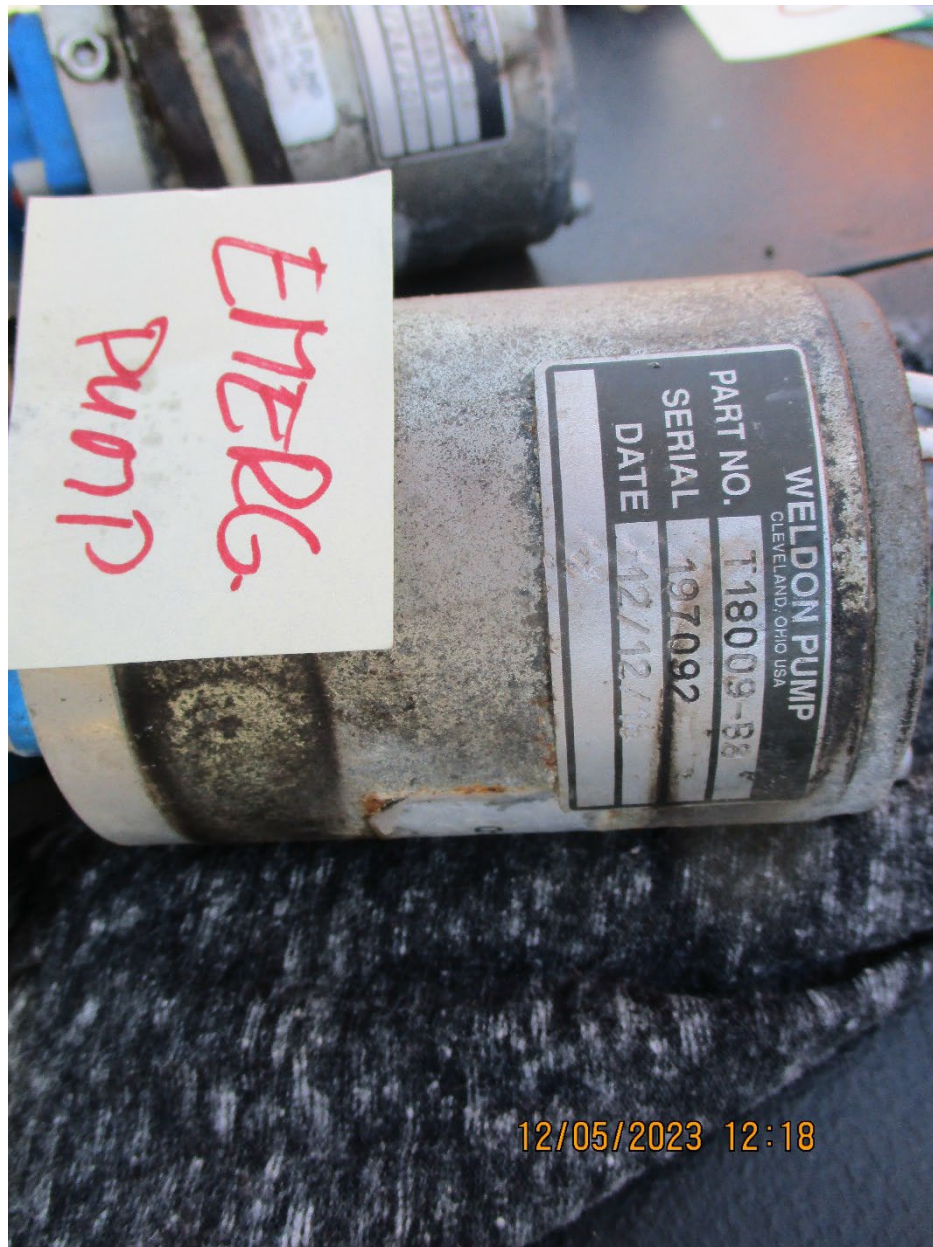


Figure 5 - Emergency Fuel Pump Motor



Figure 6 - Main Pump Motor (End Removed)

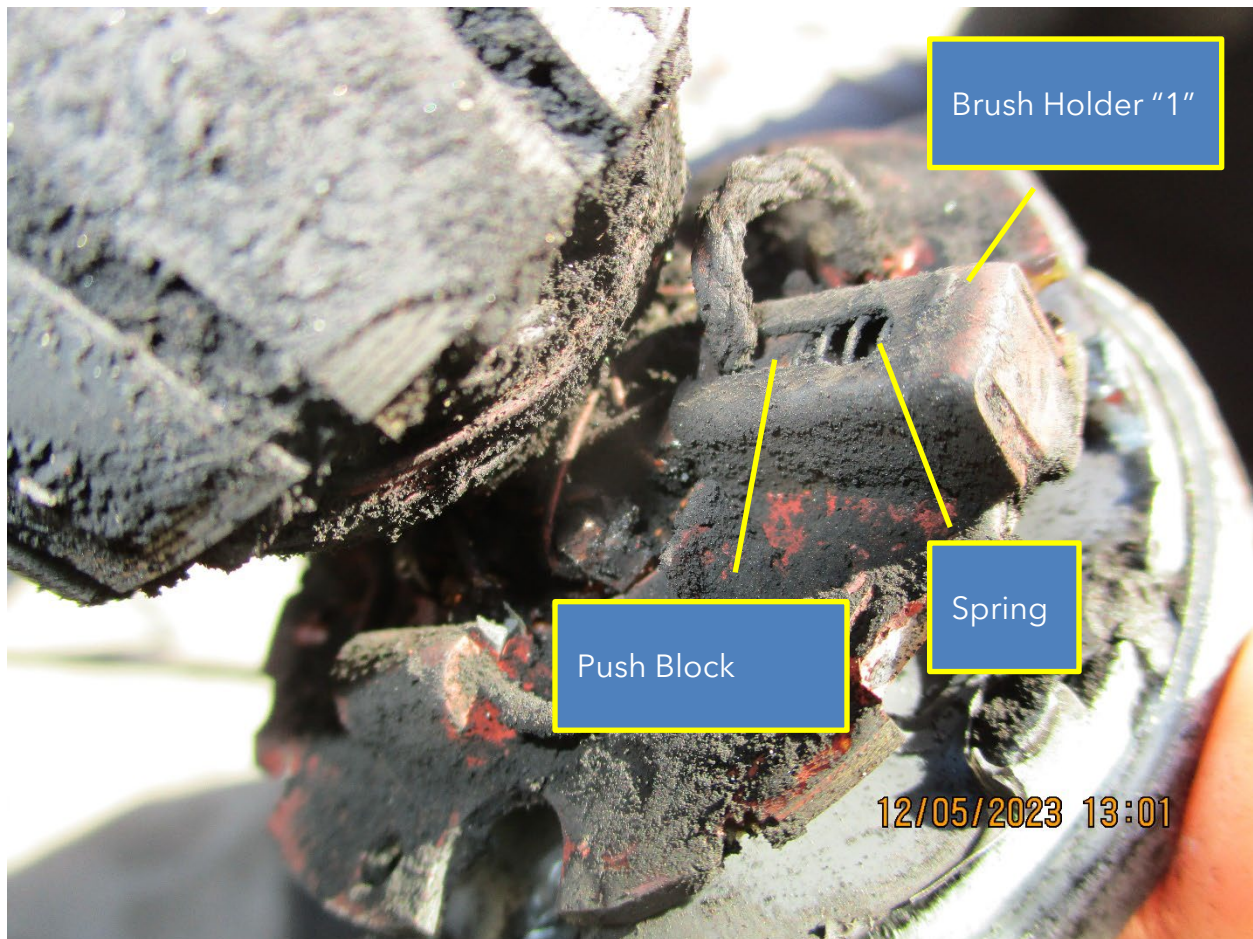


Figure 7 - Main Pump Motor - Brush Holder 1



Figure 8 - Main Pump Motor - Brush Holder 2

The airframe mounted fuel filter was clean and no debris was found. The filter housing was full of fuel. The fuel pressure transducer was missing.



Figure 9 - Airframe Fuel Filter

3.0 Engine Examination



Figure 10 - Engine Data Plate

The engine fuel control unit was removed, it was clean, and no debris was noted. The was fuel noted in the FCU. No anomalies noted. The engine fuel pump filter was clean, and fuel was present inside the chamber.



Figure 11 - Engine Fuel Pump Filter

The power turbine section could not be rotated by hand. All the power turbine blades were present, about half of them were bent slightly in the direction of rotation, consistent with impact damage.

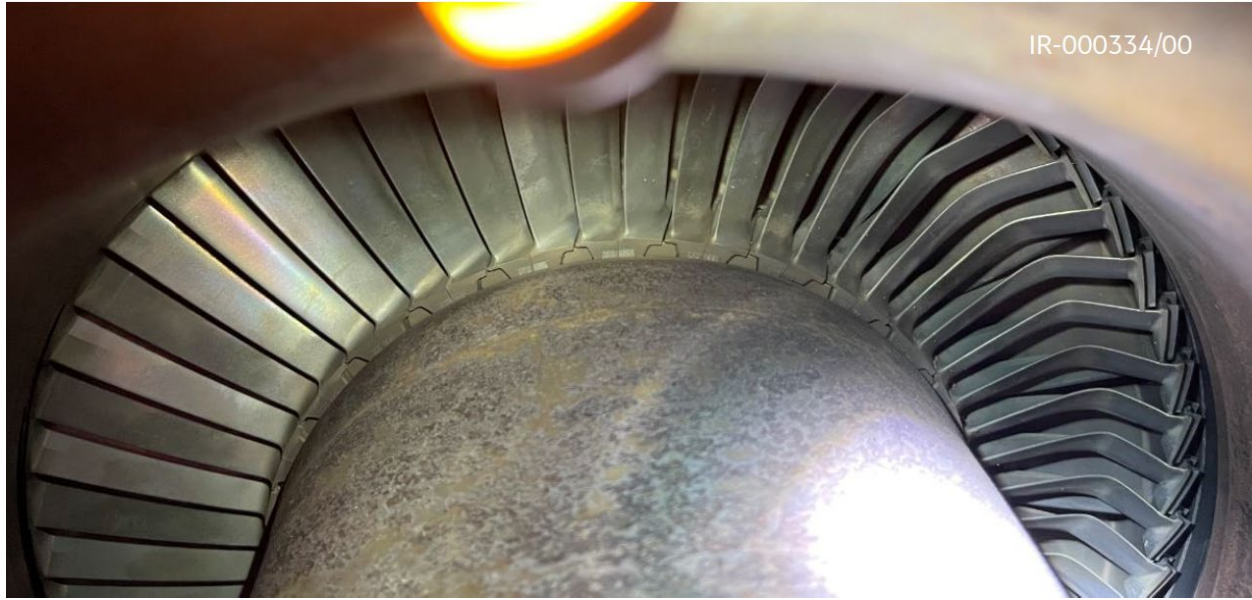


Figure 12 - Power Turbine Blades

The gas generator rotor could not be rotated by hand. A lighted borescope was used to examine the gas generator turbine blades, all of which were intact.

Submitted by:

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