

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN24FA305

EXAMINATION SUMMARY

August 8, 2024

A. ACCIDENT

Location: Brazoria, TX
Date: 08/06/2024
Time: 18:20 CDT
Aircraft: Cessna 172F; N7905U

B. EXAMINATION SUMMARY

IIC Alexander Lemishko
NTSB
Denver, CO

Party Coordinators Peter Basile
Textron Aviation
Wichita, KS

David Harsanyi
Lycoming
Williamsport, PA

SUMMARY:

On August 6, 2024, about 1820 central daylight time, a Cessna 172F airplane, N7905U, sustained substantial damage when it was involved in an accident near Brazoria, Texas. The pilot sustained fatal injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* part 91 personal flight.

AIRFRAME:

According to witness information and on-scene examination, the aircraft turned slightly left during the takeoff roll from the turf on Runway 11 and departed the mowed turf and entered tall grass. The aircraft then lifted off the surface and struck a 4' tall barb wire fence post. The outboard four feet of the right elevator was separated from the aircraft and was found entangled in the barb wire. According to witnesses, the aircraft pitched up abruptly and then descended into the adjacent field. The aircraft impacted a grass field in a left-wing-low, nose-down flight attitude. The left wing struck the ground first and the aircraft cartwheeled about the nose. The right wing then struck the ground and the tail partially fractured and bent to the right aft of the rear bulkhead.



Figure 1. Main wreckage (Courtesy: Textron Aviation)

Tire tracks from the airplane during the takeoff roll were observed veering to the left about 50 ft off the runway. The tracks went through tall, uncut grass that was bordering the runway. The ground under the tall grass was boggy and water saturated. Metal pieces of a carport frame (various lengths and 2-inch by 2-inch square) structure were found lying flat amidst the grass, about 50 ft left of the edge of the runway. The airport manager reported that the metal pieces were remnants from a recent hurricane.

Evidence at the accident site showed that the left main landing gear wheel and bottom side of the airplane's horizontal stabilizer contacted the metal pieces as the airplane passed through the grass. Small pieces of the horizontal stabilizer and white paint chips (consistent with the airplane's paint) were found amidst the grass. The contact with the metal pieces was consistent with the airplane rotating for takeoff after it veered off the runway surface, as it passed through the tall, uncut grass in the boggy area. The main wreckage of the airplane was about 200 ft from the fence.

Flight control continuity was established for all primary flight controls. The flap actuator measured 3.4" which was consistent with a flap surface position of 20° extended. The elevator trim actuator measured 0.8" which was consistent with a 12° tab down (nose up) position.

The left fuel cap remained installed, the left fuel line was fractured at the wing root, and the tank was found empty. The right fuel cap remained installed, and fuel was observed to be slowly leaking from a separated vent tube. About 3 gallons of fuel was drained from the right tank sump drain and no water was observed in the fuel. Air was blown through the fuel line at the right wing root and confirmed continuity to the fuel selector valve, which was found in the right tank position.

The airplane was equipped with a 3-point restraint for the pilot's seat. According to first responders, the lap belt and shoulder harness were cut during extrication.

ENGINE:

The engine, a Lycoming O-360-A1A (s/n: L-25117-36A), remained attached to the airframe, and the 2-blade propeller remained attached to the engine crankshaft. The engine sustained damage, consistent with the impact, the muffler assembly, airbox, air filter, and propeller governor. All engine controls remained attached to their respective control arms.

The top spark plugs were installed to their respective cylinders. The engine crankshaft was manually rotated by the propeller, and mechanical continuity was noted throughout the engine. Suction and compression were noted on all cylinders. The oil suction screen was installed with safety wire, and the screen was found clear of debris. The oil filter was installed and a partial date of "2023" was noted.

The engine driven fuel pump remained installed and manually actuated by hand which produced suction and compression on the inlet and outlet ports. The pump was disassembled and fuel was noted in the pump. The carburetor remained attached and removed; the throttle and mixture arms moved freely. The carburetor float bowl was removed, and fuel was noted in the bowl. A water paste test was conducted on the bowl fuel, the sample tested negative for the presence of water.

The left and right magnetos remained attached to the engine and removed for functional testing. The magnetos were rotated using an electric drill which produced spark at all points. The ignition harness showed several areas of cut and abrasion damage and was not able to be tested.

In August 2025, the spark plugs were tested at Harvey Rinn Aviation, Laporte, Texas. According to the testing, 3 of the 8 spark plugs displayed weak spark or were arching to the plug body. Two of the 8 spark plugs displayed a strong spark.

PROPELLER:

The 2-blade Hartzell propeller remained attached to the engine crankshaft. One blade was relatively straight, and one blade was bent slightly aft about 12" from the blade tip. No rotational evidence was noted on either blade.

SUMMARY:

Postaccident examination of the airframe and engine revealed no mechanical malfunctions or failures that would have precluded normal operation.