

National Transportation Safety Board

Office of Aviation Safety

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AIRFRAME AND ENGINE EXAMINATION REPORT

November 21, 2021

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A. ACCIDENT

Location: Animas, New Mexico
Date: March 24, 2021
Time: 0125 MDT
Airplane: Mooney M20B; N74786

B. AIRFRAME AND ENGINE EXAMINATION REPORT

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SUMMARY

On March 24, 2021, 0130 mountain standard time, a Mooney M20B, N74786, was substantially damaged when it was involved in an accident near Animas, New Mexico. The pilot and passenger were seriously injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 cross-country personal flight.

The pilot had filed an Instrument Flight Rules (IFR) flight plan for a flight from Fort Stockton-Pecos County Airport (FST), Fort Stockton, Texas, to Tucson International Airport (TUS), Tucson, Arizona. During the flight, the pilot reported a loss of engine power and that they were experiencing light rime ice. The airplane became the subject of an Alert Notice (ALNOT) when Albuquerque Center lost communication with the pilot and the airplane dropped off radar.

According to responding Law Enforcement, the airplane came to rest in mountainous terrain at an elevation of about 5,010 ft mean sea level about a mile northwest of Pinkey Wright Mountains.

C. DETAILS OF THE EXAMINATION

1.0 Airframe and Engine Examination

Airframe:

The airframe was examined, the empennage and tail were separated for recovery purposes. The right wing remained attached to the fuselage. The left-wing root remained attached to the fuselage; however, the outer portion of the wing was removed for recovery purposes.

The last 6 ft of the right wingtip was bent upward. The aileron separated. The flap remained attached.

The inboard 3 ft of the left wing at the wing root remained attached along with the left aileron remained attached. The left flap was separated. The last 6 ft was twisted and partially separated.

Engine:

Visual examination of the engine revealed no obvious holes. The engine remained attached at the firewall at all 4 mounts. The propeller assembly remained attached to the crankshaft; however, it sustained impact to the lightning hole ears, and the crankshaft was displaced. Magneto to engine timing could not be established.

The top spark plugs were removed and indicated worn out - severe per the Champion aviation check-a-plug chart AV-27. The top of the electrode had a white ashy substance.

The 2-bladed propeller was showed s-bending throughout the entire length of the blades. The tips were curled and had chordwise striations along with leading and trailing edge gouging.

The magnetos remained secured and attached to their respective mounting pads at the engine. They were removed for a functional check due to the damage to the crankshaft was not able to rotate the engine smoothly enough to get them to spark. Both magnetos were manually rotated, and spark was observed at each P-lead.

The cylinders were borescoped with normal operating signatures identified on each piston face, intake and exhaust valves, and cylinder walls.

The carburetor was removed and disassembled. The mixture, throttle, prop levers were free of binding from stop to stop. The carburetor bowl was opened. No

fuel was present in the bowl, and the bowl was free of debris. Air was blown through the main jet, with no presence of debris expelled. The floats were plastic; there was no fuel inside the floats and the floats were undamaged. The carburetor finger screen was removed and was free of debris.

The vacuum pump was removed and disassembled; the carbon vanes were in place and intact.

Submitted by:

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