



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

June 9, 2022

AIRFRAME AND ENGINE EXAMINATION

WPR22LA186

This document contains 2 embedded photos.

A. ACCIDENT

Location: Prescott, AZ
Date: May 22, 2022
Aircraft: Cessna P172D, N8540X
Serial P17257140
NTSB IIC: Albert Nixon

B. EXAMINATION PARTICIPANTS:

Albert Nixon
Senior Aviation Accident Investigator
National Transportation Safety Board
Federal Way, WA

Leon Kelly
Aviation Safety Inspector
Federal Aviation Administration
Scottsdale, AZ

C. SUMMARY

Examination of the recovered airframe was conducted on June 9, 2022, at the facilities of Air Transport in Phoenix, Arizona. No evidence of preimpact mechanical failures or malfunctions were noted during the examination of the recovered airframe and engine.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

Flight control continuity was established to all flight control surfaces, through tension overload separations and cuts made during the recovery.

The wings were removed from the fuselage for recovery. The left wing had a large impact on the inboard portion and the right wing was bent upwards at the outboard 3 ft.

The left aileron was attached to the outboard section and the flap was attached to the inboard section of the wing. The left wing exhibited a large impact on the inboard section.

The right aileron was removed from the fuselage. The right flap sustained impacted damage but was attached.

The flaps were retracted.

Fuel system. The fuel screen was observed clear of debris. The right 20-gallon fuel bladder was observed breached. Fuel line continuity was established. The fuel selector handle was observed in the off position. The fuel strainer was observed clear of debris.

Throttle and mixture control continuity was established.



Figure 1: View of the vertical stabilizer and rudder.

2.0 Engine Examination



Figure 2: Engine as viewed from the left side.

The engine was observed partially attached to the fuselage and one of the engine mounts was separated. The bottom portion of the engine was observed to sustain impact damage. The carburetor screen was examined and was clear of contamination.

The two bladed propeller was attached to the crankshaft. One blade was undamaged, and the other blade was slightly bent aft about mid-span.

The top spark plugs were removed and were observed to be normal operating signatures. Engine rotation was accomplished through the crankshaft and all cylinders had compression and proper valve movement. The carburetor was attached to its control cables and no anomalies were noted. A borescope examination of the cylinders revealed normal operation signatures with carbon deposits. No anomalies were noted.

The oil quantity indicator read over 6. The fuel pump energized and would pump fuel into the strainer.

The engine was determined to be safe to run and was successfully started and run at various power settings.

The examination of the engine revealed no evidence of pre-impact mechanical malfunctions or failures that would have precluded normal operation.

Submitted by: Albert Nixon