

From: [REDACTED]
To: [REDACTED]
Subject: N8440F
Date: Thursday, October 18, 2018 11:02:45 AM

The following personnel were present for the onsite examination of N8440F. The examination took place 10/16/2018 at Anglin Aircraft Recovery Services in Clayton, DE;

Paul Meyer, FAA
Kathryn Whitaker, Piper Aircraft
Tim Monroe, Summit Aviation

The aircraft fuselage was in the examination hanger with the upper engine cowling removed and the wings and stabilator were placed outside the hanger for inspection. The aircraft's seats, upper engine cowling and miscellaneous interior pieces were inside the fuselage.

After performing a visual inspection of the aircraft engine, engine mount, and firewall it was determined the aircraft was in a condition that an engine run attempt could be made. Continuity of the throttle and mixture controls was verified and both controls had full range of motion (stop to stop). The aircraft's propeller was removed and a "club" propeller provided by Anglin Aircraft was installed. The circuit breaker for the EDM was pulled to preserve any data that may have been on it.

A visual inspection of the aircrafts fuel system was conducted, and with the exception of a section of a metal fuel line on the left side of the fuselage at the spar (the line was cut during the removal of the wing for transport from RUQ) the fuel system appeared to be intact. All lines were connected to the fuel selector valve but were uncapped at the wing root connections. Kathryn Whitaker was able to take a fuel sample from the fuel selector valve; the fuel was blue in color and the smell of the fuel was consistent with Aviation Fuel. A small amount of water was found in the sample. Fuel selector valve was operated from the control on the center pedestal. All Positions had a positive lock when selected. The Fuel Selector Valve was removed from the aircraft and air was used to check for flow in all positions with no defects noted. The valve was disassembled and inspected. Very minor debris were found on the screens. Fuel selector valve was then bagged and placed inside the aircraft. The fuel supply line was disconnected on the outlet side of the engine driven fuel pump and no fuel was found. The fuel line was then disconnected at the inlet of the Fuel Servo and again no fuel or fuel residue was found. Battery Power was applied to the aircraft and the electric fuel pump was checked for operation.

The cut fuel line at the spar was spliced together using rubber fuel hose. The aircraft was moved outside and placed on a trailer to facilitate the engine run. An external fuel can was connected to the inlet side of the electric fuel pump and the fuel system was leaked checked utilizing the electric fuel pump.

Engine start was attempted, engine rotated normally, but engine failed to start. Fuel system was checked for presence of fuel and fuel was found at all connections to include at fuel nozzles. Another unsuccessful start attempt was made. All lower spark plugs were removed and no abnormalities were noted. Utilizing the engine starter, the engine was again rotated to check for spark. There was no spark observed at any of the spark plugs. A magneto synchronometer was connected to the left

and right magneto to check for magneto to engine timing. While rotating the engine by hand no points closure was detected by the syncrometer. Operation of the syncrometer was confirmed utilizing the aircraft ignition switch. Verified that left and right magneto to engine timing was approximately 20 deg BTDC by utilizing the timing marks on the magneto gears. Removed ignition harness and point cover from right and left magnetos and water was discovered in both magnetos. (the water may have been caused from storing the aircraft outside with no upper engine cowling installed. Another post accident inspection was being conducted at the same time and water was found inside both magnetos on that aircraft as well) Cleaning the points while the magnetos still installed on the aircraft was unsuccessful. Left magneto was removed from the aircraft, points were removed from the magneto and cleaned. Points were reinstalled into the magneto and the magneto was reinstalled on the engine. All valve covers were removed to observe valve train operation. All valves appeared to have normal operation. The spark plugs and leads were reinstalled. Another start attempt was made and this time the engine started. The engine was operated between idle and 1800 RPM. Engine had normal response from throttle and mixture controls. Fuel Pressure indicated in the green range with electric pump on and with the pump off. The engine was then shut off by placing the mixture control into the Idle Cut-off position. Engine shut down was normal.

All valve covers were reinstalled. The JPI-EDM was removed from the aircraft for data download and Mr Stephen Stein signed a transfer of custody sheet. The Fuel servo was removed from the aircraft for further investigation, but it was later determined that the servo would not be sent out for check. The servo was placed into a plastic bag and placed inside the aircraft. The "club" prop was removed from the aircraft.

v/r

Paul D. Meyer

Principal Maintenance Inspector

FAA, Charlotte FSO, EA -68

