



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

May 14, 2014

ACCIDENT SITE, AIRFRAME AND ENGINE EXAMINATION SUMMARY

WPR14FA186

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A. ACCIDENT

Location: Page, Arizona
Date: May 10, 2014
Aircraft: Cessna T207A
NTSB Investigator-in-Charge: Joshua Cawthra

B. SUMMARY

Examination of the accident site, airframe, and engine was conducted between May 11, 2014 and May 13, 2014, at both the accident site and the facilities of Air Transport, Phoenix, Arizona, by representatives of Cessna Aircraft, Continental Motors, and American Aviation, under the supervision of the National Transportation Safety Board (NTSB) investigator-in-charge. No evidence of any preexisting mechanical malfunction was observed with the airframe. The engine was removed and subsequently shipped to Continental Motors for further examination.

C. DETAILS OF THE INVESTIGATION

1.0 Accident Site

GPS Coordinates: N36.93390, W-111.44935
Elevation: 4,214 feet mean sea level (msl)

Examination of the accident site revealed that the airplane impacted soft terrain about 390 feet from the approach end of runway 15, slightly left of the runway on a magnetic heading of about 142 degrees magnetic. The airplane came to rest inverted on a heading of about 325 degrees magnetic. Two initial ground scars, consistent with the main landing gear were observed about 160 feet north of the main wreckage. Both ground scars were about 3 feet in length. All major structural components of the airplane were located within about 30 feet of the main wreckage.

2.0 Airframe Examination

Examination of the airplane revealed both wings remained attached to the fuselage. All primary flight controls remained attached to their respective mounts. The flaps were observed in a slightly extended position. The right wing leading edge outboard of the landing light cutout was bent downward about 10 degrees and was buckled in a 45-degree angle extending to the wing tip. The left wing appeared to be undamaged. The fuselage was mostly intact. The structure around the forward baggage compartment was buckled. The engine remained attached to the fuselage structure. Both main landing gear were compressed upward. The nose wheel landing gear was compressed upward into the engine compartment structure. The fuselage roof structure from the left rear side window, aft seat, and rear right door was compressed downward and slightly deformed to the left. The fuselage area aft of the rear windows was compressed and buckled throughout the entire structure. The empennage was mostly intact and bent downward.

Flight control continuity was established from the cockpit controls to all primary flight control surfaces. One of the elevator control cables was splayed, consistent with tension overload.

Examination of the cockpit area revealed that the beacon and avionics switches were in the "on" position. The throttle, mixture, and propeller controls were in the full forward position. The beacon and fuel pump circuit breakers were in the "tripped" position. The cowl flaps were in the closed position. The pitch trim wheel indicator was in the neutral position. The rudder trim indicator was in the slightly nose right position. The fuel selector valve was in the "off" position. The HOBBS meter indicated 5,287.5 hours. The tachometer indicated 300 rpm / fully deflected to the left and an hour reading of 3,664.4 hours.

The wreckage was recovered to a secure location for further examination. During wreckage recovery, about 14 gallons of fuel was removed from the right fuel tank and 9 gallons of fuel was removed from the left fuel tank. The removed fuel was free of debris.

All seats with the exception of the number two seat remained attached to the seat tracks via at least two feet. All seat backs for the passenger seats were displaced rearward. The number two seat was found separated from the seat track. All lap belt restraints remained attached to their respective attach points. The shoulder harness for the number two seat remained attached to the seat belt. The number one shoulder harness was found loose from the seat belt. No stretching was observed on all of the seat belts. The number one seat had a secondary seat stop installed.

The fuel selector valve was operated throughout its entire range and the valve functioned normally. Both fuel caps were observed on their respective fuel filler necks and seals were found pliable. The fuel boost pump circuit breaker was in the tripped position. Power was supplied to the fuel boost pump through the aircraft circuit breaker and the fuel pump functioned in the high position only. The system was inspected and two wires to the dropping resistors for the low operating condition were found separated. The separation was found consistent with impact damage. The fuel line from the boost pump to the fuel strainer was found separated and consistent with impact damage at the inlet to the fuel strainer. Debris was observed within the fuel strainer bowl. When dried, the debris was found to be similar to dirt observed at the accident site. The fuel strainer screen was free of debris.

The flap actuator was measured and displayed about 2 inches of threads, consistent with a flap setting of about 10 degrees. The elevator trim was measured and found in a position to be consistent with about a 6-degree tab up position.

Electrical continuity was established from the wing root of the left wing to the stall warning vane.

The ELT was found secure to its mounts. The impact damaged in the armed position. The antenna was found separated at the ELT.

3.0 Engine Examination

Examination of the recovered engine revealed that it remained attached to the airframe via all its mounts. Throttle, mixture, and propeller control continuity was established from the cockpit controls to the engine. All fuel and oil lines remained attached to their respective attach points. The top spark plugs were removed and exhibited black deposits within the electrode area. The

fuel pump was removed and the fuel pump drive coupling was intact and undamaged. The propeller was removed and the crankshaft was rotated by hand using a hand tool. Thumb compression was obtained on all six cylinders and spark was produced on all six upper ignition harness leads. The engine was removed from the airframe. The turbo charger rotated freely by hand. The waste gate was observed in the open position. The oil sump was compressed upward. All six cylinders were examined internally using a lighted borescope and were found unremarkable.

The engine was shipped to the facilities of Continental Motors Inc., Mobile, Alabama for further examination.

The propeller assembly was intact. All three propeller blades remained attached and secure to the propeller hub. Propeller blade "A" was bent aft about 10 degrees at mid span. The blade exhibited multi directional striations throughout its span. A slight amount of leading edge nicks was observed. Propeller blade "B" was bent aft about 10 degrees about 10 inches inboard from the blade tip. The propeller blade exhibited multi directional striations throughout and leading edge polishing near the blade tip. Propeller blade C was bent aft about 90 degrees about mid span and exhibited chordwise scratches through its span and leading edge gouges near the blade tip.

Submitted by: Joshua Cawthra