

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN24LA350

EXAMINATION SUMMARY

October 10, 2024

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A. ACCIDENT

Location: Meridian, Colorado
Date: September 11, 2024
Time: 0940 mountain daylight time
Airplane: Cessna 172S, N20747

B. EXAMINATION SUMMARY

Investigator	Cory Maxon NTSB Denver, Colorado
Party Member	Troy Helgeson Lycoming Engines Williamsport, Pennsylvania
Party Member	Randy Kind FAA Denver, Colorado
Party Member	Brad Logan Airline Transport Professionals Mesa, Arizona

C. SUMMARY

On September 11, 2024, about 0940 mountain daylight time, a Cessna 172S airplane, N20747, was substantially damaged when it was involved in an accident near Meridian, Colorado. The pilots sustained minor injuries. The flight operated under the provisions of Title 14 Code of Federal Regulations Part 91 as an instructional flight. The airplane was performing touch and go landings to runway 17R at the Centennial Airport, Englewood, Colorado. When on climb out for the traffic pattern, the airplane was about 200 ft above ground level when the pilots noticed a partial loss of engine power. The instructor reported the engine RPMs to read 2,100 and then 1,600. He performed a forced landing to a golf course and during the landing roll, the airplane's nose landing gear collapsed, and airplane came to rest inverted. The airplane was retained for further examination.

D. DETAILS OF THE EXAMINATION

The engine was examined on the airframe at Beegles Recovery and Storage in Greeley, Colorado.



Figure 1. Propeller and engine as presented for examination.

1.0 Engine & Fuel Systems

The engine was cut from its mount and hung from a hoist for the examination. Both the right hand magneto and the left hand EIS were found tightly installed to the rear accessory section of the engine. The left hand EIS sustained minor impact damage, and the right hand magneto was undamaged. The ignition leads were found attached to the magneto and EIS. Both were removed, and spark was produced on all 8 spark plug leads when rotated by hand. Ignition leads from the right magneto were partially fractured about 10" from the magneto to the bottom spark plugs of cylinder 1 and 3. The ignition lead to cylinder 2 was separated about 3" from the bottom spark plug.

All cylinders were found tightly installed to the engine case. The upper spark plugs, and rocker covers were removed. Suction and compression were felt on all cylinders excluding cylinder number 2 during engine rotation. Cylinder 2 had less compression compared to the other cylinders. Cylinder number 2 was removed and examined. Sand was found inside the cylinder. All other cylinders were borescoped and no abnormalities were found. The cylinder intake flange was impact damaged. All spark plugs were removed and inspected. All spark plugs exhibited normal wear pattern and coloration consistent with normal engine operation.



Figure 2. Sand Debris Cylinder number 2



Figure 3. Spark plugs

The fuel pump was removed for inspection and no anomalies or defects were noted. All fuel injectors were removed and inspected; no abnormalities were noted. The fuel servo was tightly installed. The fuel servo finger screen was removed, and no abnormalities or obstructions were noted. The fuel servo was removed, and fuel was present. The fuel servo was retained for further testing. The fuel divider was removed, and no abnormalities were noted.

The oil filter was found attached to the accessory section with safety wire installed. The filter was removed to examine no metal debris or contaminants were found. There was oil indicated on the dipstick at the 6 quarts mark.

The exhaust system remained installed and sustained minor impact damage at the exhaust pipe with no obstructions.

2.0 Propeller Examination

The two bladed, aluminum McCauley propellor remained attached to the engine crankshaft. Both blades were straight and no noticeable damage. The spinner exhibited aft impact damage.

Submitted by:

Cory Maxon
NTSB