

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR22LA242

AIRFRAME AND ENGINE EXAMINATION

August 2, 2022

A. ACCIDENT

Location: San Carlos, California
Date: June 28, 2022
Time: 1146 Pacific daylight time
Airplane: Cessna 120, N2056V

B. AIRFRAME AND ENGINE EXAMINATION

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National Transportation Safety Board
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C. SUMMARY

Examination of the recovered wreckage was conducted at the facilities of Plain Parts, Pleasant Grove, California, on August 2, 2022. No evidence of any preexisting mechanical malfunction was observed with the recovered wreckage that would have precluded normal operation.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

Examination of the recovered airframe and engine, revealed that the wings were separated from the airframe to facilitate wreckage transportation. The magneto switch was in the "OFF" position. The primer valve was in the out position and was bent upward and to the left. Additional damage was noted to the primer valve locking nut.

The right fuel line, from the lower door frame structure was separated (pulled away) from the fuel fitting. The left fuel line was intact and continuous from inlet to the fuel selector valve. The selector valve was in the "off" position. All fuel fittings were secure. Air pressure was applied to the wing root ports, and air expelled from the carburetor inlet fuel line. Residual fuel expelled from the separated right fuel line and the left fuel line. The residual fuel was free of debris and contaminants. The vent line between the fuel tanks was intact and free of obstructions.

The left wing fuel cap was intact and the gasket was undamaged and in good condition. The fuel cap vent holes were free of obstructions. The fuel outlet port screen was free of debris. The right wing fuel cap was intact and the gasket was undamaged and in good condition. The fuel cap vent holes were free of

obstructions. The fuel outlet port screen was free of debris. The engine cowling was impact damaged and compressed upward into the airframe fuel filter. The airframe fuel filter bowl was removed and did not contain any fuel. The screen was free of debris. A slight amount of dirt debris was observed within the airframe fuel filter bowl. The fuel primer line was impact damaged.

2.0 Engine Examination

The engine, a Continental O-200-A, S/N: 250700, remained attached to the engine mount. The upper spark plugs, and rocker box covers were removed. The internal areas of each cylinder were examined using a lighted borescope. All intake and exhaust valves, pistons, and cylinder combustion areas were unremarkable.



Figure 1: View of the recovered engine.

The crankshaft was rotated by hand using the propeller. Thumb compression was obtained on all 4 cylinders and mechanical continuity was established throughout the engine and valve train. Spark was produced on all 8 ignition leads with impulse coupling engagement when the crankshaft was rotated by hand. Equal movement of the intake and exhaust valve rocker arms was observed. The valve springs appeared to be intact and undamaged. All intake and exhaust rocker arms were oil coated.

The induction tubes were intact and all hose clamps on the hose interconnects were secure. The induction manifold was impact damaged. The air filter was free of debris.

The exhaust remained attached to each cylinder and was free of debris.

The carburetor remained attached to its mount, however, the mount was fractured from the induction "wye." The throttle and mixture control cables remained secure to their respective control arms. Fuel expelled from the accelerator pump port when the throttle arm was actuated by hand. Both the throttle and mixture arms moved from stop to stop by hand. The carburetor was disassembled. The floats were intact and undamaged. About a teaspoon of fuel was observed within the carburetor float bowl. The mixture metering sleeve was free of debris. The fuel inlet screen was free of debris.



Figure 2: View of the carburetor and air box.

The upper spark plugs exhibited light grey deposits within the electrode area. All center electrodes exhibited worn-normal operational signatures.

3.0 Propeller Examination

The propeller remained attached to the crankshaft propeller flange. One propeller blade was slightly bent aft and exhibited unidirectional striations on the cambered side of the blade from about mid span to the blade tip.

Submitted By:
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