



Wreckage Examination Summary - Engine

NTSB ACCIDENT NUMBER: ANC21FA015

AIRCRAFT REGISTRATION/AIRCRAFT TYPE: N9725Z, Cessna A185E
ACCIDENT LOCATION: Chitina, AK

HISTORY OF FLIGHT

On February 4, 2021, about 1051 Alaska standard time, a Cessna A185E, N9725Z sustained substantial damage when it was involved in an accident about 14 miles northeast of Chitina, Alaska. The commercial pilot and passenger were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 135 scheduled passenger flight.

The airplane broke up in-flight, and the wreckage was scattered over mountainous tree-covered terrain northeast of Chitina on the north side of the Chitina River valley.

Airplane Information

- Airframe Total Time: 6569.75 @ annual inspection on 11/6/2020 (tach time 1026.8)
- Airframe Serial Number: 185-1035
- Tach Time: 1090.6 (at time of accident)
- Model: Continental IO-520-F(3)CD (from engine data plate)
- Engine Serial Number: 553621

- 300HP @ 2,850 rpm; Max Continuous 285 hp @ 2700 rpm
- Engine Time Since Overhaul: 1083.7 @ annual inspection on 11/6/2020 (tach time 1026.8)

Alternator

Aerotech 60amp 14volt
Part Number – D0FF10300J
S/N – 9090226
Work Order – 66445

The alternator drive belt jumped the engine drive pulley and black deposit was observed on the engine timing bracket, consistent with alternator rotation after impact. The outer jacket of a hose adjacent to the fractured pulley was cut; however, the inside diameter was not breached.

Governor

Aero Technologies LLC
Model - PCU5000
Part Number - ATG210760
S/N – 14404963

Magnetos

Left Magneto - Slick
Model Number – 6310
S/N – 07021568

Right Magneto - Slick
Model Number – 6310
S/N – 07051267

The left and right magneto remained attached to their respective installation points. The left magneto generated spark at the top leads of the magneto harness. The right magneto generated spark at the top cut leads of the magneto harness.

Vacuum Pump

Airborne
Part Number - 216CW
S/N – 03NN20

The vacuum pump mounting bracket separated and the vacuum pump drive coupling sheared. The vacuum pump cover was removed, and the rotor was found fractured. The vacuum pump rotated after the cover was removed.

Oil Filter

(handwritten information)

1/16/2021

Tach 1078.3

N9725Z

Propeller

McCauley – Two Blade

Model: D234C58-0

S/N: 786930

The two-blade constant speed propeller remained attached to the crankshaft flange. The crankshaft was fractured behind the crankshaft flange near the front of the engine case. The fractured surface had an angular dull grainy appearance consistent with over stress separation. One of the propeller blades was slightly bent aft and rotated freely in the hub. The other propeller blade was bent aft about 180 degrees with minor leading-edge chunking, chordwise scratching and gouging on the cambered face.

Muffler

The internal baffle was largely missing, and a wire bail was present. No evidence of internal baffle blocking of the exhaust was observed. No cracking or exhaust gas leak signatures were observed in the outer muffler shell.

Engine Summary:

The subject engine was examined on June 23, 2021 at Alaska Claims Services, Palmer, Alaska under the auspices of the National Transportation Safety Board, (NTSB).

The powerplant is a six-cylinder, air cooled, direct drive, horizontally opposed, normally aspirated, fuel injected, internal combustion engine.

The engine remained attached to the airframe by the engine mount; however, three of the Continental engine brackets had fractured. Internal engine and valve train continuity were confirmed as the crankshaft was rotated through the vacuum pump accessory drive gear. Compression and suction were noted on all six cylinders in conjunction with crankshaft rotation. The upper spark plugs were removed and exhibited features consistent with normal engine operation. Both magnetos produce spark at the top leads of the ignition harness. The engine driven fuel pump and fuel control unit remained attached to their respective attach points. The air box separated at the fuel control unit. The vacuum pump mounting bracket separated and the vacuum pump drive coupling was found sheared. Engine control continuity was established from all the cockpit engine controls to the engine. The postaccident engine examination did not reveal any engine anomalies that would have precluded normal operation.