



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

AIRFRAME AND ENGINE EXAMINATION

WPR22LA287

A. ACCIDENT

Location: Livermore, California
Date: July 30, 2022
Aircraft: Cessna 177RG, N2591V, SN: 177RG0627
NTSB IIC: Elliott Simpson

B. EXAMINATION PARTICIPANTS:

Elliott Simpson
Senior Aviation Accident Investigator
National Transportation Safety Board

C. SUMMARY

A preliminary engine examination was performed with the oversight of FAA Inspector Matt DeSeelhorst on August 9, 2022. No anomalies were noted during the examination, an engine run was performed, during which the engine operated normally at varying speeds. A follow up examination with Elliott Simpson was performed on August 31.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

The airplane struck the “T” landing light structures for runway 25R during the accident. The airframe was essentially undamaged, with crush damage noted along almost the entire leading edge of the left wing, consistent with contact with the light structures (figure 1). Similar damage was present on the leading edge of the outboard right and left ends of both the horizontal stabilizer.

Fuel was drained from both wing sumps, the gascolator, and fuel reservoir drains. It was light blue in color and had the odor of 100 low-lead aviation gasoline. The gascolator screen was free of debris, and the bowl appeared relatively new.

2.0 Engine Examination

The fuel and oil lines were intact between their respective fittings, there was no apparent leak, although a photo taken shortly after the accident revealed blue staining on the nose landing gear

oleo strut, just below the fuel servo. According to representatives from Precision Airmotive, operation of the auxiliary fuel pump with engine shut down can result in fuel overflowing out of the fuel injection servo (which was located above the oleo strut). The mixture throttle, and propeller governor controls were continuous between the cockpit controls and their respective fittings.

With the fuel mixture set to lean and throttle closed, the battery master switch was turned on. The auxiliary fuel pump was then turned on, and there was no obvious fuel leak. With the mixture control moved to the full rich position, and throttle moved full forward, fuel was observed to drain from the “sniffle” valve line as expected.

The magneto was intact and attached to its mounting pad.

The fuel flow divider cap and diaphragm valve were removed. The chamber appeared wet with fuel, and there was no apparent corrosion or debris.

The fuel injection servo and flow divider valve were removed for further inspection. The fuel inlet screen was free of debris.



Figure 1 – Airplane damage

Submitted by: Elliott Simpson