



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

June 26, 2016

ACCIDENT SITE EXAMINATION

WPR16FA131

This document contains 3 embedded photos.

A. ACCIDENT

Location: Coeur d'Alene, Idaho
Date: June 25, 2016
Aircraft: Cessna A185F N4585F,
Serial 1851092
NTSB IIC: Albert Nixon

B. EXAMINATION PARTICIPANTS:

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C. SUMMARY

Examination of the accident site was conducted on June 26, 2016, on a mountainside about 1-mile northeast of the Horse Haven airstrip, Idaho, and about 15 miles northeast of Coeur d'Alene, Idaho. All major structural components of the airplane were located at the accident site. No evidence of preimpact mechanical failure was noted during the onsite examination of the airframe and engine. The wreckage was recovered to a secure location for further examination.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

Examination of the accident site by investigators from the National Transportation Safety Board (NTSB), Continental Motors, and Textron Aviation, revealed that the airplane impacted heavy wooded terrain on a canyon hillside at an elevation of about 3,133 ft. The wreckage came to rest inverted on a hillside, with a slope of about 45°, about 1-mile northeast of the Horse Haven airstrip. The area surrounding the impact site consisted of a canyon valley surrounded by mountainous terrain with approximately 3,500 ft in distance between the closest ridgelines surrounding the accident site. The canyon ridgelines were about several hundred ft above the accident site elevation. The canyon narrowed ahead, with the distance between ridgelines decreasing to about 2,200 ft in distance, about a 1/3 of a mile northeast of the accident site, and the canyon valley elevation increased by several hundred ft. Further, the canyon continues to narrow a couple miles further ahead, with the canyon base floor elevation increasing by several hundred ft, and the ridgeline's high terrain about 1,500 ft higher in elevation than the accident site.



Figure 1: Horse Haven Airstrip and Canyon Valley (Courtesy Google Earth).

The debris path was about 150 ft long on a heading of about 220° magnetic and began with an initial impact to a tree top about 100 ft in height. The second point of impact was a group of 4 trees about 50 ft west of the initial impact point. The last portion of the debris path was a disturbed area of dirt, that was observed about 25 ft in length, 3 ft wide, and 2 inches in depth, that led to the main wreckage. All major components of the airplane were located in the debris path. Flight control continuity was established to the empennage. One personal electronic device was recovered from the wreckage.



Figure 2: Impacted Trees.



Figure 3: View of Airplane Wreckage from the Road.

The left wing was separated at the fuselage and located about 15 ft downhill from the main wreckage. The left wing exhibited “accordion type” crushing damage to the center portion of the leading edge. A section of sheet metal from the leading edge of the left wing was missing and located about 20 ft east of the wreckage with a circular indentation and brown markings (consistent with the color of tree bark) located within the indentation.

The left-wing spar exhibited an approximate 90-degree inward bend about midspan. The left-wing fuel tank was breached and contained no fuel, although a strong odor of aviation fuel was noted. The fuel line in the left door post was damaged by impact. Both the aileron and flap remained attached to the wing. The left aileron and flap control cables were separated at the wing root. Observation of the fracture surfaces displayed signatures that were consistent with overload.

The right wing was separated from the fuselage at the wing root, although it remained located with the main wreckage. The aileron and flap remained attached to the wing. Impact damage was observed on the bottom side of the wing from the leading edge to trailing edge. The right-wing fuel tank remained intact and contained an undetermined amount of fuel that had the odor consistent with 100LL. A small amount of fuel from the right wing was drained and tested negative for water contamination. Fuel continuity was established from the right fuel tank finger screen to the fuel strainer on the engine firewall.

The forward and upper portion of the passenger cabin was crushed from impact. Most of the flight instruments were unreadable due to the orientation of the cockpit. The heading indicator displayed 230° magnetic and the fuel selector was selected to the both position. The fuel selector was intact and the detents for the other positions were appropriate when selected. The ignition switch was selected to both. The engine manifold pressure gauge indicated 27 inches, and the engine tachometer indicated 3799.4 hours. The alternate air was in the off position, and the throttle was pulled out about 2 inches and was bent. Both the mixture and propeller controls were fully pushed in and to a “full rich,” and “high RPM” positions respectively. The manual flap handle was in the retracted position.

The right main landing gear and tail gear remained attached to the fuselage and showed little signs of impact damage. The left main landing gear was detached from the main wreckage and located about 30 ft downhill.

The left horizontal stabilizer was separated from the empennage and located about 31 ft east of the main wreckage. The left stabilizer exhibited crushing impact damage to the inboard portion of the leading edge and the elevator remained attached. The vertical stabilizer remained attached with the rudder. The leading edge of the vertical stabilizer exhibited crushing damage, and the tip fin assembly that contained the beacon light was separated from the vertical stabilizer and located about 30 ft east of the main wreckage. The right horizontal stabilizer and elevator remained attached and were intact and indicated about 3° of stabilizer trim.

2.0 Engine Examination

The onsite examination of the engine was performed by the Continental Motors and NTSB investigators. There was limited access to the engine compartment because of impact damage to the forward fuselage. Additionally, the airplane was inverted which precluded access to the upper portion of the engine. Examination of the engine did not reveal any pre-impact anomalies that would have prevented normal operation.

The engine remained attached and was visible through several openings in the damaged cowling. The propeller remained attached to the crankshaft propeller flange. Several dents and abrasion were observed on the propeller spinner, but no rotational damage was observed. The

propeller blades exhibited length wise and chord-wise scratches. Both propeller blades sustained impact damage. One propeller blade exhibited aft curling at the outer edge of the blade. The second propeller blade was bent aft about mid-span due to impact.

All cylinders remained attached and the exhaust system for the right-hand cylinders sustained damage. The fuel system strainer screen and strainer bowl were both free of debris.

Submitted by: Gregory Collins