

National Transportation Safety Board

Office of Aviation Safety

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WPR23LA264

ENGINE EXAMINATION SUMMARY

February 21, 2024

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A. ACCIDENT

Location: La Mesa, California
Date: July 9, 2023
Time: 1500 Pacific standard time
Airplane: N1839R

B. ENGINE EXAMINATION SUMMARY

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C. SUMMARY

On July 9, 2023, about 1500 Pacific daylight time, a Cessna A185F, N1839R, was substantially damaged when it was involved in an accident near La Mesa, California. The pilot and passenger sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he departed Montgomery-Gibbs Executive Airport (MYF), San Diego, California, to relocate the airplane to Brown Field Municipal Airport (SDM), San Diego. While in cruise flight, about 1,700 ft msl, the engine lost all power and briefly regained some power for about 10 seconds, before it lost all power again. The pilot completed an emergency engine failure checklist and configured the airplane for an off-airport landing to a nearby road.

During the approach to landing, the right wing struck a powerline. Subsequently, the airplane landed in a parking lot, struck fence, and heavy vegetation before it came to rest in a ravine. The airplane sustained substantial damage to the fuselage and both wings.

The following parts were retained for further examination:

- Insight G2 Graphic Engine Monitoring Unit

Post accident examination of the engine did not reveal any preimpact mechanical anomalies.

D. DETAILS OF THE EXAMINATION

1.0 Engine Examination

Continental IO-520-D

Serial No. 559119

Engine Time since overhaul (hours): 1015.5



Examination of the engine took place on February 20-21, 2024, at Air Transport in Pheonix, Arizona. The engine remained within the cowling and was found attached to each engine mount with sustained damage consistent with impact to the lower engine truss. All engine accessories remained secured on its respective mounting pad. All fuel and oil lines were found secured. Continuity from the fuel tanks to the fuel selector valve was confirmed using compressed air. Continuity of the throttle, mixture, and propeller governor control was confirmed from the cockpit to the engine, with each control moving from minimum stop to maximum stop.

The top spark plugs were removed and displayed no mechanical anomalies. Each massive electrode had black deposit residue consistent with normal operation. The engine driven fuel pump was removed, and its drive coupling was intact unremarkable. It was removed and secured for further examination.

The vacuum pump was removed, and its drive coupling was intact and unremarkable. All rocker box covers remained attached to its respective cylinder and found unremarkable, except for the no. 6 cover, with which had damage consistent with impact.

Borescope inspection of each cylinder revealed all six pistons to be intact with carbon buildup on each piston face, consistent with normal operation. Manual rotation of the propeller revealed that all pistons moved within its respective cylinder and all rocker arms for each intake and exhaust valve symmetrically moved. Compression was established for each cylinder.

The air intake tubes, exhaust tubes, and exhaust shroud sustained damage consistent with impact; no obstructions to the tubes were observed.

Slick magnetos remained secured to its respective mounting pad. The case was found unremarkable. Review of the engine logbooks revealed that both left and right-hand magnetos were not overhauled or replaced since the engine's last overhaul. Both magnetos were removed and manually rotated. Spark was observed on all ignition harness cables.

The electric driven fuel pump sustained damage consistent with impact but remained attach on it mounting pad. All six fuel nozzles were removed and found free of any blockages. The fuel flow divider was disassembled and was devoid of fuel; the filter screen was free of debris and any obstructions. Each fuel line from the divider to its respective fuel nozzle was free of any obstructions. The fuel injection control assembly housing was secured and removed for further examination. The fuel strainer bowl was secured and sustained impact damage. No fuel remained in the bowl. Disassembly revealed that the filter screen was free of debris and not obstructed.

The oil case was unremarkable. Oil residue was observed on its dip stick.

The engine was equipped with an Insight Avionics G2, a graphic engine monitoring unit, part no. 610C-001, serial no. 20577. It was removed (along with removable SD card) and secured for further examination.

2.0 Propeller Examination

The 2-bladed McCauley (controllable pitch) remained attached to the propeller hub. One bladed sustained chordwise and spanwise scratches on its leading edge and was bent aft, about 4 inches from the blade tip. The other blade sustained chordwise scratches

on the camber of the blade, about mid-span. The blade was forward bent about mid-span. The propeller governor was secured on its mounting pad.

Submitted by:

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