

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN24LA268

EXAMINATION SUMMARY

August 20, 2024

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A. ACCIDENT

Location: Arcola, Texas
Date: July 16, 2024
Time: 1800 central daylight time
Aircraft: Piper PA-28-181, N1941V

B. EXAMINATION SUMMARY

Party Coordinator Phillip Powell
Aviation Safety Inspector
Federal Aviation Administration
Houston, Texas

Party Coordinator Sean Holloway
Air Safety Investigator
Piper Aircraft
Vero Beach, Florida

Party Coordinator David Harsanyi
Air Safety Investigator
Lycoming Engines
Williamsport, Pennsylvania

C. ACCIDENT SUMMARY

On July 16, 2024, about 1800 central daylight time, a Piper PA-28-181 airplane, N1941V, was substantially damaged when it was involved in an accident near Arcola, Texas. The pilot and passenger sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

D. EXAMINATION SUMMARY

Post-recovery airframe and engine examinations were conducted on August 20th at the owner's hangar located at the Houston Southwest Airport by an FAA Flight Standards inspector with the assistance of Piper Aircraft and Lycoming Engines.

1.0 Airframe Examination¹

Piper PA-28-181 (s/n 28-8490056)

The forward left side of the fuselage and engine cowling were deformed. The left wing was partially separated from the fuselage. The left wing was buckled near mid-span, and the leading edge exhibited aft crushing damage. The left aileron remained attached but was damaged.

The right wing, including the right aileron, remained attached to the fuselage and exhibited localized damage. The empennage remained attached, and the stabilator, vertical stabilizer, and rudder appeared intact. The stabilator control tab remained attached but was damaged. Flight control continuity was confirmed.²

Both fuel tanks appeared to be intact. Fluid drained from each tank exhibited a blue tint consistent with 100LL aviation fuel. Each sample was clear and free of debris or sediment.³

Movement of the cockpit fuel selector was smooth, and position detents were functional and pronounced. Low pressure air was passed through the fuel selector valve and correct operation at all positions was observed.

The electric fuel boost pump was operated using the aircraft battery via the cockpit switch. Fuel was observed to flow from the pump outlet when the assembly was powered.

The gascolator assembly was securely attached to the firewall. The gascolator bowl was partially separated from the fuel strainer housing. Further examination revealed that the inboard hook of the bale (retaining wire) was engaged in the bracket but did not continue into the upper portion of the strainer housing. Additionally, the retaining nut at the bottom of the bale was loose with approximately six threads visible on the threaded shaft. No safety wire was present on the retaining nut or the bale.

No fuel was present in the gascolator assembly. A small amount of dried sediment was observed in the gascolator bowl. The fuel strainer screen appeared intact and contained minor sediment. A clear streak approximately six inches long was present on the bottom of the fuselage running aft from the firewall below the gascolator assembly.

¹ Directions related to accident site placement and component damage/deformation are with respect to an intact airframe unless otherwise noted.

² The left-wing aileron cables were cut to facilitate recovery from the accident site.

³ The pilot informed investigators that fuel was flowing from the right fuel tank at the accident site. The fuel line was severed about one foot aft of the fuel selector.

2.0 Engine Examination

Lycoming O-360-A4M (s/n RL-33688-36A)

The engine mount was damaged consistent with impact forces. The engine mount remained attached to the firewall, and the engine assembly to the mount. The engine exhaust ducting was dented and deformed consistent with impact. The intake ducting appeared secure and intact. The intake air filter element was clear of debris or sediment.

Borescope examination of each cylinder was unremarkable. Internal engine and accessory section continuity were confirmed via crankshaft rotation. Compression and suction were obtained on all cylinders. Valve train continuity was observed.

The magnetos were secured to the engine. Each magneto was removed and produced a spark at each lead when rotated using an electric drill. Ignition harness electrical continuity was obtained on three of four left harness leads, and on one of four right harness leads. The spark plugs appeared intact and exhibited normal combustion signatures.

The carburetor was secure and removed for examination. A component teardown revealed that the brass floats were intact with fuel in the float bowl. The accelerator pump moved freely and pumped fuel, and the needle moved and sealed against the seat when air pressure was applied to the inlet port. The fuel inlet screen was intact and free of debris or sediment.

The engine driven fuel pump was securely installed and subsequently removed for examination. Suction and compression were obtained at both the inlet and outlet ports when actuated by hand. The diaphragm was intact.

3.0 Propeller Examination

Sensenich 76EM8 (s/n 104523K)

The propeller remained secured to the engine crankshaft. One side of the propeller spinner was crushed. One propeller blade was bent aft about 30° from the root outboard. That blade exhibited leading edge abrasion and chordwise scratching. The other blade appeared undamaged.

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