



Eric Alleyne
Air Safety Investigator
AS-Eastern Region Aviation

Date: December 20, 2022

Subject: ERA23FA077, FAA engine inspection

Contact: Aaron Granger and Daniel J. Ballou, FAA Aviation Safety Inspectors -
Airworthiness

Federal Aviation Administration inspectors Daniel Ballou and Aaron Granger conducted an examination of the accident airplane's engine at AMF Aviation, Westfield, Massachusetts, on December 20th, 2022. They were not on scene during the onsite wreckage examination. In summary, they reported that examination of the engine did not reveal any preimpact mechanical malfunctions that would have precluded normal operation. At the time of the inspection, no fuel was found in any engine components or airframe fuel lines, and only a trace amount of fuel was observed when the airplane was moved [Approximately 28 gallons of fuel, consistent with 100-LL aviation gasoline was drained from the airplane at the accident site.]

Mr. Ballou and Mr. Granger further reported:

- The engine, serial number 24-1034, was a Continental IO-550-A that was installed in the airplane per Rocket Engineering Corp. STC No. SA00081SE during October 1997 and had accumulated 2774.8 hours of operation since installation. The engine appeared to be professionally maintained and in good condition.
- Both throttle and mixture linkages had full motion despite receiving impact damage from the accident. Engine rotation was confirmed by rotating the propeller through its full range of motion without any hang-ups or rotation difficulties.
- After removing all lower and upper spark plug per cylinder and inspecting them, they appeared in good operational condition, without heavy deposits or gap problems. The Nos. 4 and 6 lower cylinder spark plugs were oil soaked.

- No fuel was found in the engine driven fuel pump fuel feed and return lines, the metered fuel lines from their respective cylinder heads, the fuel flow transducer (which contained impact related line fitting damage), the fuel boost pump, and the throttle body, which was also absent of contamination.
- The oil filter was removed, split open, inspected for magnetic particles, and revealed no anomalies preventing proper oil circulation throughout the engine. The oil filter housing was inspected for blockage and revealed nothing preventing proper oil circulation. Engine oil was confirmed present in the engine oil cooler and accessory case, no defects or leaks were present in these assemblies.