

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR24LA259

WRECKAGE EXAMINATION SUMMARY REPORT

Factual Report

November 6, 2025

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A. ACCIDENT

Location: Elko, Nevada
Date: July 28, 2024
Time: 0815 local
Airplane: Beech C23

B. PARTICIPANTS

IIC	Andrew Swick NTSB AS-WPR Phoenix, Arizona
FAA-IIC	Gerald W. Rose FAA-FSDO Reno, Nevada
Party Member	PJ Beavers Textron Aviation, Air Safety Investigator Wichita, Kansas

C. DETAILS OF THE EXAMINATION

1.0 Airframe Examination

The left stabilizer and both wings were cut free from the fuselage during wreckage recovery efforts. Both wing forward spar attachments were impact fractured and the aft spar was partially fractured. The left main landing gear fracture separated from the wing. The outboard portion of the left wing and aileron sustained impact damage. The right wing tip fracture separated, and the leading edge and outboard end of the aileron sustained impact damage.

The forward fuselage separated from the aft cabin area at the aft wing spar and also just forward of the cabin seats. The right windshield post and right cabin door remained attached to the fuselage. The forward portion of the cabin area containing the left entry door and all upper and lower structure forward of the cabin seats, separated from the rest of the fuselage remaining attached only by cables and wiring.

Flight control cable continuity was established to the forward cabin area.

Both flaps sustained impact damage and remained attached to their respective wings. The control pushrods from the torque tube to each flap fractured. The left aileron exhibited extreme crushing from the trailing edge forward. The right aileron sustained crush damage at the outboard end.



Figure 1-Follow-up examination, main wreckage.

There was no fuel present in the fuel system at the examination. Both wing tank fuel caps were installed on their respective tank, both caps' seals appeared age hardened and cracked. Both fuel tanks appeared clean and there were no apparent fuel tank structure breaches. Both fuel tank outlet finger strainers were clean. The left tank flexible outlet tube was cut during the wreckage recovery efforts. The right tank flexible outlet tube was fracture separated at the inboard fitting. The plumbing from both wing roots to the fuel selector valve were found unobstructed and attached to the valve. The fuel selector handle and valve were in between the Left and Off position. The fuel selector was unobstructed and functioned correctly with air passed through it. The handle moved with positive position detents. The outlet plumbing was fracture separated between the fuel selector valve and the fuel strainer. The fuel strainer was disassembled and the screen and bowl appeared clean. The outlet plumbing was fracture separated. The fuel boost pump inlet fitting and control wiring were sheared off the pump and was not tested. The boost pump open inlet port was obstructed by pink organic material. The boost pump screen was clean but there were several pink colored tube-shaped formations in the boost pump. After examination they appeared to be insect larva wrapped in bougainvillea leaves. The

check valve adjacent to boost pump also had fracture separated inlet plumbing and also contained the same larva material that was contained in the boost pump.



Figure 2-Organic material.



Figure 3-Fuel system components.

The pilot seat lap belt was found latched. The left fuselage side skin structure where the pilots shoulder harness reel attaches was fracture separated and was found partially attached to the left wing structure. The shoulder harness webbing appeared to have been possibly cut. The pilot seat frame remained attached, but it was displaced to the left.

The instrument panel was mostly complete. Several instruments were displaced from the panel or had broken glass. The Stratus Transponder unit was out of the rack and laying on the cabin floor.

2.0 Engine Examination

The Lycoming O-360-A4K engine, serial no.: L-23830-36A, separated from the firewall. Portions of the engine mounting assembly remained attached. Multiple engine control cables, and fluid lines were cut during the recovery process. The propeller remained attached to the crankshaft propeller flange. The oil dipstick was removed and did not show any indication of oil in the sump. The oil sump drain was missing its valve. About a cup of oil drained from the engine during the examination. A small portion of the lower cowling remained attached near the propeller back plate. The propeller blades had leading edge scuffing near the tips. One blade was

bent slightly forward and the other slightly aft. The damaged propeller spinner back plate was crushed aft and was pulled forward to clear the starter motor housing. The spinner was crushed and remained attached to the hub.



Figure 4-Engine and propeller assembly.

The exhaust assembly was crushed, and several stacks were bent and separated near the cylinder attachment points.

The carburetor separated from its mounting flange and remained attached to several damaged control cables. The carburetor was removed and disassembled. The inlet finger screen was removed and had no obstructions. The float assembly was removed from the bowl and no anomalies were noted. The carburetor mounting flange remained attached to the engine. The throttle cable remained attached to the throttle linkage which located on the portion of the carburetor mounting flange. The butterfly valve remained attached to the carburetor. No fuel was present during the examination.

The fuel pump separated from its mounting flange and remained attached to both inlet and outlet lines. The fuel pump housing was damaged and the internal spring and diaphragm control rod was not in its designed position. The fuel pump

was disassembled, and the diaphragm was torn and separated from the control rod attachment. The fuel pump mounting flange remained attached to the engine.

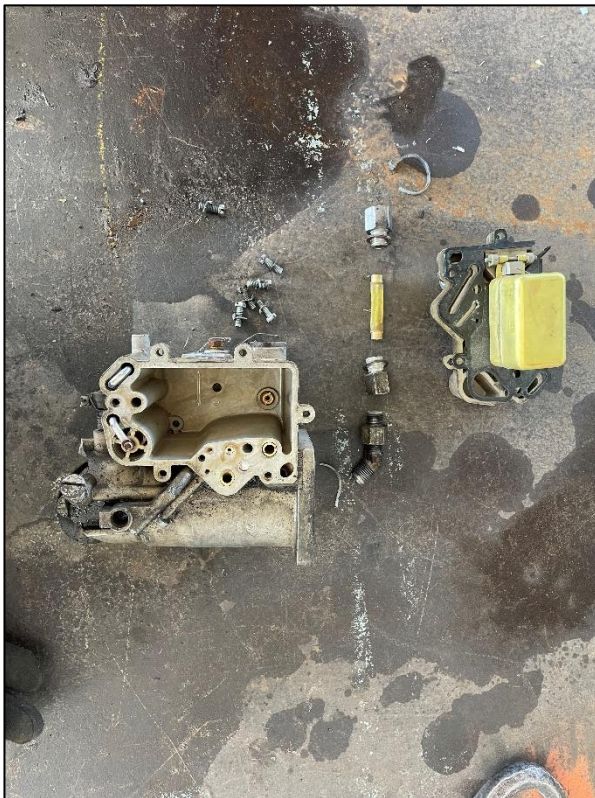


Figure 5-Carburetor



Figure 6-Fuel pump.

The upper spark plugs were removed from the cylinders. The Nos. 2 and 4 spark plugs were oil soaked and with some corrosion deposits. The Nos. 1 and 3 spark plugs had "Normal-Worn Out" wear conditions when compared to the Champion spark plug chart. The electrode areas were grey in color and had light combustion deposits.



Figure 7-Upper spark plugs.

The cylinder combustion chambers were examined with a lighted boroscope and revealed normal combustion deposits and the valve heads revealed normal operating conditions. The Nos. 2- and 4-cylinder combustion chambers had a small amount of pooled oil that had a blue-green color. The valve covers were removed, and the cylinder overhead components were undamaged and were covered in residual oil.



Figure 8-Oil pooled in cylinder No. 2 combustion chamber.



Figure 9-Images of the combustion chambers, piston heads and valves.

The propeller was rotated by hand and the starter gear remained engaged with the starter ring gear. During rotation of the crankshaft, gear continuity was established to the accessory section, overhead valve movement was observed, and cylinder compression was obtained. Spark was also observed from the left magneto ignition lead ends. The right magneto was removed from the engine and the drive shaft was rotated with a hand drill and spark was observed from the ignition lead ends.



Figure 10-Accessory side of the engine.

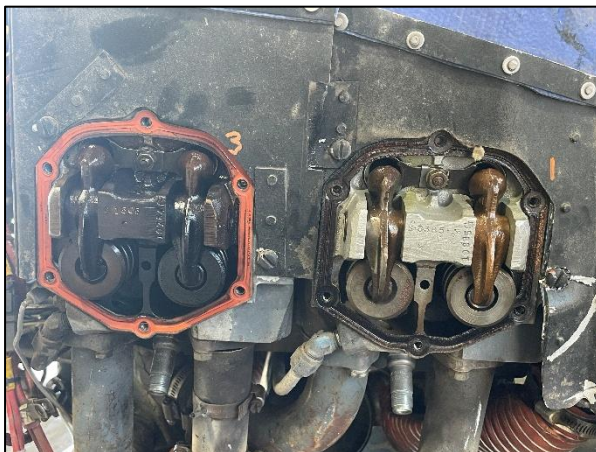


Figure 11-Cylinder overhead components.

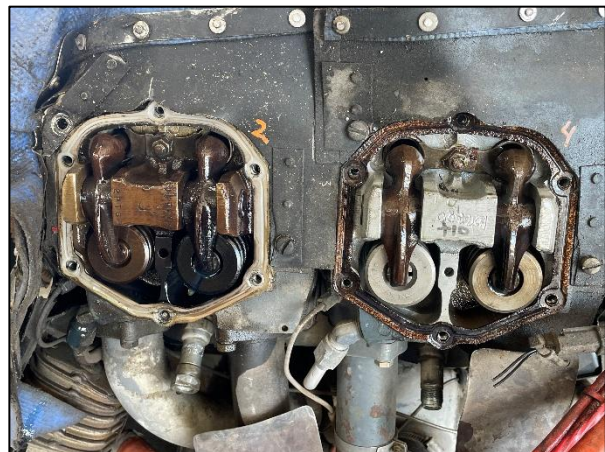


Figure 12-Cylinder overhead components.

The starter remained engaged with the starter ring gear during the examination of the engine. The starter ring gear showed some wear in some areas. The starter was removed from the engine and the gear remained in the engaged position. The starter motor was removed, and the starter control shaft and housing were undamaged. A small amount of spring resistance was observed in the pinon gear spring but would not retract to its resting position. The assembly was connected with electrical power and the motor spun up normally and the pinon gear rotated but would not retract to its resting position. The motor and spring shaft connection area had sufficient grease and gears were undamaged. No thermal discoloration was noted.



Figure 13-Starter motor.



Figure 14-Starter motor shaft and pinon gear.

The oil filter was removed from the engine and writing on the side of the filter was not legible. The filter was disassembled, and no metallic debris was noted in the element folds.

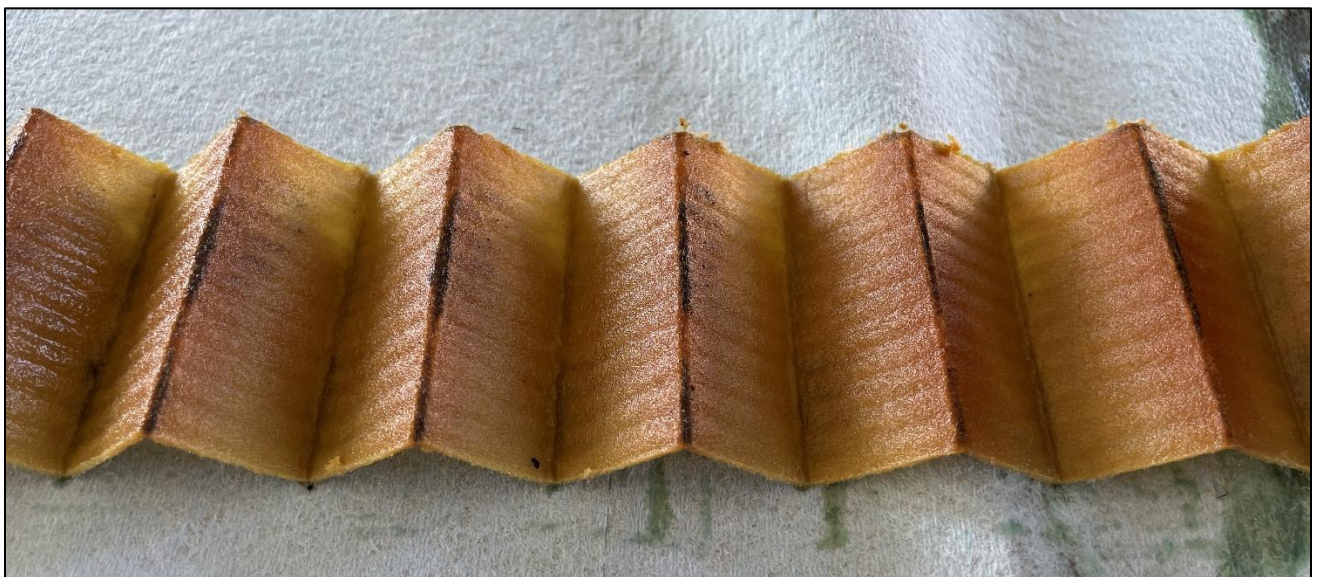


Figure 15-Oil filter element.

3.0 Maintenance Records Review

July 1, 2024 (3,644.4 hours ATT)

The maintenance records revealed that the last annual inspection was performed, by El Aero Services, LLC, in Elko, Nevada. At that time the maintenance the airplane had a total time of 3,644.4 hours. A faulty tachometer was removed at with a time of 358.2 hours and installed a new tachometer with a time of 0.0. The engine had a total time of 3,729.4 hours with a time since major overhaul (SMOH) of 1,738.4 hours. The cylinders compression was recorded at 74/80, 62/80, 72/80, and 74/80. Cut open old filter. Normal wear indications found.

Tachometer reading at the time of the accident read 0.3 hours.

Factual report submitted by:

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Aviation Accident Investigator