



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

November 16, 2020

ACCIDENT SITE EXAMINATION

WPR21FA045

This document contains 6 embedded photos.

A. ACCIDENT

Location: Whidbey Airpark (W10), Langley, Washington
Date: November 11, 2020
Aircraft: Cessna 177, N34633
NTSB Investigator-in-Charge: Samantha Link

B. DETAILS OF THE INVESTIGATION

1.0 Accident Site

Accident Site GPS Coordinates: N 48.019959°, W -122.438730°

Examination of the accident site revealed that the airplane impacted trees and terrain about 153 ft west and 370 ft south of the departure end of runway 34 at an elevation of about 271 ft mean sea level (msl). The airplane came to rest in a near vertical attitude on a heading of about 277° magnetic. Several trees, about 60 to 70 ft in height surrounded the main wreckage. One tree exhibited impact marks on the eastern side of the tree from about mid height and extended downward to the main wreckage along with several broken branches. Two adjacent trees had several broken or damaged branches.



Figure 1: Diagram of accident site location.



Figure 2: Damaged tree with main wreckage.

2.0 Airframe Examination

Examination of the airframe revealed that the center section of the fuselage slightly forward of the gearbox to just aft of the rear seats was cut by first responders. The cabin area, including the instrument panel and glareshield exhibited aft buckling and bending. Both forward doorposts were impact damaged and separated from the wing and cabin roof structure.

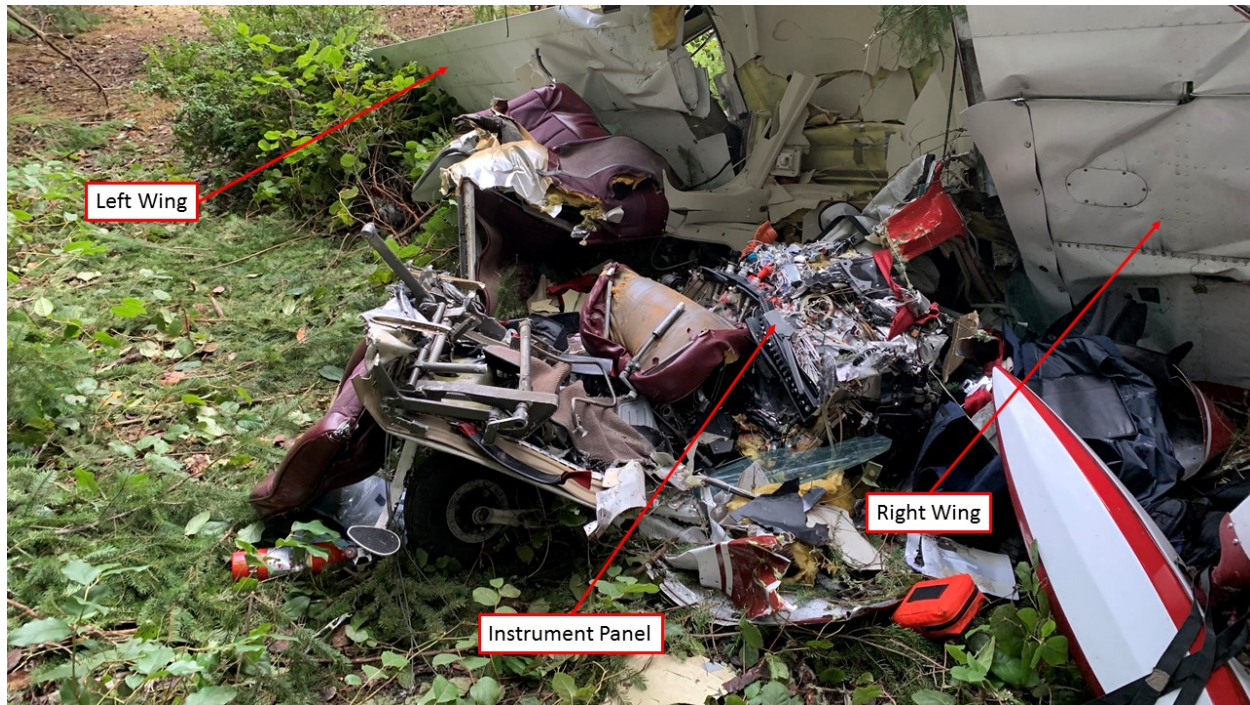


Figure 3: Cabin area, instrument panel, and wings.

The instrument panel was fragmented into multiple sections with numerous instrument displacement.

Throttle: Full forward
 Mixture: Aft, bent down
 Propeller: Destroyed
 Carb Heat: About ½ inch out from panel
 Tachometer: 600 rpm, 6441.6 hours
 Avionics Master: On
 Primer: Impact damaged
 Master: Impact damaged
 Airspeed: 150 miles per hour
 ELT: On (turned off during wreckage recovery)
 Magneto Switch: Both, key broken

Circuit Breakers:

Aud Amp: Impact damaged
 Com 2: In
 Nav 2: Out
 Com 1: Out
 GPS: Out
 Xpnder: Out
 Turn Coord: In
 Bcn Light: In
 Flap: In
 Aux Fuel Pump: In

Inst. Lights: In
Strobe Lights: In
Nav Lights: Damaged
Land Light: Out
Pitot Heat: In
Alt Field: Out
Alt: In

The left wing remained attached to the fuselage. The flap and aileron remained attached to their respective mounts. The leading edge was compressed aft throughout its span to the forward spar. The left wing was bent slightly forward at the flap / aileron junction. The left fuel tank was breached, and the left fuel tank cap was found secure and in place.

The right wing remained attached to the fuselage. The flap and aileron remained attached to their respective mounts. The leading edge was compressed aft throughout its span to the forward spar. A circular indention on the bottom side of the wing was observed about 2 – 3 ft outboard of the wing root area, consistent with impact with a tree. The right fuel tank was breached, and the right fuel tank cap was found secure and in place.



Figure 4: Left and Right Wings



Figure 5: Right Wing and Tree

The empennage remained intact. The vertical stabilizer, rudder, and horizontal stabilator remained attached to their respective mounts. The upper portion of the rudder and vertical stabilizer were impact damaged. The horizontal stabilator was buckled throughout and both trim tabs remained attached to their respective mount.

Control continuity was established from the cockpit control column area throughout the airframe to all primary flight controls. Rudder and stabilator control cables were cut by first responders. The aileron balance cable remained attached and the aileron control cables were cut during the wreckage recovery process.

3.0 Engine Examination

The engine remained attached to the airframe engine mounts. The firewall was compressed into the aft side of the engine, with portions of the magneto protruding through the firewall. All four cylinders remained attached to the engine crankcase. No damage to the upper side of the engine crankcase was observed. The carburetor remained attached to its mount and the throttle lever and cable remained attached. The induction airbox was impact damaged. The exhaust and induction system were impact damaged. The ignition harness was impact damaged. The oil dipstick was displaced and bent. The dipstick tube was impact damaged and separated from the engine.



Figure 6: Upper portion of the engine.

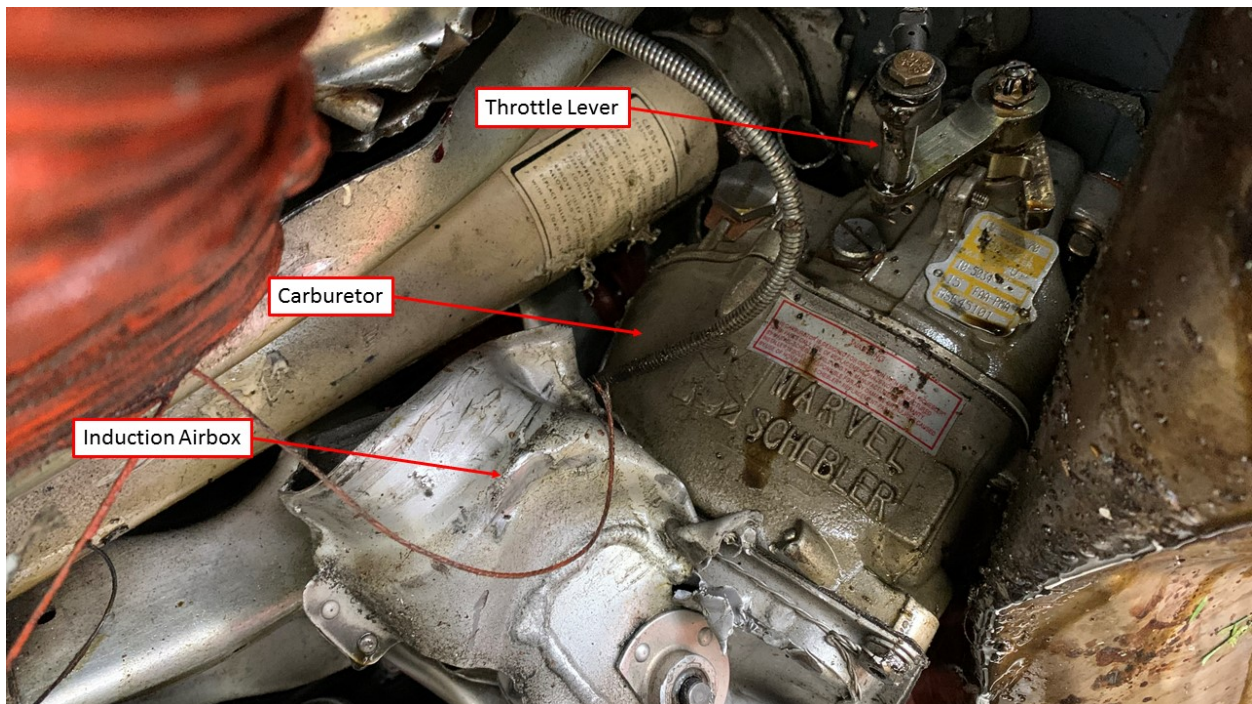


Figure 7: View of the Carburetor and Induction Airbox

The propeller remained attached to the crankshaft. One blade was bent aft underneath the engine. The opposing blade appeared straight with no damage observed. The spinner was crushed aft around the propeller hub.

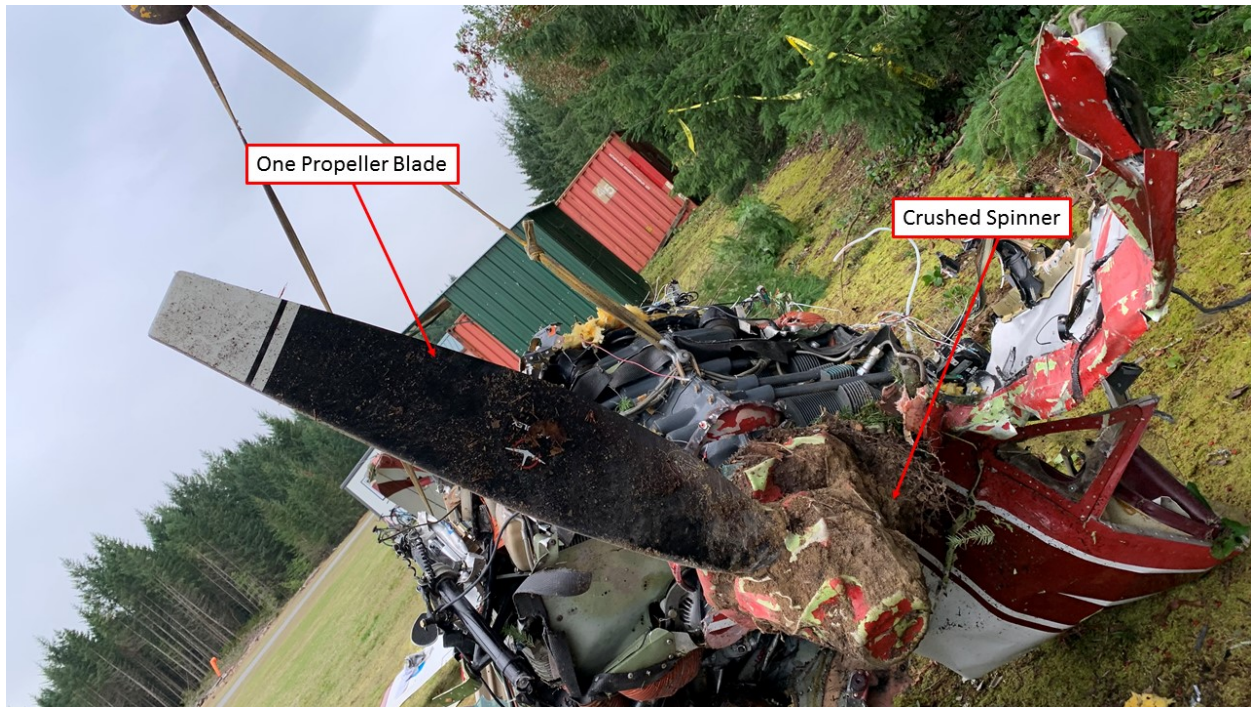


Figure 8: View of the engine, one propeller blade, and spinner.

Submitted by: Joshua Cawthra