

DETAILS OF ENGINE INSPECTION FOR N4244T

Accident Details:

NTSB#: WPR17LA138
Aircraft: Cherokee Piper P-28-140
Tail: N4244T
Serial #: 28-7225103
Owner: [REDACTED]
Date Accident: June 30, 2017
Time: 13:17
Police Report: 17-243274 (HPD)
Passengers: 3
Injuries: 3 Serious Condition, taken to Queens Medical Center
Fatalities: NONE

Accident Location/Details: Mapunapuna Canal Overpass (H-1, just East of Mapunapuna Off-ramp Eastbound), Between Parking staging area (Paa Street) and Ballard Mortuary. Wreckage came to rest under H-1 Overpass at compass: (21 Deg 20' 41.43" N, 157 Deg 53' 36.55" W).

Engine Exam Details:

Location: [REDACTED]
Date: July 12, 2017
Engine: Lycoming O-320
Participants: [REDACTED] – Airframe and Powerplant Mechanic
[REDACTED] – Airworthiness Inspector, FAA
[REDACTED] – Airworthiness Inspector, FAA

An engine exam was performed on 7/12/2017. Mr. [REDACTED] (a certificated Airframe and Powerplant Mechanic) was acquired to perform the maintenance teardown with Mr. [REDACTED] (FAA Airworthiness Inspector) and [REDACTED] (FAA Airworthiness Inspector) both on scene to document and provide guidance per the instructions of Howard Plagens – NTSB.

Airframe and Engine sustained much fire damage at the scene of the accident. Most of the fire was centralized on the aircraft cabin, the FWD Firewall/Bulkhead, and the rear engine compartment. It is evident that the fire burned very hot as there is evidence of molten metal and damage beyond anything recognizable in the aircraft on the control panel. The aircraft was dragged onto a flatbed truck for removal and sustained further damage upon this extraction. You will see from the pictures that the aircraft and the engine were in very poor condition. The cockpit sustained substantial damage to the point that the controls could not be moved or identified for testing.

Initial Visual Inspection (engine):

Upon arrival and prior to any removal, pictures were taken and there was no indication of any catastrophic engine failure (bent push rods, abnormal discoloration, etc.).

Top Spark Plugs

All of the top and bottom spark plugs were removed. Pictures were taken of each spark plug and none appeared to be discrepant.

The connecting electrodes all appeared to be in good shape, minus the ones that had fire damage (the rear cylinders 3&4). Pictures of electrodes are available.

Bottom Spark Plugs:

The bottom spark plugs were removed, and photos were taken. No abnormalities were noted.

Magnetos:

The magnetos (photos) had fire damage on the back cover, to the point that they were melted. They were removed from the engine and they did spin, but the damage was too severe to try for a spark. Pictures are available.

Oil Filter/screen:

The oil filter/screen was destroyed in the fire.

Valve Covers

All valve covers were removed, and nothing appeared abnormal in the housing, the cover or any of the mechanical pieces under the covers. No discoloration on the covers or associated parts, and no evidence of mechanical damage.

Engine Rotation:

The crankshaft was turned and compression (thumb test) existed on all cylinders, in the proper firing order. Movement of all rocker arms, lifters and associated pieces were verified for same relative lift.

Oil Filters:

The oil filter was destroyed in the fire.

Fuel Filters:

The fuel filter was destroyed in the fire, as was the fuel gascolator – the screen was completely melted since it was attached to the firewall. Please see pictures.

Carburetor:

The carburetor was partially destroyed in the fire. The finger screen was damaged in the fire and melted away.

Comments:

The wreckage was in a tow yard lot and just sort of thrown in a corner. A hydraulic lift was resourced from [REDACTED] to hoist the engine up for better access. [REDACTED] backed his van in to access his tools, but there was limited space in a confined area to work. After viewing the condition of the wreckage and based upon the fact that the engine rotated via the crankshaft – it was decided to forego any borescope inspection.