



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

March 9, 2021

AIRFRAME & ENGINE EXAMINATION SUMMARY

WPR20LA123

This document contains 0 embedded photos.

A. ACCIDENT

Location: Auburn, California
Date: April 18, 2020
Aircraft: Cessna T206, N756TH
NTSB Investigator-in-Charge: Joshua Cawthra

B. DETAILS OF THE INVESTIGATION

1.0 Engine and Propeller Examination

The engine remained attached to the forward portion of the airframe. The aft side of the firewall exhibited thermal damage.

All cylinders, propeller, and engine accessories remained attached to the engine. No mechanical damage was observed to the crankcase. The aft portion of the engine exhibited thermal damage. The aft portion of the oil sump was thermally damaged. After removal of the accessories, melted aluminum and other metals was observed within the accessory gear housing. All accessory gears were intact and oil coated. No damage was observed to any of the gear teeth. Crankshaft to camshaft timing was verified.

The upper left nut on the throttle body “wye” attachment to the fuel pump was missing.

A pair of wire cutters were found on the engine heater cord adjacent to the alternator. A wire was found “pulled out” of the connector (which was fire damaged) on the alternator.

The upper sparkplugs, magnetos, fuel pump, propeller, vacuum pump, alternator, throttle body fuel control unit and oil pump were removed from the engine. A hand tool was attached to the crankshaft propeller flange. Rotational continuity was established throughout the engine and valve train. Thumb compression was obtained on all 6 cylinders.

The induction system was impact and thermally damaged.

The exhaust was impact and thermally damaged.

The turbo was intact, however, was impact and thermally damaged. The turbo impellers rotated freely by hand. The wastegate was intact, however, was thermally damaged. The wastegate linkages were intact.

The throttle body / fuel control remained attached to the engine and was thermally damaged. The throttle and mixture linkages remained attached to their mounts. Prior to removal, the throttle plate was in the full throttle position. The inlet fuel screen was free of debris.

The fuel manifold valve was intact and undamaged. All six fuel injector lines remained attached to the fuel manifold valve. The fuel manifold valve was disassembled. The internal screen

exhibited corrosion type debris. Liquid was observed within the fuel manifold valve cavity. The diaphragm and spring were intact and undamaged. Water finding paste was used to test the liquid and it was positive for water.

The fuel injectors remained intact and secure to each cylinder. All fuel injectors were obstructed by oil, consistent with the engine being upside down for an extended period of time.

The left and right magnetos remained attached to the engine.

The left magneto driveshaft was rotated by hand. Impulse coupling engagement was noted, and spark was produced on all six ignition leads.

The right magneto driveshaft was rotated by hand. Impulse coupling engagement was noted, and spark was produced on all six ignition leads.

The ignition harness was intact.

The upper spark plugs were removed from the engine. All spark plugs were oil soaked and exhibited normal operational signatures.

The oil cooler was intact and exhibited thermal damage.

The oil filter remained attached to the engine and exhibited thermal damage. The safety wire was intact.

The oil pump was thermally damaged. All internal gears were oil coated. The oil pump housing was intact and was unremarkable.

The propeller governor remained attached to the engine. The propeller governor screen was free of debris.

The propeller assembly remained attached to the engine. Propeller blade 1 was loose within the blade hub. Propeller blades 2 and 3 remained secure within the propeller hub. All 3 propeller blades exhibited slight bending opposite direction of rotation.

Submitted by: Joshua Cawthra