

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR24LA194

WRECKAGE EXAMINATION SUMMARY REPORT

Factual Report

March 10, 2025

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A. ACCIDENT

Location: Roll, Arizona
Date: June 11, 2024
Time: 1250 local
Airplane: Cessna 150M

B. PARTICIPANTS

NTSB-IIC	Albert Nixon NTSB AS-WPR Phoenix, Arizona
NTSB	Andrew Swick NTSB AS-WPR Phoenix, Arizona
FAA-IIC	Kevin Whitlock FAA-FSDO Scottsdale, Arizona

C. DETAILS OF THE EXAMINATION

1.0 Airframe Examination

The wings, horizontal stabilizer, elevators, and rudder were removed from the airplane prior to the examination. The cabin area including the instrument panel was removed prior the examination. The Hobbs meter remained attached and read 3,628.7 hours. The fuel selector valve handle was found the OFF position. The upper and lower engine cowling was removed prior to the examination. Both mixture and throttle control cables were removed from the carburetor prior to the examination. The nose landing gear had impact damage and remained partially attached to the fuselage.

2.0 Engine Examination

The engine mount assembly had impact damage. The carburetor and induction filter box remained attached to the engine and was undamaged. The propeller assembly had minor damage to one blade and remained attached to the crankshaft flange. The oil quantity dip stick indicated about 5.5 quarts of clear oil.

The ignition leads were undamaged and removed from all spark plug positions. The upper spark plugs were removed. The spark plugs electrodes

exhibited no wear conditions and were covered light combustion deposits. The crankshaft was rotated through the propeller assembly and would only rotate about 340°. Thumb compression and suction were observed at each cylinder. Valve train continuity was observed with exception to the No. 2 induction valve would not move during the limited rotation of the crankshaft.



Figure 1-Follow-up examination, main wreckage.



Figure 2-Engine de-cowled.

The cylinders and pistons were removed from the crankcase. The internal crankcase surfaces and internal engine components were undamaged and were covered in a light oil residue. The crankshaft rotated again and rotated freely, and spark was observed at each ignition lead end. Impulse coupling was observed and had slightly staggered timing.



Figure 3- Intake valve head embedded in No. 2 piston head.



Figure 4- Interior view of No. 2 cylinder.

The No. 2 induction valve head was found imbedded into the No. 2 piston head. The valve head separated from its stem near the radius at the head. The stem was found in the carburetor throat when the carburetor was removed during the examination. The separation surfaces on the valve head and stem were jagged in appearance. The No. 2 piston was cracked in half, and the rings kept the cylinder from separating. The No. 2 exhaust valve was removed from the cylinder and the valve stem revealed pitting corrosion about 1 inch from the head. All the valves were removed from the cylinders.

The No. 2 cylinder, piston, and all eight valves were shipped to the NTSB Materials Laboratory for further examination.



Figure 3- All cylinders, pistons, and valves laid out on table.



Figure 4- Intake and exhaust valves.

3.0 Maintenance Records Review

March 4, 2024 (2,960.3 tach) last entry:

The maintenance records revealed that the last annual inspection was performed, by David Vargas, and signed off by Brad Legan A&P, IA. The cylinders Nos. 1-4 compression was recorded at 73/80, 72/80, 74/80 and 72/80, respectively.

Multiple oil changes were performed.

February 22, 2017 (2,335.8 tach):

Engine was removed and overhauled IAW Continental Engine overhaul manual. All parts and 8130 Documents for overhaul... New Millennium cylinders installed.

Factual report submitted by:

Albert Nixon
Senior Air Safety Investigator