

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA25LA324

WRECKAGE EXAMINATION

September 4, 2025

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A. ACCIDENT

Location: New Smyrna Beach, FL
Date: August 29, 2025
Time: 1027 EDT
1427 UTC
Airplane: Cessna 172H, N1607F

B. WRECKAGE EXAMINATION

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C. SUMMARY

On August 29, 2025, at 1027 eastern daylight time, a Cessna 172H, N1607F, was substantially damaged when it was involved in an accident near New Smyrna Beach, Florida. The two flight instructors sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

D. DETAILS OF THE EXAMINATION

1.0 Accident Site

The airplane came to rest inverted after striking an airport boundary fence. The FAA went to the site and documented the wreckage.

2.0 Airframe Examination

2.1 Fuselage

The fuselage remained intact with some scraping, dents and small holes.



Photo 1: View of the fuselage.

2.2 Empennage

The empennage remained attached to the fuselage. The vertical stabilizer remained attached, and the top fairing was impact separated. The rudder remained attached at all attachment points. Flight control continuity was confirmed from the rudder flight control surface to the flight controls in the cockpit. The left horizontal stabilizer and elevator exhibited impact damage. The left elevator remained attached at all attachment points. The right horizontal stabilizer, elevator, and elevator trim tab were undamaged. Elevator control continuity was confirmed from the flight control surface to the flight controls in the cockpit.



Photo 2: View of the left side of the empennage.



Photo 3: View of the right side of the empennage.



Photo 4: View of the vertical stabilizer and rudder.



Photo 5: View of damage to the left elevator.

2.3 Aircraft Wings

Both wings had been removed to facilitate recovery of the airplane. The right wing exhibited impact damage on the outboard leading edge. The right aileron and flap remained attached to the wing at all attachment points. The left wing exhibited leading edge impact damage. The left aileron and flap remained attached to the wing at all attachment points. Aileron continuity was established from the flight control surfaces to the flight controls in the cockpit through cuts made to facilitate recovery.



Photo 6: View of the right wing.



Photo 7: View of damage to the right wingtip.



Photo 8: View of the left wing.



Photo 9: View of damage to the leading edge of the left wing.

2.4 Landing Gear

The main landing gear remained attached to the fuselage. The nose landing gear was impact separated.



Photo 10: View of the impact separated nose landing gear.

2.5 Cockpit

The cockpit area was intact and the following switch positions were noted:

- Strainer: Closed
- Primer: Closed
- Master: OFF
- Ignition: Both
- Pitot Heat: OFF
- Nav Lights: ON
- Beacon: ON
- Land Lights: OFF

No circuit breakers were popped. Photos from the accident site showed the carburetor heat OFF, the throttle and mixture full forward, the cabin air OFF, and the cabin heat ON.

2.6 Survivability

Both the left and right seats were equipped with 4 point harnesses which operated normally when operated by hand. Both harnesses remained attached at all attachment points.

2.7 Fuel/Fuel System

The fuel tank filler cap seals were replaced recently due to leaks. Both fuel tank filler openings exhibited rust and corrosion. An undetermined amount of fuel was drained from both wing tanks at the accident site. Both wing fuel tank outlet screens were clean when observed via lighted borescope. The fuel selector was on BOTH at the accident site according to postaccident photographs provided by the FAA. There was some play in the fuel selector linkage, but all detents were evident. The fuel selector operated correctly when tested with air through the fuel plumbing. The fuel strainer bowl and screen had a small amount of debris, and the bowl interior was corroded. The fuel strainer drain linkage from the cockpit would permit draining, but the travel was not enough to clear for disassembly. Fuel samples from the right wing fuel plumbing, and from the strainer had evidence of water through visual observation and use of water detecting paste. The left wing fuel plumbing did not show evidence of water.



Photo 11: View of the left and right fuel tank caps.



Photo 12: View of the left and right fuel tank filler openings.



Photo 13: View of the fuel selector.



Photo 14: View of the fuel strainer bowl.



Photo 15: View of the fuel strainer screen.

3.0 Engine Examination

The engine remained attached to the engine mounts. Compression and suction were observed when the engine crankshaft was rotated through 720° of rotation by hand via the propeller. The rocker box covers were removed and valvetrain continuity was observed when the engine was rotated by hand using the propeller. Control continuity was confirmed from the cockpit to the engine controls for the throttle, mixture, and carburetor heat.



Photo 16: Overview of the engine.

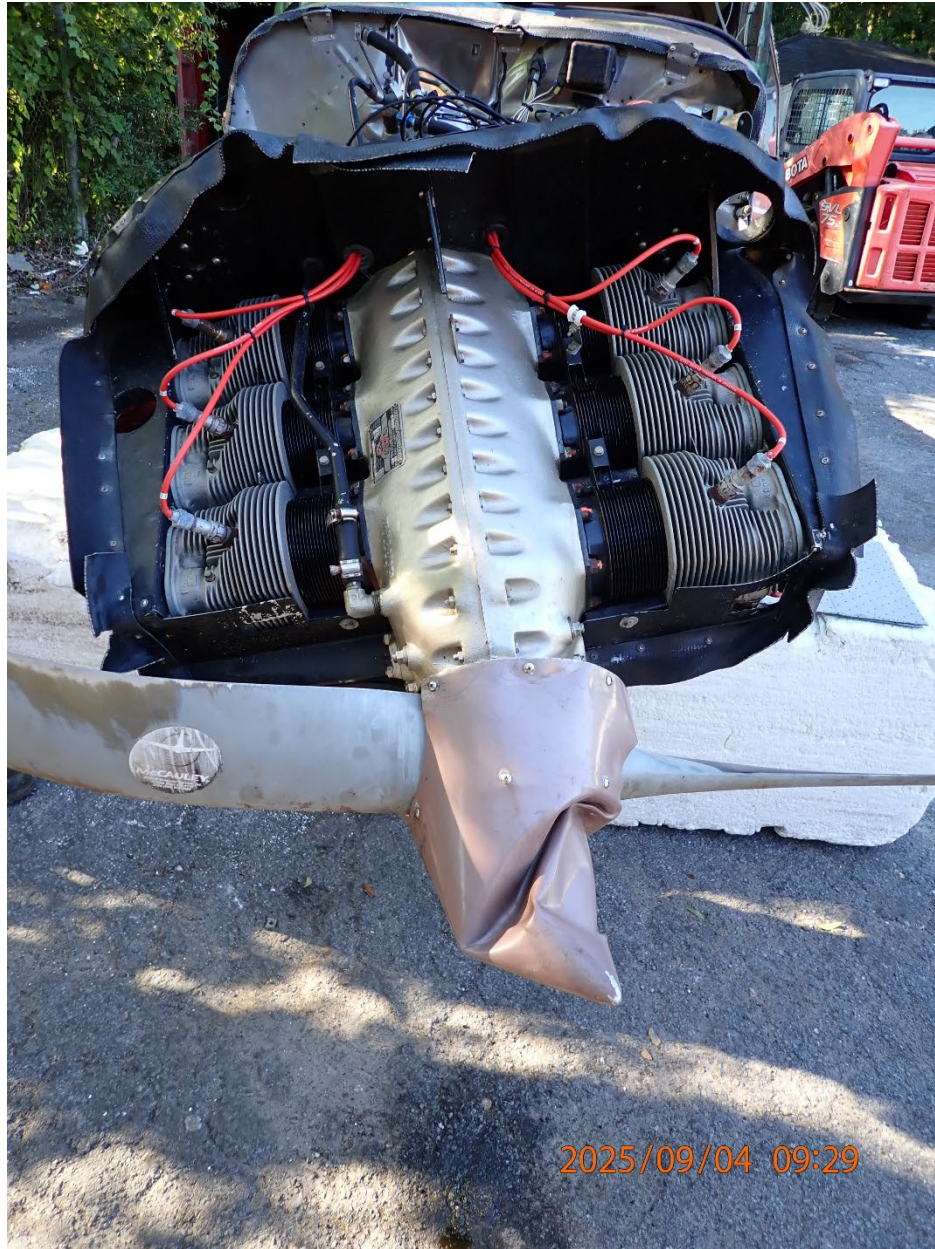


Photo 17: View of the top of the engine.



Photo 18: View of the back of the engine.

3.1 Induction and Exhaust System

The induction air intake filter was packed with organic debris consistent with the airplane's impact into vegetation. The airbox remained attached to the carburetor by 3 of the 8 rivets. The exhaust system was undamaged.



Photo 19: View of the right side of the engine.



Photo 20: View of the left side of the engine.



Photo 21: View of the air intake filter.



Photo 22: View of the air intake carburetor attachment point.

3.2 Magnetos

Both magnetos remained attached to the engine. Spark was observed on all towers of both magnetos when the engine crankshaft was rotated by hand using the propeller.

3.3 Ignition System

The top sparkplugs were removed and exhibited normal to worn out - normal appearance when compared to the champion aerospace aviation Check-A-Plug chart.



Photo 23: View of the removed sparkplugs.

3.4 Fuel System

The carburetor remained attached to the engine. It was removed and partially disassembled. Water was found in the carburetor bowl, along with a small amount of fluid consistent with the color and smell of 100LL aviation fuel. A small amount of debris was observed on the inlet screen. The float was the newer style of closed cell material and floated when tested. The main carburetor jet was removed, and all ports were unobstructed.



Photo 24: View of the partially disassembled carburetor.



Photo 25: View of the carburetor inlet screen.

3.5 Lubrication System

The oil filter remained attached to the oil filter adapter. It was removed, cut open, and the filter pleats were inspected. No debris was noted within the oil filter pleats.



Photo 26: View of the oil filter attached to the oil filter adapter on the firewall.



Photo 27: View of the cut open oil filter.

3.6 Vacuum Pump/System

The vacuum pump remained attached to the engine.

4.0 Propeller Examination

The propeller remained attached to the crankshaft flange. One propeller blade was undamaged, and the other was bent aft about 45° about midspan.

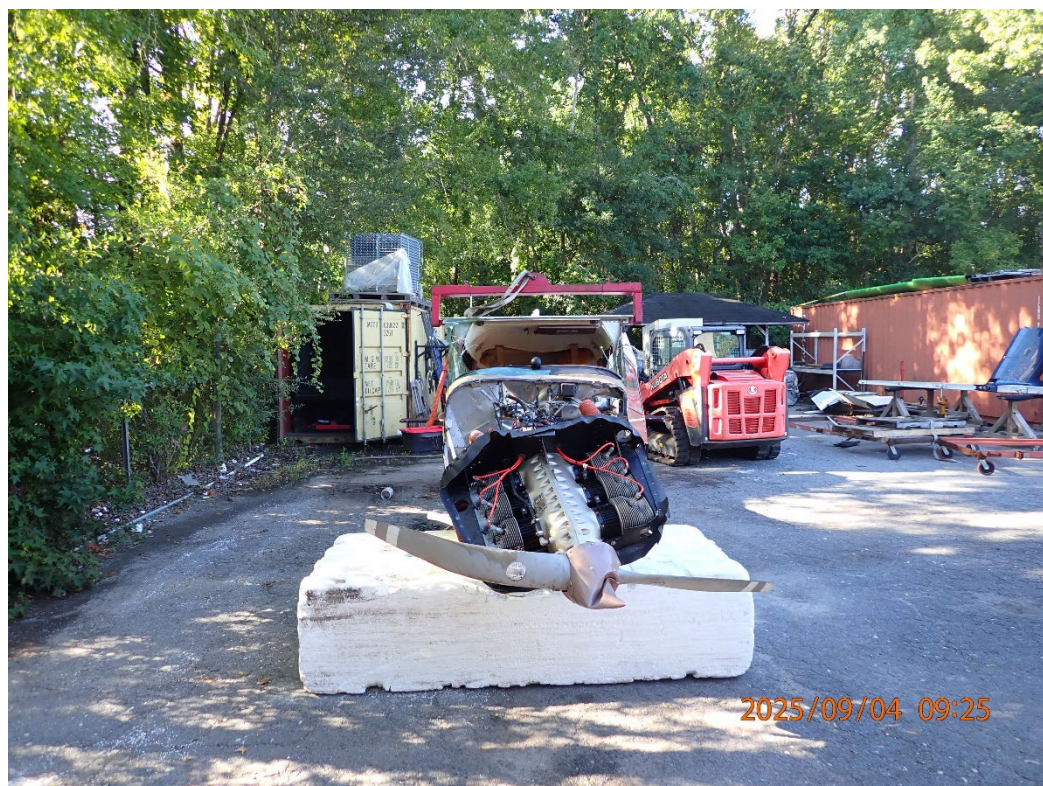


Photo 28: Overview of the propeller.



Photo 29: View of the damaged propeller blade.

Submitted by:

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