



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

February 28, 2020

ENGINE EXAMINATION SUMMARY

WPR20FA079

This document contains 5 embedded photos.

A. ACCIDENT

Location:	Payson, Arizona
Date:	January 24, 2020
Aircraft:	N3672K, Piper PA28-140
NTSB Investigator-in-Charge:	Andrew Swick

On January 24, 2020, about 0911 mountain standard time, a Piper PA28-140, airplane, N3672K, impacted terrain while in the Mazatzal Mountain Range, about 10 miles southwest of Payson Airport (PAN), Payson, Arizona. The private pilot and one passenger were seriously injured, another passenger was fatally injured. The airplane was destroyed, and a postaccident fire ensued. The airplane was registered to and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91 as a personal cross-country flight. Visual meteorological conditions prevailed, and no flight plan was filed for the flight that originated from PAN, at about 0900.

The pilot stated in an interview that after a flight earlier that morning from Falcon Field Airport (FFZ), Mesa, Arizona, he landed in PAN, refueled, and departed for the return flight back to FFZ. During the return flight, the pilot decided to fly over the mountains southwest of their position. He stated that he flew about 1,000 ft above ground level (agl) over the mountains, while the passengers were spotting wildlife on the terrain below. The pilot stated the airplane was running well and doesn't remember anything else until waking up in a small creek at the accident site.

Preliminary flight track data showed the airplane depart PAN and fly to the Mazatzal Mountain Range. While maintaining an altitude of about 1,000 ft agl above the mountainous terrain, the airplane made a 280° turning maneuver, then descended over a canyon. About a half mile from the accident site, the flight track turned left and the turn radius increased before the track data ceased. The last recorded flight track data point was located about 500 ft from the accident site and about 200 ft agl.

B. EXAMINATION PARTICIPANTS:

Andrew Swick-NTSB IIC
Scott Hutson-FAA FSDO
Pete Kelly-FAA FSDO
Kathryn Whitaker.-Piper Aircraft
Mark W. Platt-Lycoming Engines

C. SUMMARY

Examination of the recovered airframe and engine was conducted on February 28, 2020, at the facilities of Air Transport, in Phoenix, Arizona. No evidence of preimpact mechanical failure was noted during the examination of the recovered airframe and engine.



Figure 1-Main wreckage, follow-up examination.

D. DETAILS OF THE INVESTIGATION

1.0 Engine Examination

The engine remained attached to the firewall and had impact damage. There was no evidence of catastrophic engine failure during an exterior examination of the engine. The propeller separated from the engine during the accident sequence. Both blade ends had missing material. The blades had bending and leading-edge gouging.



Figure 2-Propeller blade assembly.



Figure 3-Engine, forward left view.

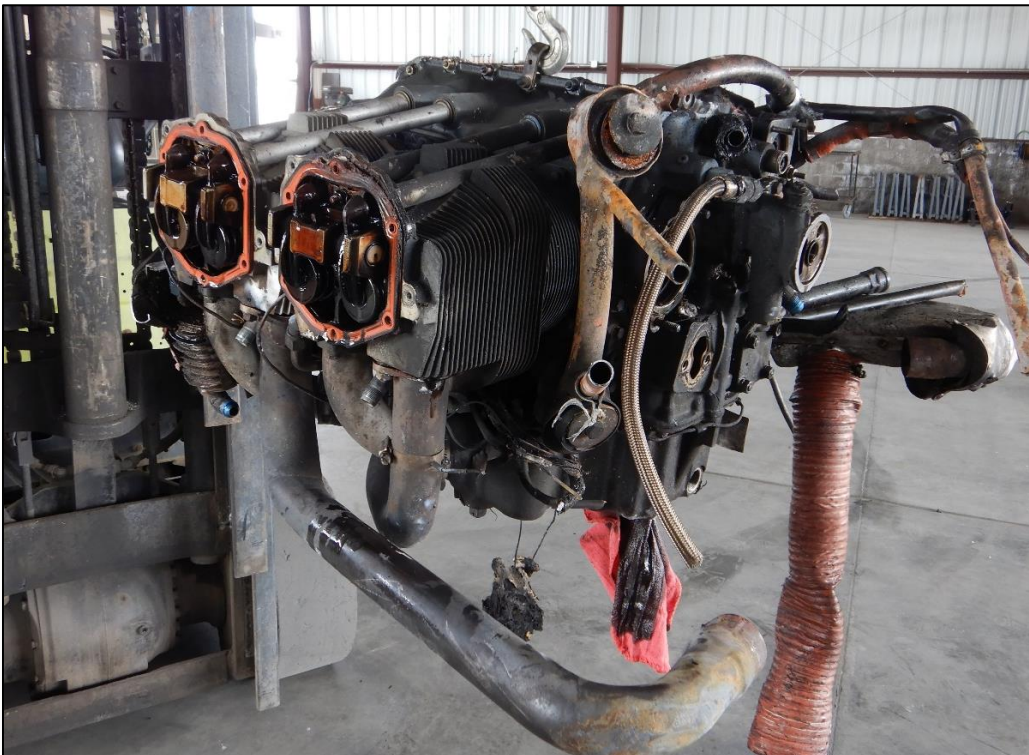


Figure 4-Engine, rear left view.

The engine was separated from the firewall and the upper spark plugs were removed from the 4 cylinders. The vacuum pump was removed, and the crankshaft was rotated successfully from the accessory section. Cylinder thumb compression and normal valve and valve spring movement was attained through its proper order. During the crankshaft rotation, proper mechanical movement was observed throughout the engine.

The fuel lines remained intact and secured to their respective engine component. The carburetor separated from the engine during the accident sequence. The carburetor had impact damage and was disassembled. The carburetor bowl was free of debris and the float assembly was undamaged. The fuel pump was removed from the accessory section and disassembled. The fuel pump and internal diaphragm was undamaged.

The lower spark plugs were removed and examined. The cylinders were examined with the use of a borescope and all combustion chambers revealed normal combustion deposits and were mechanically undamaged. The magnetos were removed from the engine. The left magneto had postimpact fire damage and could not be rotated to produce a spark. The right magneto produced spark when the drive was rotated by hand.

The oil suction screen was removed and was free of contaminants. The oil filter was disassembled, and its filter element was free of debris. No metal contaminants were found during the examination of the engine.

The exhaust system was free of obstructions and its baffles were intact. The cabin heat shield was removed from the exhaust muffler. The examination of the muffler revealed no evidence of exhaust gas leakage that would have contaminated the cabin heat ducting.



Figure 5-Exhaust assembly, removal of the cabin heat shield.

Submitted by: Andrew Swick