



INVESTIGATION FINDINGS

The wreckage of N310QA was examined on-scene by this NTSB investigator, inspectors from the Federal Aviation Administration (FAA), and technical advisors from Textron Aircraft and Continental Motors.

Airframe Examination:

- Control cable continuity was established from the cockpit to the flight control surfaces.
- Aileron and rudder trim measurements were found outside of normal limits.
- Flap were found in the retracted position.
- The left fuel strainer was damaged in the post-impact fire.
- The left strainer screen contained some debris from the post-impact fire.
- The left fuel selector valve was observed between LEFT and AUX.
- When accessing the left fuel strainer, loose insulation and rodent feces were observed in the left wing.
- The right fuel selector valve was observed between OFF and CROSSFEED.
- The right fuel boost pump switch moved freely, and its position could not be determined.
- Landing gear was in the retracted position.
- An Ameri-King Corporation AK450 ELT was installed in the airplane and activated during the accident.
- Both occupants appear to have been restrained by the airplane's 2-point restraint system.
- Instrumentation readings:
 - Altimeter: 865 ft
 - Altimeter setting: 29.98
 - Com 1: 123.8 (airfield UNICOM is 122.8)
 - Com 2: 134.0 (airfield ASOS is 134.075)
 - Nav 1: 110.0
 - Nav 2: 110.0
 - Tachometer: 700 RPM left engine, 3,670 RPM right engine
 - Manifold Pressure: 1,500 left engine, 1,050 right engine
- The left engine's left and right magneto switches were both ON.
- The right engine's left magneto switch was ON, the right magneto switch was damaged and its position could not be confirmed.
- The left engine controls were throttle full, mixture about 1/2 inch from full rich, propeller low RPM
- The right engine controls were throttle full, mixture full rich, propeller high RPM

- The left propeller separated from the engine. One blade was straight with some leading edge polishing, the second blade exhibited S-bending.
- The right propeller remained attached to the engine. Blade 'A' was straight with some leading edge polishing, Blade 'B' was bent slightly aft at midspan.

Engine Examination:

- Both engines were shipped to Continental Motors in Mobile, Alabama for examination.
- Due to COVID restrictions, the examinations were monitored using video conferencing capabilities and telephone calls.
- When uncrated, both engines had the same serial number embossed on a data plate: serial number 115125-3U
 - A review of engine log books found that the left engine's s/n is recorded as not known, the right engine's s/n is recorded as 115125-4-U on one entry and not known thereafter.
- Due to damage, neither engine could be run in a test cell.
- Both engines were completely disassembled
- All screens and filters appeared unobstructed
- No anomalies were detected which would have precluded normal operation of the engine
- None of the parts found appeared to be automotive in nature.

Circumstances prior to the accident

- Personnel on the airport reported to the FAA that the pilots were seen "tinkering" with the airplane in the days prior to the flight.
- This investigator contacted the airport manager and he reported that he was not aware of an A&P mechanic that was seen assisting with the airplane.
- On July 30, 2019, the pilot/owner contacted the Sevier County Sheriff's Department regarding the theft of about 45 gallons of aviation fuel from N310QA's right fuel tank while parked at the Sevier County Airport (KDEQ). The pilot/owner had previously fueled the airplane on June 27, 2019 and had discovered the theft when he returned to the airplane on July 30.

Pilot Information

A review of the information on file with the Federal Aviation Administration recorded the following about the pilots.

Left Seat Pilot

- The pilot seated in the left seat held a commercial pilot certificate with airplane multiengine land, airplane single engine land, and instrument airplane.
- On his most recent application for a medical certificate dated April 12, 2019, he reported having at least 3,464 total hours with 18 hours in the preceding 6 months.
- He sustained serious injuries in the accident and his spouse reported that the pilot does not recall the accident.

- No logbook was obtained for this pilot, and his hours are estimated from his application for medical certificate.

Right Seat Pilot

- The pilot seated in the right seat held a private pilot certificate with ratings for airplane multiengine land and single engine land.
- On his most recent application for a medical certificate dated May 14, 2019, he reported having at least 6,000 hours of total time.
- No logbook was obtained for this pilot, and his hours are estimated from his application for medical certificate.
- A review of the hours reported during his previous applications for medical certificates changed from 36 hours reported in 2010, 870 hours reported 2012, 4,500 hours reported 2014, 11,000 hours reported 2016, and 6,000 hours reported 2019.