



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

AIRFRAME AND ENGINE EXAMINATION

WPR19LA222

This document contains 7 embedded photos.

A. ACCIDENT

Location: Jamul, CA
Date: August 19, 2019
Aircraft: Zenith 601XLB, Registration N662WB, S/N 6-6056
NTSB IIC: Elliott Simpson

B. EXAMINATION PARTICIPANTS:

Elliott Simpson
Senior Aviation Accident Investigator
National Transportation Safety Board
Western Pacific Regional Office
Los Angeles, CA

C. SUMMARY

Examination of the helicopter was conducted at the pilot's hangar on September 13, 2019. The engine control unit was removed during the examination and sent to ULPower in Belgium for examination under the oversight of the AAIU.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe and Engine Examination

The airplane sustained substantial damage to the left wing, which had folded down midspan, and the forward fuselage (photo 1,2).

Law enforcement officers at the accident site reported that the right-wing fuel tank contained 8 gallons of fuel, and the left tank, although breached, contained 7 gallons of fuel.

The engine remained attached to the firewall and appeared to have escaped significant damage (photo 3,4). The engine contained oil just short of the dipstick "max" limit. There was no evidence of catastrophic engine failure.

All ignition, sensor, and electrical lines were intact, and the ECU remained attached to its wiring loom. No circuit breakers had tripped. The airplane was equipped with the 68,000 μ F “protection” capacitor as recommended in the installation manual.

The throttle control was continuous from the throttle assembly (photo 5) to the cabin control. The air filter was free of debris. All fuel lines were intact (photo 6), and there was no evidence of fuel leak.

The firewall was bent, and the nose landing gear strut attachment bracket had detached and rotated to the left, such that it had come into contact with the positive terminal of the battery (photo 7). Arcing damage was noted at the contact point, and the battery indicated 5.21 volts when tested with a voltmeter.

A supplementary power source was attached to the battery supply cables. With power connected, both electric fuel pumps activated when operated, and the fuel selector valve could be heard to activate.

The avionics master switch was turned on, and the recorded data was downloaded from the Dynon SkyView unit.

1.1 Examination Photos



Photo 1 – Airplane at the accident site, photo courtesy of the FAA



Photo 2 - Airplane at the accident site, photo courtesy of the FAA

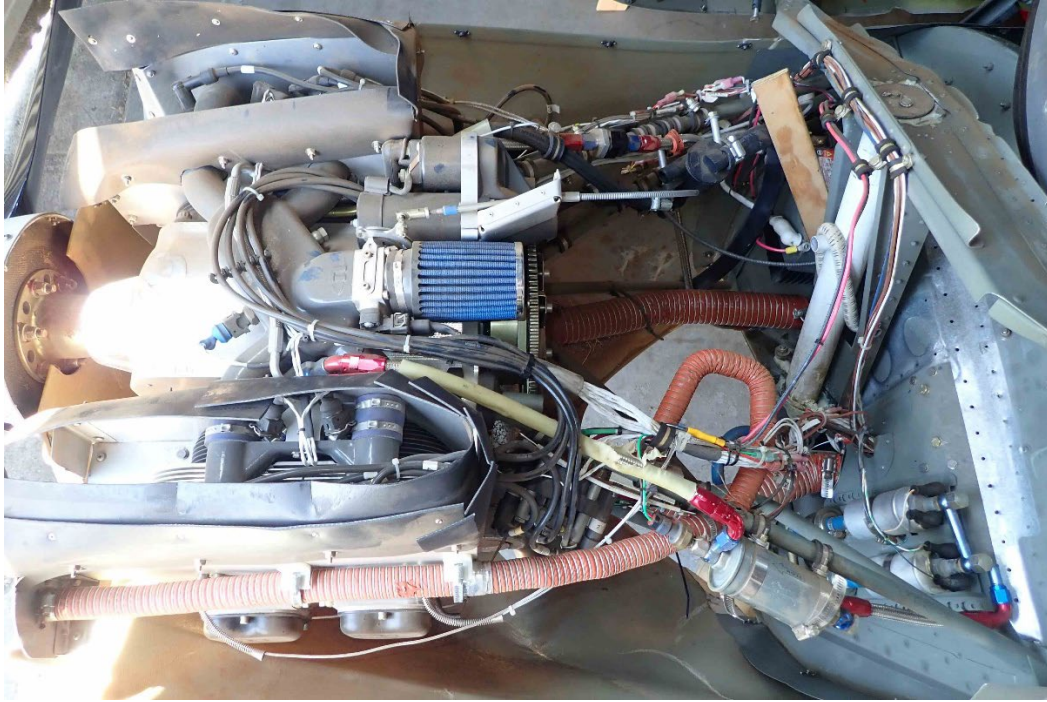


Photo 3 – Engine compartment



Photo 4 - Engine compartment

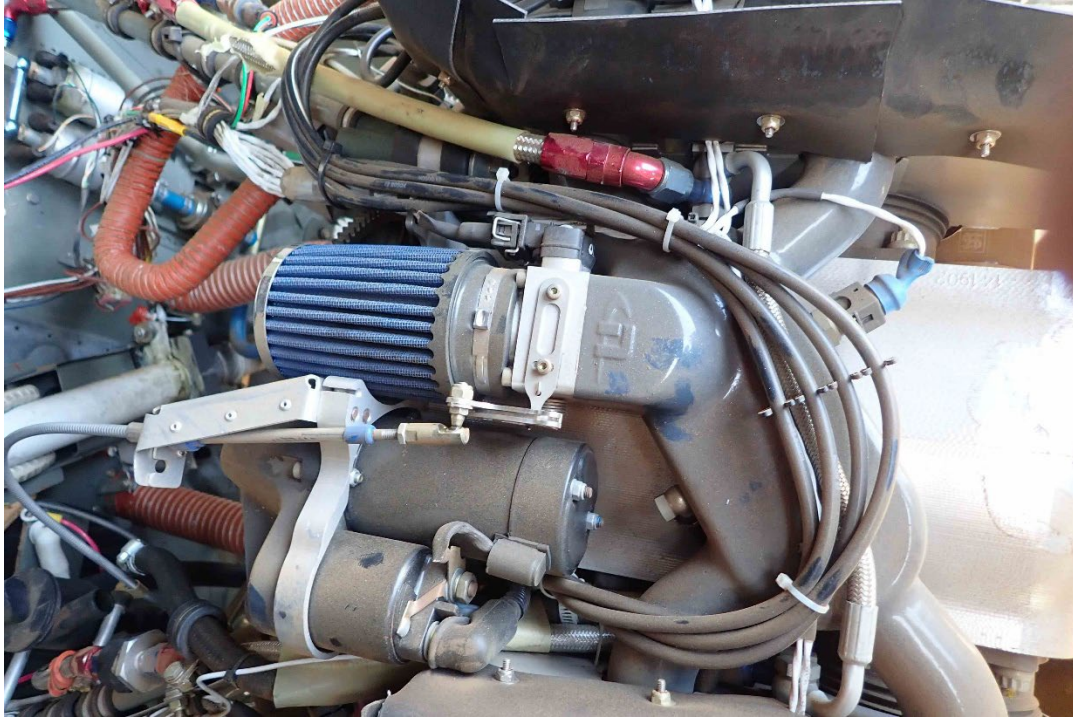


Photo 5 – Throttle control and induction air filter

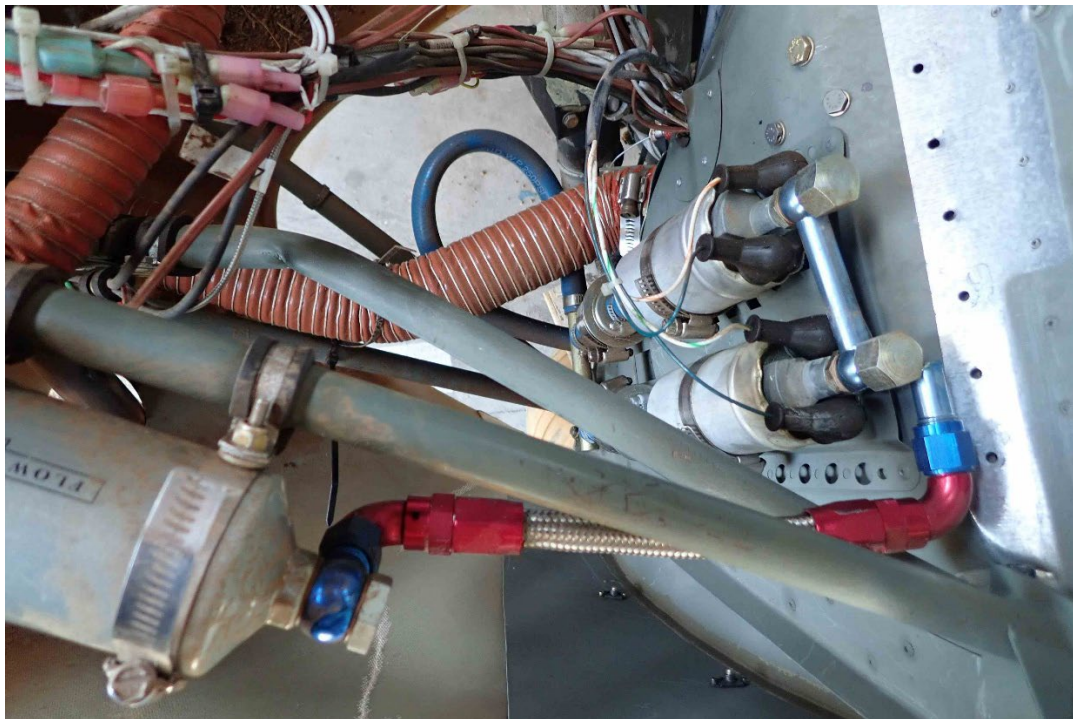


Photo 6 – Fuel pumps sand filter



Photo 7 – Battery, red arrow indicates contact with airframe (wood block installed post-accident to prevent further damage)

Submitted by: Elliott Simpson