



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety Alaska Region

Airframe and Engine Examination Summary

August 4, 2017

Lake Hood Airport, Anchorage

A. Accident

NTSB Number: ANC17LA037
Location: Wasilla
Date: July 15, 2017
Aircraft: N401WC, Cessna A185F, S/N 18502235
Engine: Continental IO-520-D139B

B. Background

On July 15, 2017, about 1700 Alaska daylight time, a float-equipped Cessna A185F airplane, N401WC, sustained substantial damage when it nosed over during a forced landing following a complete power loss near Wasilla, Alaska. The airplane was registered to the pilot and was being operated as a personal flight under the provisions of 14 *Code of Federal Regulations* (CFR) Part 91 and visual flight rules (VFR). The private pilot and sole occupant, sustained no injuries. See figure 1.



Figure 1. N401WC Cessna 185 inverted at the accident site. (Courtesy of the FAA)

C. Participants

NTSB Investigator-in-Charge (IIC)
FAA Aviation Safety Inspector
Continental Motors ASI
Mechanic

Noreen Price
Gregory Varner
Nicole Charnon (engine)
Sean Lidey

D. Engine Examination

The engine remained attached to the airframe with all lines intact with no fuel or oil leaks observed. See figure 2. The mixture and throttle control levers were attached and engine control continuity to the fuel metering unit was established. No slippage or binding of the cables was noted.



Figure 2. Continental IO-520 engine during examination.

The top spark plugs were removed and exhibited like new wear indications. A lighted boroscope inspection of the cylinders, piston heads, valves and lower spark plugs was conducted. The propeller was manually rotated and spark was observed at the ignition leads. No anomalies were noted.

Fuel that was drained from the airplane before recovery was poured back into the wing tanks and a replacement battery was installed in preparation for the test run.

The engine started without hesitation and was run at low RPM due to a loose propeller blade. A satisfactory magneto check was conducted at 900 RPM. No anomalies were noted. The engine was shut down normally. See figure 3.



Figure 3. Engine test run.

E. Airframe Examination



Figure 4. Airplane during the airframe examination with evident lift strut damage.

Electrical power was applied; the fuel quantity gauges indicated that the left fuel tank was empty and the right tank was 1/2 full. The Electronics International digital fuel flow gauge indicated

that 61.2 gallons had been used since the last time it was set and 0.8 gallon remained (of the manually set fuel quantity). See figure 5. Fuel samples exhibited qualities consistent with 100 low lead aviation fuel. About 8 gallons of fuel were drained from the right tank and 1.75 gallons from the left, which was less than the tank's unusable amount of 3 gallons. The fuel quantity gauges each indicated empty after draining the tanks. The four fuel tank caps were in place and secure. The fuel tank vents were in place and clear of debris. No leaks were observed. The fuel selector valve and auxiliary fuel pump were functionally tested and operated normally.



Figure 5. Digital fuel “used” and “remaining” indications.

F. Summary

Examination of the airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation. There was no evidence suggesting the cause of the fuel tank imbalance. The left tank had less than usable fuel remaining, and the right tank had about 30 minutes of fuel remaining.