



RECORD OF MEMORANDUM

Samantha Link
Aviation Accident Investigator
Western Pacific Region

Date: June 10, 2021
Person Contacted: Mr. Justin Louw (Federal Aviation Administration)
NTSB Accident Number: WPR19LA233

Narrative:

On June 9, 2021, Mr. Louw, Mr. Andrew Danovaro (FAA), and Mr. Chris Hamilton (mechanic from Tri-Valley Aviation) conducted an engine examination on N4237N at the Livermore Airport. During which, the following observations were made:

- Since the accident, the airplane had been stored outside and uncovered. The engine was positioned on the ground underneath the left wing.
 - The engine was pointed upward about 45-degrees and leaned toward the right about 30-degrees.
- The spark plugs were removed from the engine.
 - Both the upper and lower spark plugs from the #4 cylinder, and the lower spark plug from the #3 cylinder exhibited oil and soot bridging the gap between the electrodes.
 - All other spark plugs exhibited black soot build-up on the electrodes and insulator.
- Engine timing was tested and found to be at the required 24 degrees before top center.
- The ignition harness exhibited damage consistent with impact and was unable to be tested.
- The magnetos were removed and disassembled.
 - The points and overall condition of the magnetos were unremarkable.
- The oil filter was removed and opened.
 - The oil appeared clean.
 - No particulates were noted within the filter itself.
- The propeller remained attached at the hub.
 - One blade was bent aft near the root and the other was mostly straight.
 - The propeller was removed from the engine.
- The valve covers were removed from the engine.

- The engine was rotated by hand and thumb compression was established on all cylinders.
 - The valves moved consistently with each other.
- Each cylinder was borescoped and all internal components were consistent with normal operations.
- The carburetor was removed and disassembled.
 - The accelerator pump exhibited extensive rust.
 - The throttle linkage was unable to be manipulated by hand. Once it was disconnected from the accelerator pump, it moved freely from stop to stop.
 - The carburetor jets, mixture valve, float, and float needle and seat were all examined and were consistent with normal operations.
- Mr. Louw provided the below photographs:



Figure 1: Damage to the Firewall and Forward Fuselage of the Airplane

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Figure 2: Engine at the Start of the Examination



Figure 3: Front of Engine and Propeller

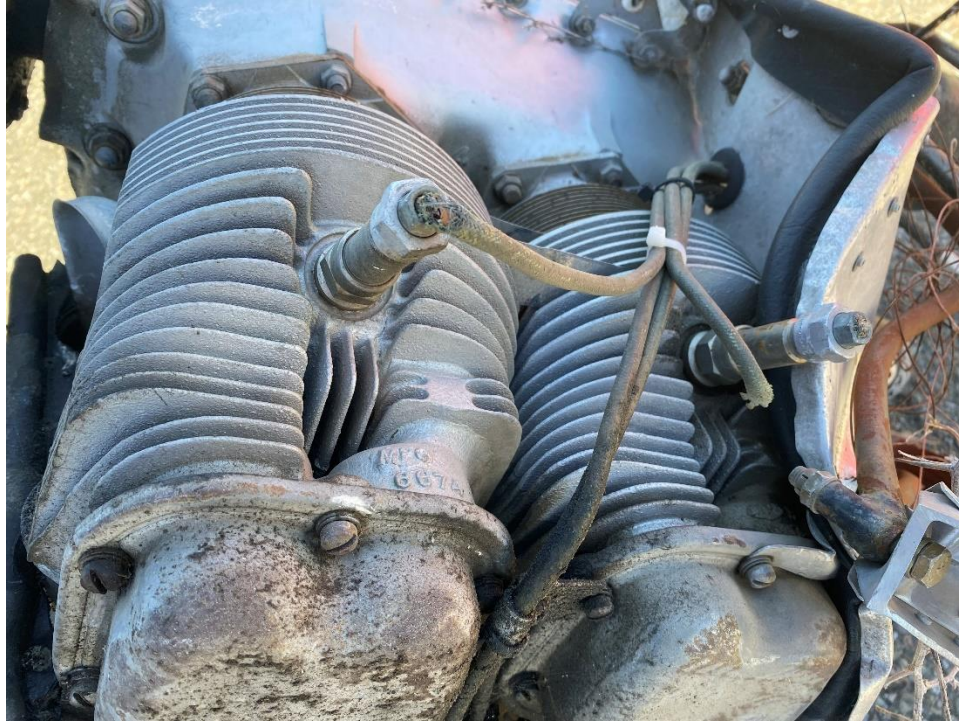


Figure 4: Damage to Ignition Harness



Figure 5: Overview of Spark Plugs



Figure 6: Up Close view of Spark Plugs



Figure 7: The Left side of the Engine



Figure 8: The underside of the Engine



Figure 9: The Right side of the Engine



Figure 10: The Top of the Engine

END. - Submitted by: Samantha Link