

To: Frank Cartier

South Portland, ME. 04106

ON August 20, 2020 the Flight Standards District Office (FSDO) of South Portland Maine asked if I could witness the tear down of Lycoming engine, S/N L-5759-36, O & OV360 series on Piper PA-28-180 Aircraft S/N 28-1155, N7213W.

I arrived at the Pittsfield, Maine Municipal Airport, (3B7), Curtis Air at 0700 the morning of August 24, 2020.

The following is the order in which the engine was disassembled:

1. A & P Mechanic Fred Delano, certificate [REDACTED] started the engine disassembly by removing the aircraft's engine cowl.
2. The movement of the throttle cable and throttle cable lever on the carburetor was functioning properly. Throttle was full lean.
3. Carb heat unobstructed.
4. Removed carburetor and checked carburetor fuel screen, was clear of debris.
5. Spark plugs were removed, # 1 & 3 bottom were dry, # 2 & 4 bottom were wet.
6. # 1 & 3 top were dry, # 2 & 4 top were dry.
1 top had unknown debris and when tested had no spark.
7. All other spark plugs when tested had spark.
8. Removed starter, was functioning properly.
9. Engine valve covers removed, nothing seemed distorted.
10. Removed oil filter, no debris found, checked engine oil, looked clean.
11. Boost pump checked normal, and the fuel pump switch was in the on position.
12. Fuel and oil samples were taken and placed in a plastic bag, as was the oil filter.
13. The engine's propeller was pulled through, no binding.
14. The engine had no compression when propeller was pulled through.
15. Removed magnetos, when turned by hand their function was normal.
16. All components to the engine's accessory gear box were not functional due to the alignment dowel from the crankshaft gear shearing. The propeller was turned by hand and you could see the crankshaft turn but the crankshaft gear would not engage. The crankshaft gear bolt was loose (approximately 2 to 3 threads, possibly from the alignment dowel shearing) and the safety clip holding the crankshaft gear bolt seemed to turn without much resistance on the bolt.
17. The crankshaft gear, crankshaft gear bolt, and the alignment dowel were placed in a plastic bag.

Signed: Maurice F King
Aviation safety Inspector