



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

November 29, 2016

ACCIDENT SITE / AIRFRAME / ENGINE EXAMINATION SUMMARY

WPR17FA029

This document contains 0 embedded photos.

A. ACCIDENT

Location: Glamis, California
Date: November 25, 2016
Aircraft: Bellanca 7GCAA, N88373
NTSB Investigator-in-Charge: Joshua Cawthra

B. DETAILS OF THE INVESTIGATION

1.0 Accident Site / Airport Information

The private airstrip was part of a private residence and business located in an area of open desert terrain. The reported field elevation 440 feet mean sea level. The dirt runway was oriented on a heading of about 230 and 050 degrees respectively and was about 3,000 feet in length. No flags or windsocks were located near the runway or structures nor was there any weather reporting equipment.



Figure 1: Google Earth Airport Overview with Markings

GPS Coordinates: N32.99374, W115.02127

Elevation: 451 Feet MSL

Examination of the accident site revealed that the airplane impacted open desert terrain about 565 feet east of the approach end of the southwesterly oriented runway at a private airstrip. The debris path

was about 34 feet in length oriented on a heading of about 206 degrees magnetic. The first identified point of impact (FIPC) was a 1 by 2 foot area of disturbed dirt. A blue wing inspection panel was located about 4 feet beyond the FIPC. The propeller, starter ring gear, plexiglass, and portion of engine cowling was located within a 5 by 4 foot area of disturbed dirt about 24 feet from the FIPC. The main wreckage, which included the fuselage and both wings were located about 34 feet from the FIPC. The fuselage came to rest upright on a heading of about 009 degrees magnetic. Adjacent to the left wing, about 16 feet from the propeller was portions of the strobe light housing and red navigational lens. In addition, numerous blue paint chips were observed from the propeller to the strobe light lens.

2.0 Airframe Examination

Examination of the wreckage revealed that the left wing was separated from the airframe. The aft attach point was pulled away from the fuselage and the forward fuselage attach point remained attached to the wing and a portion of the fuselage, which was separated. The leading edge of the wing was compressed aft to the main spar from about mid span outboard to the wing tip. The red navigational light lens and strobe light housing were separated. The lift struts remained attached to the wing and the aft strut was bent. The jury strut remained attached. The aileron remained attached via all three mounts. The control linkage from the aileron to the bellcrank was intact. Both control tables remained attached to the bell crank and extended inboard to the wing root. Both control cables exhibited splayed signatures, consistent with tension overload separation.

The right wing was separated from the fuselage. The entire wing was buckled throughout and both wing spars were fractured in multiple locations. The lift strut remained attached to the wing. The forward lift strut was bent with leading edge scratches and the aft strut was bowed. The jury strut remained intact. The wingtip exhibited a circular impression on the leading edge which was about 7 inches wide. The impression was consistent with an impact with the right main landing gear tire. The wing tip lights remained attached to the wing tip. Striations were observed on the leading edge and tip of the wing. The aileron remained attached to the outboard and middle attach points. The aileron was buckled upward mid span. The linkage from the aileron to the bellcrank remained attached. The control cables extended from the bellcrank to the wing root. Both cables exhibited splayed signatures, consistent with overload separation.

The fuselage was intact from the rear door post aft to the empennage. The fuselage structure forward of the rear doorpost was bent and compressed upward with aft compression. The roof structure was displaced and pulled aft by first responders. The right main landing gear was separated. The left main landing gear remained attached and was bent upward. The airframe fuel strainer screen was free of debris.

Cockpit Documentation:

Hobbs: 1926.6
Tach: 1,400 rpm / 4397.20 hours
Amp: 0
Oil Temp: 0
Oil Pressure: 0
EGT: 0
DG: Impact Damaged
Airspeed: 66 knots
Attitude Indicator: Impact damaged

Altimeter: 610 feet / Knollsman: 30.17
Turn Coordinator: Left bank, right ball
VSI: 650 climb rate
Vacuum: 0
Radio 1: Off
Radio 2: On
Turn and Bank: On
Strobe: On
Instrument Lights: Off
Landing Lights: Off
Nav Lights: Off
Master Switch: On
Left and Right Ignition: Off

Aft Seat Controls:

Throttle: Mid Span
Carb Heat: Hot
Control Stick: Impact damaged, remained attached.

Forward Seat Controls:

Throttle: Mid Span
Carb Heat: 2/3rds to the Cold
Mixture: Full Rich
Primer: In and Locked
Control Stick: Impact damaged, remained attached.

Restraints: Both front and rear lap belts were unbuckled. The forward shoulder restraint was cut. The rear shoulder restraint remained attached to the buckle.

The empennage was intact and undamaged. Both the left and right elevators remained attached to their respective attach points on both horizontal stabilizers. The rudder remained attached to the vertical stabilizer.

Flight control continuity of both wings were established to the wing root and from the door posts and fuselage down to the forward and aft control torque tubes. Rudder control continuity was established from the rudder forward to the rear rudder pedals. Elevator control continuity was established from the elevators forward to the control stick torque tube.

3.0 Engine and Propeller Examination

The engine remained attached to the fuselage. The vacuum pump, alternator, and the carburetor were displaced from their respective mounts. The top spark plugs, rocker arm covers, and both magnetos were removed from the engine. The crankshaft was rotated by hand using a hand tool attached to an accessory mount pad. Thumb compression and suction was obtained on all four cylinders. Continuity was established throughout the engine and valve train.

When the magneto drive shafts were rotated, both the left and right magnetos produced spark at all ignition terminal posts.

The top spark plugs exhibited normal operational signatures. Light gray deposits were observed within the electrode area.

The carburetor was separated from its mounts. The carburetor was disassembled. No debris was observed within the float bowl. The floats were intact and undamaged. The fuel screen was free of debris.

The propeller was separated from the crankshaft propeller flange. The spinner assembly was crushed aft around the propeller. One propeller blade exhibited leading edge gouges and was bent and twisted opposite direction of rotation. In addition, chordwise striations were observed on the forward side of the blade. The opposing propeller blade appeared mostly straight with chordwise striations and leading edge gouges.

Submitted by: Joshua Cawthra