



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

June 20, 2021

EXAMINATION SUMMARY

ERA21FA258

A. ACCIDENT

Location: Yulee, Florida
Date: June 18, 2021
Time: 1106 EDT
Airplane: Cessna 150L, N1300Q

B. INVESTIGATION PARTICIPANTS

Ralph E. Hicks - IIC
Eastern Region Aviation (ERA)
National Transportation Safety Board
Marietta, Georgia

Casey Love
Textron Aviation
Wichita, Kansas

Dwight Greenlund
Aviation Safety Inspector
Orlando, Florida

C. SUMMARY

On June 18, 2021, about 1106 eastern daylight time, a Cessna 150L, N1300Q, was destroyed when it was involved in an accident near Yulee, Florida. The flight instructor and a student pilot were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

According to preliminary air traffic control (ATC) radar data obtained from the Federal Aviation Administration, the flight departed Fernandina Beach Municipal Airport (FHB), Fernandina Beach, Florida about 1056 and proceeded on a northwesterly heading for about 7 miles until over the St. Mary's River. No ATC services were provided. The airplane performed several 360° turns, about 800 to 1,000 ft mean sea level (msl). The last radar return was about 300 ft south of the accident site, at 800 ft msl.

Witnesses at a nearby boat dock reported that the airplane descended into the St. Mary's River at a near-vertical, nose-down attitude. Two of the witnesses recalled that the engine was running until impact with the water.

The airplane impacted the river and sank in about 17 ft of water. There was no fire. The accident site was about 7 nm northwest of FHB. After recovery from the river, the wreckage was transported to an aircraft salvage facility for examination.

1.0 Wreckage Examination

The examination of the wreckage was performed at the recovery site on June 19, 2021, and at the facilities of Florida Air Recovery, Jacksonville, Florida, on June 20, 2021.

During recovery, the aircraft was floated just below the surface using inflatable air bags. It was then towed below the surface of the water approximately 8 miles to a boat ramp where it was loaded on a trailer. The wreckage was towed between approximately 1 to 2 miles per hour. Multiple surfaces of the wreckage exhibited gouges consistent with striking objects below the surface of the water.

General - Airframe

The aircraft impacted the surface of the river in a near vertical attitude. The engine was broken from the engine mounts but remained attached by control cables and wires. The cowling was not recovered. The leading edges of each wing compressed aft, equally, compared to one another, to about two thirds the original chord width. The upper and lower wing skins separated along the seam fasteners from the spars and multiple rib locations particularly outboard of wing station 84. The right wing separated from the forward mount and remained attached at the aft mount. The lift strut remained attached and was cut during recovery at the fuselage connection. The left wing remained attached at both attach points. The upper cabin section separated from the fuselage and remained attached to the left wing. The left-wing strut was impact-separated at the wing attach fitting. The forward door posts were separated from the top of the cabin. The

firewall remained partially attached at the lower portion of the cabin. The cabin section was compressed upward and aft. The floor section forward of the seats was compressed aft and upward around the fuel selector. The tail section compressed approximately 4" forward, aft of the baggage compartment. The empennage fracture separated at the forward vertical stabilizer bulkhead. The stabilizers remained attached to the separated bulkhead. The flight controls remained partially attached to the stabilizers. The empennage flight control cables remained attached to the control surfaces.

The elevator trim measurement was 1.57 inches. 1.44 inches is tab neutral. Trim tab does not travel tab up beyond neutral.

The flaps remained attached to the wing. The electric flap actuator was observed in the retracted position. The rudder remained attached to the vertical stabilizer. The elevators remained attached at the outboard hinge locations and to the elevator control bellcrank and did not exhibit impact damage. The elevator bellcrank fracture separated from the bulkhead attach point. The attach bolt and bushing remained attached to the bulkhead. Neither the vertical stabilizer nor horizontal stabilizer exhibited signs of impact damage.

All flight control cables were continuous from the cockpit controls to the flight control surfaces. The aileron control cable chains were connected to the sprockets in the cockpit. The aileron control cables were cut near the wing root during recovery. The aileron carry-thru cable was cut near the same location. The right aileron was complete and remained attached to the inboard hinge and push/pull rod. The left aileron was intact and remained attached to the inner and center hinges and the push/pull rod. The elevator push/pull rod was intact from the control column to the elevator sector beneath the seats.

The horizontal and vertical stabilizers, and elevators were cut outboard of the elevator bellcrank and retained for examination at the NTSB Materials Laboratory, Washington, DC.

Landing Gear

The main gear remained attached. The nose gear was separated from the firewall except for the upper steel tube mount.

Fuel System

The fuel supply system was fractured in multiple locations in the door posts and cockpit area. The fuel strainer bowl was separated from the strainer. The screen was clean. The wing tank finger screens were clean. The right fuel tank was breached. The left tank was not determined to be breached. Both tanks contained silt and mud. The left fuel cap was not installed but remained attached to the chain. The right cap was installed. Both fuel tank gaskets exhibited slight cracking. The fuel tanks were hydraulically expanded outward above and below the tank forward wall.

Cockpit

The ignition key was not observed in the switch. The switch appeared to be in the off position. The instrument panel was fractured into multiple pieces. Not all instruments were recovered.

Engine

The magnetos were submerged for approximately 36 hours. They were removed from the engine and rotated by hand smoothly. They were disassembled and photographed. The wear components appeared in new condition. No attempt was made to spark test them. The induction system was separated from the aircraft. The inlet filter remained attached to the carburetor. The carburetor and the carburetor screen along with the fuel fitting, were impact separated from the carburetor. The carburetor was dissembled and inspected. It appeared in new condition. No obstructions were noted. The composite floats were intact. The engine fuel primer was fragmented. The carburetor mixture cable clamp head was fracture separated from the remainder of the shank. The shank remained in the mixture control arm.

All cylinders were attached to the crank case and contained water and silt. The crank case was intact and did not exhibit signs of preimpact anomalies. Cylinders 1-3 produced compression when the propeller was rotated, and the spark plug hole was covered. The #4-cylinder exhaust valve pushrod appeared to be bent. The #3-cylinder intake valve pushrod appeared bent. The valve did not move when crankshaft was rotated.

Propeller

Blade A was bent aft 90 degrees mid-span and exhibited signs of S bending. Blade B was bent slightly aft midspan and exhibited slight S bending. The leading edges were unremarkable.