



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

September 17, 2021

AIRFRAME AND ENGINE EXAMINATION SUMMARY

WPR19LA213

This document contains 2 embedded photos.

A. ACCIDENT

Location:	Round up, Montana
Date:	July 29, 2019
Aircraft:	C-GEYP, Cessna 150M
NTSB IIC	Albert Nixon

B. PARTICIPANTS

Albert Nixon
Senior Aviation Accident Investigator
Western Pacific Region
Federal Way, WA

Jennifer Barclay
Air Safety Investigator
Textron Aviation
Wichita, KS

C. SUMMARY

Examination of the wreckage was conducted at the facilities of Arlin's Aircraft Services, at Bozeman Yellowstone International Airport (BZN), Bozeman, Montana. A certified Airframe and Powerplant mechanic under the supervision of the NTSB conducted the engine examination. The postaccident examination of the airframe and engine revealed no preimpact anomalies or malfunction that would prelude normal operation.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

The airframe sustained impact damage to the fuselage and cabin area. The bottom of the fuselage was bent upwards behind the front seats of the cabin. The left wing was cut and removed from the fuselage for recovery. The right wing was separated from the fuselage. Both wings sustained impact damage to the leading edges. The empennage was relatively intact, and the rudder was attached. The left horizontal stabilizer was cut near the root and the right horizontal stabilizer and elevator were attached. The engine and propeller assembly were separated from the fuselage.

Flight control continuity was established from the rudder and elevators from the cabin. The ailerons continuity was established through cuts and overload separations of the cables. The left aileron cables were continuous from the bell crank to the separation portion of the wing. The rudder was attached at all its respective attach points. The elevator trim indicator was neutral, in the takeoff position.



The right wing sustained a large circular impact with compression damage about mid-span. The right wing also sustained leading edge impact damage about 4 ft outboard to the wing tip. The right flap and aileron were attached. The right flap sustained impact damage about 1 ft inboard and was bent upwards. The left wing had leading edge damage on the inboard portion and the tip. The left aileron outboard portion was damaged. The fuel cap was attached, and the cap seals were intact and undamaged.

In the cabin the ignition switch was off, and the key removed. The mixture control was about 1/2 inch out. The throttle lever was in full. The primer was closed and locked. The engine tachometer indicated 3631.375 hours. The carburetor heat and cabin air were off. The landing lights were on. The attitude indicator showed 10° nose up and 5° of right bank. The altimeter indicated 4,315 ft with 29.90 selected. The fuel selector was in the ON position and the fuel selector valve was determined to be ON.

The flaps were determined to be extended between 0 – 5° from the flap actuator.

There were no obstructions noted in fuel system from the wing tanks to the fuel strainer. The fuel strainer was clear of contaminants and light corrosion was noted in the bowl.

2.0 Engine Examination



The engine was separated from the fuselage engine mount assembly and was relatively undamaged except for the bottom portion. No catastrophic damage was noted. The rocker covers were removed and there was no evidence of heat distress, and all valves were appropriately lubricated. Rotational continuity could not be established through hand rotation of the propeller because the crankshaft was observed to be bent to the left in the front of the engine, consistent with impact damage. The top spark plugs were removed, and electrodes were undamaged and exhibited coloration consistent with normal wear.

The carburetor was partially attached on its mounted pad and sustained impacted damage. The carburetor was removed from the engine and disassembled, and no anomalies were noted. The carburetor fuel bowl and fuel inlet screen were clear of contaminants.

The oil reservoir sustained impact damage and was breached. The oil filter was removed, and examination of the pleats revealed no debris.

The magnetos were secured on their mounts. The magnetos were removed, and rotation of their drives produced spark at all leads during rotation.

The vacuum pump drive was observed not to rotate during engine rotation. Removal and examination of the pump revealed that the shaft and vanes were intact, but the core internal elements were cracked, consistent with impact damage.

The spinner exhibited impact damage and one propeller blade exhibited slight S shape bending and the other blade was bent aft about midspan.

Submitted by Albert Nixon