

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN22LA421

AIRPLANE EXAMINATION

December 4, 2023

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A. ACCIDENT

Location: Broomfield, Colorado
Date: September 14, 2022
Time: 1140 (Local)
1740 UTC
Airplane: Piper PA28R-180

B. AIRPLANE EXAMINATION

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C. SUMMARY

After recovery from being submerged in a deep pond, the airplane was recovered to Beegle's Aircraft Services, Greeley, Colorado. The examination took place at their facilities on December 4, 2023.

D. DETAILS OF THE EXAMINATION

1.0 Airframe Examination

The purpose of the examination was to document the engine and fuel system in greater detail.

1.1 Fuel System

Both wings had impact separated during the forced landing. Shop air was applied to both wing's fuel lines. Neither fuel line was obstructed. Each fuel cap maintained a seal on the fuel tank. The fuel vents were not obstructed.

The fuel lines were traced to the fuel selector. A portion of the right fuel line was impact separated near the left aft seat. The fuel selector could be rotated to all positions. The detents could be felt as the switch was rotated.

Examination of the gascolator did not detect any preimpact anomalies. A small amount of fuel and water was found in the gascolator bowl along with some white sediment.



Figure 1 Gascolator Bowl

The fuel line towards the engine driven fuel pump was unobstructed. The fuel engine driven fuel pump was removed and manually actuated. Suction and expulsion could be felt. Disassembly of the fuel pump did not find any anomalies.



Figure 2 Engine-Driven Fuel Pump

Once the fuel pump was removed, shop air was applied to the fuel lines at the wing roots. Continuity of the fuel lines were confirmed to the engine driven fuel pump.

2.0 Engine Examination



Figure 3 Left Side of Engine



Figure 4 Right Side of Engine

The engine was visually examined to ensure all lines and hoses remained properly attached. The engine mounts were not damaged. All engine accessories remained attached to the engine. Engine control continuity was established from the cockpit controls to the throttle body where they appeared to move full travel. The fuel screen was removed and was unobstructed.

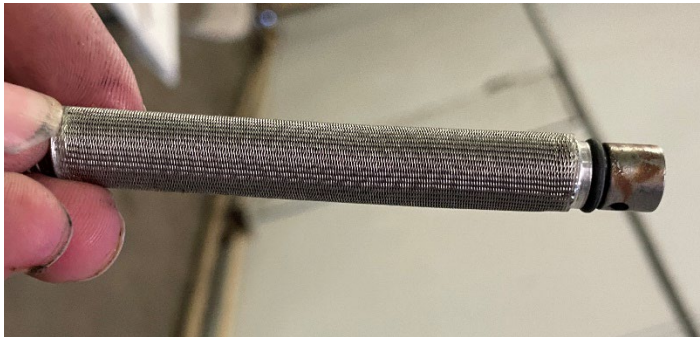


Figure 5 Fuel Screen

The upper ignition leads were removed, and top bank of spark plugs were removed and photo documented.



Figure 6 Top Spark Plugs

Valve train continuity was established from the propeller to the accessory gears. Borescope of the cylinders found evidence of corrosion consist with the engine being submerged in the pond. Corrosion of the engine prevented an engine run.

The engine magnetos would not produce spark. They were removed to be examined further at a later date.

The fuel divider was disassembled with no anomalies noted.

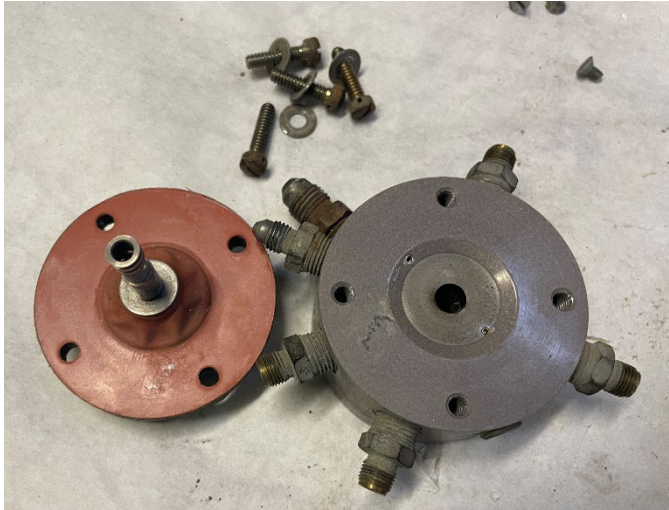


Figure 7 Fuel Divider

The fuel lines from the fuel divider to the fuel injectors were found clear of obstructions. The fuel nozzles were all removed and also found clear of obstructions.

The oil filter was opened and the paper filter removed. The filter was clear of any metallic particles.

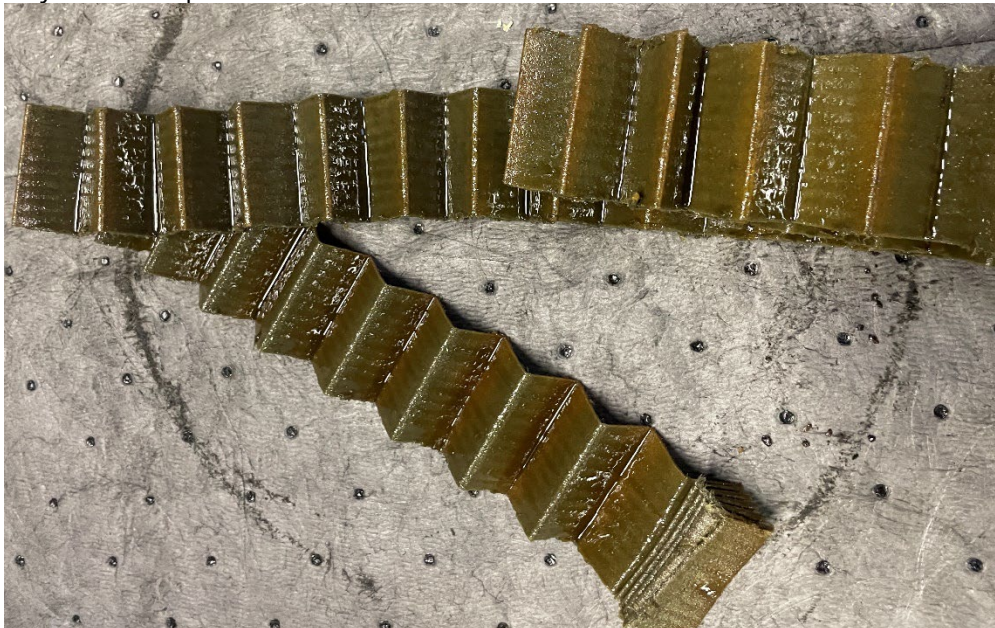


Figure 8 Oil Filter

The air filter was opened and found mostly clear of debris. There were a few leaves in the filter compartment but not enough to clog the filter. Removal of the filter found that the interior of the induction hose was partially collapsed inward. The exterior of the hose did not display obvious damage.



Figure 9 Induction Hose

Submitted by:

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