

CEN19FA099

NTSB Airframe and Engine Examination Report

The wreckage was located at a “t” intersection about 930 ft southwest of the threshold for runway 34, at an elevation of about 915 ft amsl. The airplane initially impacted a tree and road sign to the west of the Lakeway Swim Center on a heading of about 59° prior to the “t” intersection, and various powered propeller impact marks on the asphalt were observed in the direction of travel. The airplane traveled about 180 ft to the northeast across a road before terminating at the final resting point on a heading of about 182°.

The NTSB, Textron Aviation, and Continental Motors traveled to the accident site on 03/15/2019 and the airframe and engine examination was conducted on 03/16/2019 at the Lakeway Airpark (3R9), in Lakeway, TX.

Airframe (Cessna 172)

All structural components of the airframe were accounted for.

The airframe was found in a tail-high attitude off a road. The front of the airplane, including the engine and propeller were in a tree line.

The left wing remained attached to the fuselage. The right wing was only partial attached to the fuselage due to the impact damage. Both wing struts remained attached to the fuselage and wings. The right wing and right wing strut were removed from the fuselage to facilitate recovery operations. With the exception of the windshield and engine cowlings, no major airframe components had separated from the airplane.

The leading edge of the left wing sustained impact damage and the functionality of the stall warning system could not be determined.

No evidence of a fire occurring was observed.

The battery was found separated from the airframe.

All of the flight controls remained attached to the airplane. Flight control continuity was established for the airframe.

Witness damage/marks were observed on the airframe from the flap position at the time of the impact, which showed the flaps to be fully extended. The flap handle was found fully extend. No flap indicator system was found installed.

The left fuel tank exhibited hydraulic deformation. Both fuel caps were found installed but were later opened to remove fuel by first responders. First responders extracted about 25 gallons of fuel total from both fuel tanks.

The fuel strainer screen and fuel strainer bowl were found clean. A small amount of water was found at the bottom of the fuel strainer bowl. The fuel tank selector was on BOTH and the fuel selector valve was on BOTH.

The landing gear was a fixed, tricycle configuration. The left side landing gear and nose wheel were found detached from the airframe from impact damage.

The cabin heater was off and the cabin vent was off.

No evidence of an outside air temperature probe and gauge were found installed.

The ELT was found detached from its mounting hardware and was armed.

Both seats had a 3-point restraint system installed. Both seats were intact and installed correctly.

The right control yoke had separated while the left control yoke remained attached. The instrument panel was pushed forward.

Airspeed: 0 knots

Attitude pitch: 29 degrees up

Attitude roll: 90 degrees left

Altimeter: 520 feet

Altimeter setting: 30.09

Turn coordinator (airplane): Level

Turn coordinator (ball): Full left

Heading indicator: 065 degrees

Vertical speed indicator: 0

Master battery: OFF

Lighting: All light switches off

Ignition: Both

Hour meter: 882.5

Tach RPM: 0

Tach Hours: 848.7

Oil pressure: 0

Throttle: Full forward (cockpit position)

Mixture: Full forward (cockpit position)

Carburetor heat: Off (both cockpit and engine positions)

No mechanical malfunctions or failures were observed with the airframe.

Engine (Continental Motors O-300D)

All components of the engine and engine accessories were accounted for.

Engine control cable continuity was confirmed.

The engine was found detached from the engine mount system, which was attached to the airframe. The engine crankcase remained intact.

No evidence of a fire occurring was observed.

The crankshaft was able to rotate by hand. Drivetrain continuity was established. Thumb compression for all cylinders was established. The cylinder valve rocker covers were removed and all valve springs, rocker arms, and push rods were intact. The rocker arms moved correctly when the engine was manually rotated.

The top row spark plugs (Tempest UREM40E) were removed and examined. The spark plugs were a "normal" condition per the Champion Check-A-Plug chart.

A borescope inspection of the cylinders was conducted, and no abnormalities were observed.

The left magneto produced spark at all leads when rotated by hand. The right magneto produced spark at four leads when rotated by hand and the two other leads were shorted to the case of the magneto by impact damage.

The oil filter was removed, opened, and inspected. No metal contamination was found. The engine oil sump was impact damaged on the front portion and all crankcase oil had leaked out. The oil cooler separated but remained attached to the oil hoses. The oil cooler exhibited impact damage.

The carburetor was found fractured in two pieces, with both floats sustaining impact damage. The main jet was not found. No liquid was observed in the carburetor. Unknown debris was found in the carburetor. The carburetor had no observed anomalies. The fuel inlet screen was not examined.

Both the starter and generator were separated and sustained impact damage.

The right side muffler remained attached. The left side muffler was separated from impact damage.

No mechanical malfunctions or failures were observed with the engine and engine components.

Propeller (McCauley)

All components of the propeller assembly were accounted for.

The two-blade metal propeller was found attached to the crankshaft. The propeller spinner did exhibit evidence of rotation. Both blades were bent aft. One blade was severely twisted.

No mechanical malfunctions or failures were observed with the propeller assembly.

Maintenance Records

An examination of the maintenance records provided by the airplane owner revealed no evidence of uncorrected mechanical discrepancies with the airplane.

A record of historical FAA airworthiness paperwork was obtained for review.