



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

August 14-15, 2019

ON SCENE OBSERVATIONS

WPR19FA219

This document contains 16 embedded photos.

A. ACCIDENT

Location: Marysville, WA
Date: August 14, 2019
Aircraft: Capes Murphy Moose, Registration N525SG, Serial #300
NTSB IIC: Samantha Link

B. EXAMINATION PARTICIPANTS:

Josh Cawthra
Senior Aviation Accident Investigator
National Transportation Safety Board
505 South 336th Street, Suite 540
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C. SUMMARY

An on scene examination of the airframe and engine was conducted August 14-15, 2019. No anomalies were noted during the examination.

D. DETAILS OF THE INVESTIGATION

1.0 Accident Site Overview

The airplane impacted an open field, about 1.1 miles south of runway 34 at Arlington Municipal Airport (AWO). The debris path measured about 334 ft in length, oriented on a heading of about 348 degrees magnetic. The first identified point of contact (FIPC) with terrain was an area of displaced dirt, consistent with impact from the left float. A large area of disturbed dirt extended from the FIPC to the main wreckage. About 13 ft from the FIPC, an area consistent with right float impact was observed. About 61 ft from the FIPC was a large crater/disturbed dirt, about 24 inches wide, by 40 inches long, and 10 inches deep. The crater contained fragments of the wooden propeller blades. About 74 ft from the FIPC were portions of the propeller and front float wheel assembly. Portions of the left and right wingtips were located at 90 and 98 ft from the FIPC. The engine airbox assembly was located 105 ft from the FIPC. Additional fragments of the propeller assembly were located 138 ft from the FIPC. Portions of engine cowling were located at 165 ft from the FIPC. The main wreckage came to rest inverted on a heading of about 313° about 289 ft from the FIPC (at 48.139702 - 122.157461). The left float came to rest 309 ft from the FIPC, and the right float came to rest 334 ft from the FIPC.

1.1 Accident Site Photo



Figure 1: First Identified Point of Impact



Figure 2: Portions of Engine Cowling



Figure 3: The Main Wreckage



Figure 4: The Right Side of the Airplane.



Figure 5: The Right Wing, Left Wing and Engine



Figure 6: View from the Empennage

2.0 Airframe Examination

- The fuselage came to rest inverted.
- Both the left and right wings remained partially attached to the fuselage.
- The empennage remained attached to the fuselage.
- The cabin area was fragmented and torn open.
- The instrument panel was displaced from the airframe and located in the wreckage debris path.
- The left seat 4-point harness was cut by first responders.
- The magneto switch was in the “left” position and the key was bent over 90 degrees/impact damaged.
- The fuel selector was found in the “both” position.
- Both the left and right header fuel tanks exhibited impact damaged
 - The fuel inlet and outlet lines were displacement.
- The fuel strainer (gascolator) was removed.
 - The fuel strainer bowl contained blue liquid consistent with 100 low lead fuel, and the screen was free of debris.
- A secondary fuel filter was removed and found to be free of debris.
- The airplane was equipped with a 406 mhz ELT and the switch was found in the “OFF” position.
- The left wing exhibited 45-degree crushing along the outboard leading edge of the wing. In addition, the lift strut remained attached to the wing, however, it was separated about mid span.
 - The flap remained attached via all mounts and appeared to be in the “up” position.
 - The flap torque tube assembly remained attached.
 - The aileron remained attached via the inboard and center mounts, and the outboard mount structure was pulled away from the aileron.
 - The aileron torque tube assembly remained attached.
 - The fuel cap remained secured to the fuel tank. The fuel tank was placarded to hold 50 gallons.
 - About 1 inch of fuel was observed within the tank.
 - The fuel inlet line exhibited impact damage and was breached.
- The right wing exhibited downward crushing at the flap/aileron junction point.
 - The flap was separated via all mounts and was located underneath the fuselage.
 - The aileron remained attached via all mounts.
 - The outboard 50 inches of the leading edge and wing tip exhibited 45 degree crushing and was torn open.
 - The fuel tank was breached.
- The left stabilizer was buckled throughout.
 - The left elevator remained attached via all mounts and was bent downward about 10 to 12 inches inboard from the tip.
 - The trim tab remained attached.
- The right stabilizer was intact, and the elevator remained attached. Both exhibited minimal damage.
- The vertical and rudder remained intact. The upper portion of the rudder was bent.
- Flight control continuity was established throughout the airplane.

- The elevator torque tube was separated from the rod end bearing at the bellcrank consistent with overload.
- Multiple breaks were noted in the aileron and rudder control cables. All breaks exhibited splayed signatures consistent with overload.

2.1 Airframe Photos



Figure 7: Left Wing



Figure 8: Empennage



Figure 9: Instrument Panel



Figure 10: Fuel Selector



Figure 11: Fuel Strainer Bowl



Figure 12: Ignition Switch

3.0 Engine Examination

- The engine remained attached to its mounts and the firewall.
 - Engine control continuity was established. The throttle was separated from the carburetor consistent with impact damage.
 - The propeller control cable remained attached to the propeller governor.
- All accessories, except the carburetor, remained attached to the engine.
- The propeller hub remained intact, and the three propeller blades were separated/splintered near the blade root.
- The oil lines to the oil cooler exhibited damage consistent with impact
 - Oil was observed throughout the accident site and wreckage.

3.1 Engine Photos



Figure 13: The Accessory Section of the Engine

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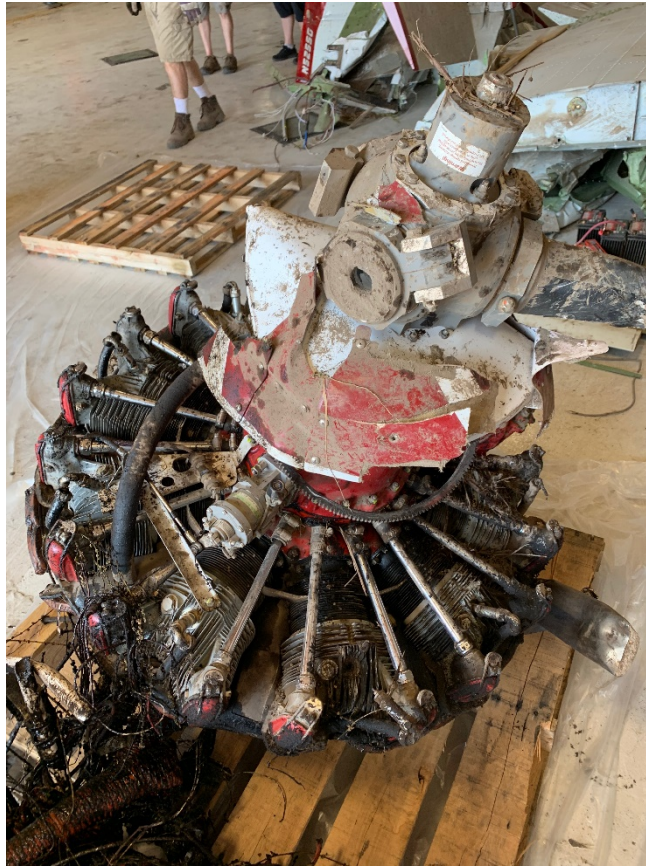


Figure 14: Front of Engine



Figure 15: Propeller Hub and Remaining Blades



Figure 16: Propeller Governor

END.

Submitted by: Samantha Link