

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR25LA080

WRECKAGE EXAMINATION REPORT

May 7, 2025

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A. ACCIDENT

Location: Round Mountain, Nevada
Date: January 2, 2025
Time: 1230 Pacific standard time
Airplane: Piper PA-32-300, Registration N4151R

B. PARTICIPANTS

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Party Coordinator	John Waugh Federal Aviation Administration Las Vegas, Nevada
Party Coordinator	Mark Platt Lycoming Engines Williamsport, Pennsylvania
Party Coordinator	Sean Holloway Piper Aircraft Vero Beach, Florida

C. SUMMARY

On January 2, 2025, about 1230 Pacific standard time, a Piper PA-32-300, N4151R, was substantially damaged when it was involved in an accident near Round Mountain, Nevada. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The airplane was the subject of an ALNOT (alert notice) that was issued on January 6, 2025 and was subsequently cancelled on January 16, 2025 after the airplane was located by the Nevada Department of Wildlife.

The airplane departed from its home airport of North Las Vegas Airport (VGT), Las Vegas, Nevada at an unknown time. Preliminary ADS-Bdata captured the airplane at 1104:10 about 20 nm west of VGT at 10,000 ft mean sea level (msl). The flight track ceased momentarily, at 1115:51, and subsequently resumed at 1126:07 on a northwesterly course. At 1143:15 the track arced to the north where it remained until it ceased completely at 1203:48 still at approximately 10,000 ft msl.

The wreckage was located by law enforcement about 60 nm north of the last recorded ADS-B data point at the base of the northeastern face of Mt. Jefferson at an elevation of about 11,000 ft msl. Photographs provided by the recovery team showed that the main wreckage came to rest at the base of a mountain ridge. The empennage, comprised of the vertical stabilizer, rudder, horizontal stabilizer, and stabilator, was separated from the fuselage and collocated with the main wreckage. The left wing, fuselage, and engine compartment came to rest a few ft from the main wreckage.



Figure 1: Airplane at accident site (courtesy of recovery team)

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

The left wing, most of the fuselage, the engine, and the empennage were recovered from the accident site.

1.1 Fuselage

The fuselage was separated into multiple pieces. The throttle quadrant was intact, but had separated from the instrument panel. The horizontal portion of the tee bar and the control yokes were not recovered; however, the vertical section of the tee bar was bent about midspan. Several sections of flight control cables were found within the recovered fuselage wreckage. The pitch control cables were connected to the lower end of the tee bar and the counterweight with impact and recovery separations on

the cables. Two aft seats were recovered with their respective back cushions. Both seats remained partially attached to a separated portion of fuselage floor. The forward seats were not recovered.

1.2 Empennage

The empennage was deformed and exhibited accordion style compression damage, but remained intact and the vertical stabilizer and stabilator remained attached. The exposed stabilator trim shaft dimension measured approximately 1.375 inches with 12 exposed threads, consistent with 80% nose up trim. Rudder and elevator control continuity was achieved from the flight control surfaces (the rudder and stabilator articulated from stop to stop) to the middle fuselage where the cables exhibited signatures consistent with overload separation or were cut by recovery personnel. The stabilator trim tab remained attached to the stabilator and was deformed at both outboard ends. The right side of the stabilator and trim were cut by recovery personnel and the right stabilator end cap was not recovered. The end caps of the vertical stabilizer and rudder were not present.

1.3 Wings

The right wing was not recovered. The left wing leading edge was crushed with accordion style compression damage and the fuel tank was breached. A small concaved shaped depression was observed at the left wing root along the leading edge. The left wingtip fuel tank had separated and was not recovered. Both the left wing flap and aileron remained attached to the wing and were mostly deformed. An approximately 6 foot long piece of control cable was recovered from the left wing. Most of the left aileron primary cable was identified. The left aileron balance cable was attached to the left wing bellcrank and continuous to an impact separation at the center fuselage. The remaining portion of the balance cable to the right wing was not observed.

The right aileron primary cable was not found within the recovered wreckage.

1.4 Fuel/Fuel System

The fuel strainer portion of the fuel selector valve assembly was not recovered. The fuel pump was intact and functioned normally when tested using an external power source. The fuel selector handle was not recovered; however, the selector moved through each of its detents when actuated by hand at the valve.

2.0 Engine Examination

The engine case was fractured at and forward of cylinders 3 and 4, which exposed the crankshaft and a fracture face of the camshaft. The crankshaft cheek was fractured between the no. 1 and 2 main bearing at the thrust surface. The camshaft was

separated at and forward of cylinders 3 and 4. The intact section of the camshaft was undamaged and the remaining camlobes exhibited their characteristic elliptical shape. The cylinder heads to cylinders 1 and 6 had separated. Cylinders 2, 3, 4 and 5 remained attached to the engine case and the rocker arms; the rocker springs were in place and had sustained impact damage.

Mechanical continuity of the engine's internal components was established visually utilizing a lighted borescope. The crankshaft gear bolt and dowel pin remained secure and intact. The combustion chambers were mechanically undamaged and there was no evidence of foreign object ingestion or detonation. The engine internal components did not exhibit any indications of thermal distress. The piston faces and recovered valves did not exhibit any preimpact damage and displayed coloration consistent with normal wear and free of foreign object ingestion damage signatures. The coloration within the cylinder combustion chambers and recovered portion of the exhaust system exhibited coloration with normal operation.

The top spark plugs to cylinder 3, 4, and 5 were manufactured by Champion, and were all model REM 38E massive electrode plugs, which displayed coloration consistent with normal appearance when compared to the Champion Check-A-Plug chart (AV-27). The electrodes remained free of mechanical damage.

The accessory case was destroyed and the left magneto, oil pump, fuel servo, and vacuum pump had separated from the engine. The fuel flow divider remained attached to its mount on the engine and the diaphragm was intact and pliable. The oil pump housing was intact and both pump gears were undamaged. The vacuum pump drive coupler remained intact and several rotors and vanes within the vacuum pump were fractured. The fuel injection servo diaphragms remained intact and pliable. The fuel servo screen was unobstructed. The throttle and mixture controls remained secure at the fuel injection servo. The induction system was free of visible obstructions to flow. The fuel injector nozzles from cylinders 3 and 5 were free of obstructions. The remaining fuel injector nozzles were not recovered. The engine driven fuel pump remained secure at its mounting pad. The pump drive rotated freely by hand.

The left magneto exhibited spark as it was rotated by hand at the impulse coupler drive. The ignition harness sustained impact damage and the right magneto was not recovered.

The oil sump/plenum separated from the engine case and the oil suction screen was free of obstructions. The oil sump remained free of visible contaminants and the oil filter was not recovered.

The forward portion of the crankshaft, propeller and propeller governor were not recovered.

3.0 Followup Airframe Examination

A recovery team traveled to the accident to recover additional remnants of the airplane after the snow had melted. A follow-up examination was conducted by the NTSB and a representative of the airframe manufacturer on December 10, 2025, which identified several additional pieces of fuselage structure, the right stabilator end cap, large sections of the right wing, a wheel fairing, four seats, and engine case and accessory parts.

The right wing was separated into three sections, including the wing root, inboard section, and the midspan wing. Both the right aileron and flap were separated from their respective positions at the trailing edge of the wing, and were both intact with deformation. The inboard wing section was crushed aft along the leading edge. The midspan wing section exhibited accordion style compression along the leading edge and the trailing edge was not discernible.

The engine's right magneto, a fractured piece of the engine case, part of a cylinder, and the propeller flange were also documented. The magneto housing was fractured and spark could not be obtained. The propeller flange was fractured and bent aft on a section of the crankshaft that had separated. The propeller blades were not located within the recovered remnants.

Submitted by:

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