



NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety

Wreckage Examination Summary

A. ACCIDENT ERA21FA274

Location: St. Augustine, Florida
Date: June 29, 2021
Time: 1427 Eastern Daylight Time (EDT)
Operator: Florida Flyers Flight Academy
Aircraft: Cessna 152
Registration: N25513

B. PARTICIPANTS:

IIC: Peter Wentz
 National Transportation Safety Board
 Ashburn, Virginia

Participant: Joe McBride
 Federal Aviation Administration
 Orlando, Florida

Participant: Ric Ricardi
 Federal Aviation Administration
 Orlando, Florida

Participant: Mike Childers
 Lycoming
 Williamsport, Pennsylvania

Participant: Casey Love
 Textron Aviation Inc.
 Wichita, Kansas

DETAILS OF THE INVESTIGATION

1.0 Accident Site

The airplane was located about 927 ft short of the displaced threshold on runway 13 at SGJ on a heading of 148°. It came to rest at an elevation of about 9 ft on the runway surface. After the impact, a postcrash fire ensued. About 2.5 gallons of aviation fuel (100LL) was drained for the left wing while on site.



Figure 1 - Accident Site

2.0 Airframe Examination

1977 Cessna – 152 N25513 S/N 15280707

The aircraft firewall, engine mount, and cabin floor structure were displaced upward at an approximate 20-degree angle but did not substantially reduce cabin volume. The inboard portion of the right wing was consumed by fire. Both the left and right forward and aft wing attach fittings remained connected via the attach bolts. The wing support structure through the upper cabin was consumed by fire. The left-wing sustained fire damage at the wing root area. The tail section was consumed by fire from approximate fuselage station 75 to 133. The empennage remained intact. The right horizontal stabilizer and elevator was mostly consumed by fire. The left horizontal stabilizer and elevator remained intact. The vertical stabilizer and rudder remained intact and sustained fire damage to the right side.

Flight control continuity was established by tracing the flight control cables from the cockpit controls to the respective flight control. The cockpit control chains were complete and remained

on the sprockets. The control wheels were consumed by fire. The left rudder cable, which runs from the copilot side rudder torque tube to the left side of the rudder control horn, had 3 broken strands and 4 remaining strands that appeared to be abraded. The area of apparent abrasion was located 92" from the cable connection at the copilot's side rudder torque tube.

The fuel selector was not examined due to compression damage to fuselage. The right-wing metal fuel tank was consumed by fire. The aft fuel outlet finger screen was observed in the debris. The left-wing metal fuel tank remained intact. The cabin fuel lines from the wing root through the door posts were consumed by fire. The fuel vent cross-over line was consumed by fire. The left wing fuel cap was observed in place with seal intact.

The ELT was consumed by fire.

The pilot side lap belt restraint was observed latched on-scene. The shoulder harness and copilot's buckles were not observed.

Avionics and engine instruments were consumed by fire.

3.0 Engine Examination

Lycoming Model 0-235-L2B S/N RL-24142-15

As first viewed, the engine was laying upright on the floor at the facilities of Florida Air Recovery. The engine was photographed, suspended from a lift and partially disassembled to facilitate the examination. The exhaust muffler was crushed. The carburetor bowl assembly was impact separated from the engine. The starter and alternator were impact damaged. The oil dipstick was not in place in the oil dipstick tube. The dipstick was found on the runway about 30 feet from the engine. The threads in the oil dipstick cap and on the oil dipstick tube were undamaged. Oil was observed on the inside surface of the upper and lower engine cowlings near the location of the oil dipstick. The engine crankshaft was rotated using a tool inserted in the vacuum pump drive pad. Continuity of the crankshaft to the rear gears and to the valve train was observed. Compression and suction were observed from all four cylinders. The interiors of the cylinders were observed using a lighted borescope and no anomalies noted. The aircraft recording tachometer was destroyed.

4.0 Propeller Examination

Sensenich P/N - 72CKS6-O-54 S/N K7523

The propeller was impact separated from the engine crankshaft flange and found on the runway about 45 feet from the engine. One propeller blade was twisted toward the cambered surface along the blade longitudinal axis. That blade exhibited chord-wise scoring and leading and trailing edge gouges. The other propeller blade was twisted toward the flat surface along the blade longitudinal axis. The blade tip was curled toward the blade face. That blade also exhibited chord-wise scoring

and leading-edge gouges. Multiple slash marks, consistent with the appearance of propeller strikes, were observed in the runway surface near the first identified impact point.

5.0 Additional Information

The airplane was recovered on 06/30/2021 and taken to Air Florida Recovery in Jacksonville, Florida.