



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

8/31/2017

ENGINE EXAMINATION SUMMARY

WPR17LA187

This document contains 8 embedded images.

A. ACCIDENT

Location: Salt Lake City, Utah
Date: August 24, 2017
Aircraft: N8170M; Cessna 310I
NTSB Investigator-in-Charge: Andrew Swick

On August 24, 2017, about 1400 mountain daylight time, a Cessna 310I, N8170M, experienced power fluctuations from both engines during takeoff from the South Valley Regional Airport (U42), Salt Lake City, Utah. The pilot subsequently made an off-airport landing to an open lot. The airline transport pilot, the sole occupant, sustained minor injuries. The airplane sustained substantial damage. The airplane was registered to Videre Aviation, LLC., and operated by the pilot as a 14 *Code of Federal Regulations Part 91* aerial photography flight. Visual meteorological conditions prevailed and no flight plan was filed for the local flight.

The pilot was not available for an interview; however, he had reported to his representative, that during takeoff initial climb from the runway 16, the airplane did not accelerate as usual, and insufficient runway remained for landing. The airplane was not able to climb, and both engines had fluctuations in power, RPM and fuel flow. The pilot completed the emergency checklist, and feathered the left propeller due the yaw of the airplane. Adequate airspeed could not be maintained for continued flight so the pilot initiated a forced landing to an open lot about one mile south of runway 16. During the forced landing, the airplane struck two power poles. A postaccident fire ensued and approximately one acre of the lot was burned.

The wreckage was recovered to a secure location for further examination.

B. PARTICIPANTS

Andrew Swick-NTSB IIC
Henry Soderlund-Textron Aviation
Chris Lang-Continental Motors Group

C. SUMMARY

Examination of the recovered wreckage was conducted on August 31, 2017 at the facilities of Air Transport in Phoenix, Arizona, by the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), and investigators from Textron Aviation and Continental Motors Group. The examination revealed that both engines were

D. EXAMINATION

The engines and their nacelles were removed from the main wreckage for the purposes of relocation. The propellers separated from the engines during the accident sequence and were found with the main wreckage. The upper engine cowlings were removed and the interior surfaces of both the upper and lower cowling halves were covered in a dark oily residue. The engines exterior surfaces were clean and undamaged.



Figure 1-Aerial view of the main wreckage.



Figure 2-Engines, nacelles, and cowlings.

Propeller Assemblies

The two-bladed propeller assemblies separated from the engines during the accident sequence. The propeller assemblies were found in the debris field.

The left propeller was found intact and the spinner and back plate separated. The left propeller blades had scuffing at the propeller blade tips and slight bending of the entire length of the blades.

The right propeller was found with one blade separation at the midsection of the blade. The spinner separated from the propeller assembly and was crushed and disfigured. The propeller back plate remained attached to the engine. The separated blade had aft bending near the jagged separation surfaces. The other blade remained attached to the hub and had a decreased pitch twist and scuff marks throughout.



Figure 3-Left propeller assembly.



Figure 4-Right propeller assembly.

Left Engine

The left engine remained attached to the engine mounts and nacelle. The exhaust was crushed underneath the cylinders. The tachometer drive cannon plug attachment was not attached. The tachometer drive was intact and the cannon plug attachment was undamaged. The fuel pump was removed from the engine and the drive coupling was found intact. The pump drive was rotated freely by hand and no anomalies were noted. The oil screen cap has loose and improperly twisted safety wire. The oil screen was removed and was clear of debris.



Figure 5-Left engine positioned during the examination.



Figure 6-Left Engine tachometer generator and oil screen cap safety wire.

The cylinder rocker box covers were removed and the cylinder overhead components were covered in residual oil and undamaged. The crankshaft was rotated and thumb compression and valve continuity were attained. The magnetos produced spark at each terminal lead. The sparkplugs were removed and the electrode areas were dark in color. The sparkplug electrode had “worn out-normal” wear conditions when compared to the Champion Aviation Check-A-Plug chart. The fuel nozzles were removed and were unobstructed. The fuel manifold valve was disassembled and undamaged. Fuel was in the manifold cavity and the screen was clear of debris. The fuel control fuel inlet screen was removed and had light amounts of fibrous debris.

The left engine pressure sensing unit was attached to the fuel pump and was found to be stuck in the positive pressure position.

Right Engine

The right engine remained attached to the engine mounts and nacelle. The exhaust was crushed underneath the cylinders. The tachometer drive was undamaged, and the cannon plug was attached. The fuel pump was removed from the engine and the drive coupling was found intact. The pump drive was rotated freely by hand and no anomalies were noted. The oil screen cap has loose and improperly twisted and routed safety wire. The oil screen was removed and was clear of debris.

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Figure 7-Right engine oil screen cap and safety wire.



Figure 8-Right engine alternator safety wire.

Submitted by: Andrew Swick