



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Central Region

May 27, 2021

ENGINE EXAMINATION

CEN20LA140

This document contains 11 embedded photos.

A. ACCIDENT

Location: Sequin, TX
Date: April 1, 2020
Aircraft: Beech M35, Registration N9883R, Serial #D-6454
NTSB IIC: Michael Hodges

B. EXAMINATION PARTICIPANTS:

Samantha Link
Aviation Accident Investigator
National Transportation Safety Board
4760 Oakland Street, Suite 500
Denver, CO 80239

C. SUMMARY

Examination of the airframe and engine was conducted on May 27, 2021 at the facilities of Wentworth Aircraft Inc. in Lakeville, Minnesota. No anomalies were noted during the examination.

D. DETAILS OF THE INVESTIGATION

1.0 Engine Examination

- The engine remained mostly intact and undamaged. There were no obvious visual indications of catastrophic failure.
- The engine had been separated from the airframe prior to the examination.
 - The airframe was not present for this examination.
 - The oil had been drained post recovery.
- The magnetos remained attached to their mounting pad. Their outside housing exhibited wear.
 - The ignition harness remained attached at the magnetos and their respective spark plugs. The harness condition was overall unremarkable.
- The upper leads and spark plugs were removed and consistent with normal operations
 - Center electrodes were circular, and gaps were present.
- The rocker box covers were removed, and the rocker arms were oily
 - A thin layer of crusty oil was noted on all cylinder heads.
- The engine was rotated by hand with no binding or grinding:
 - Thumb compression was established on all six cylinders.
 - All valves moved evenly.
 - Spark was obtained on all ignition leads.

- All cylinders were borescoped. The piston heads, cylinder walls, lower spark plugs, and valve heads were consistent with normal operating combustion signatures and oil was present throughout.
- The fuel manifold valve was disassembled, and the internal components displayed normal operating signatures.
 - Some minor debris was noted underneath the screen.
 - No fuel was present.
- The fuel servo was found separated from the engine.
 - The throttle arm was secured and moved freely from stop to stop. Corresponding motion was observed on the butterfly valve.
 - The mixture arm was secured and moved freely from stop to stop.
- No fuel was present in the engine or engine fuel lines.
- The propeller governor remained secured to the engine. The control arm moved freely from stop to stop.
 - The propeller hub and blades had been previously removed from the engine and were not present for the examination.
- The engine governor and drive belt remained attached to the accessory section.

1.1 Engine Photos



Figure 1: Front of Engine

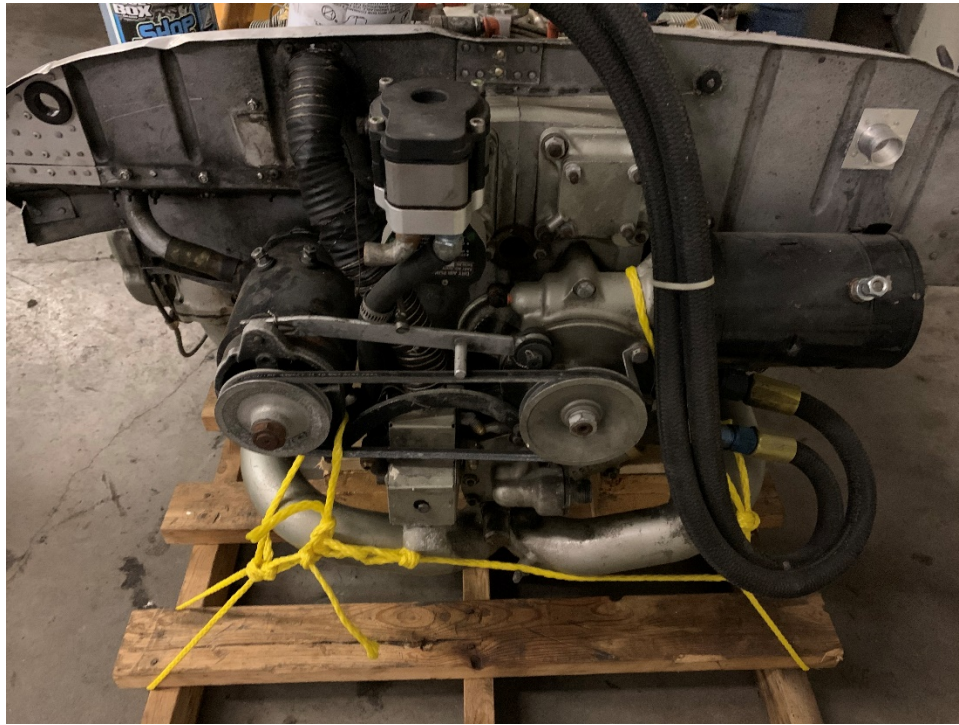


Figure 2: Accessory Section of Engine



Figure 3: Top of Engine

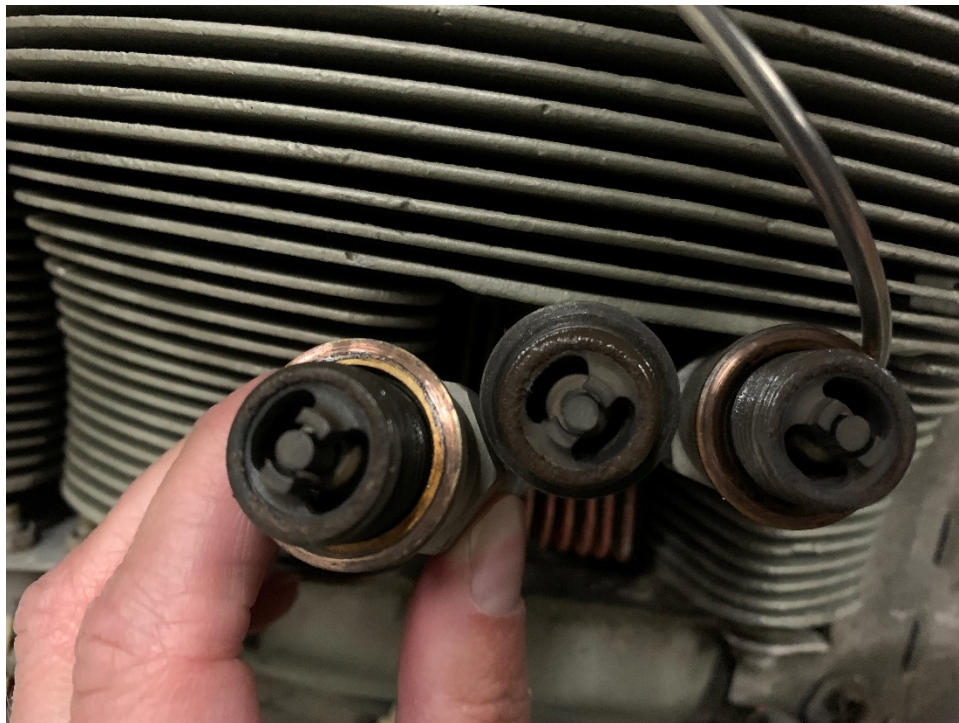


Figure 4: Upper Spark Plugs from 1, 3, 5 cylinders (In order)



Figure 5: Upper Spark Plugs from 2, 4, 6 cylinders (In order)

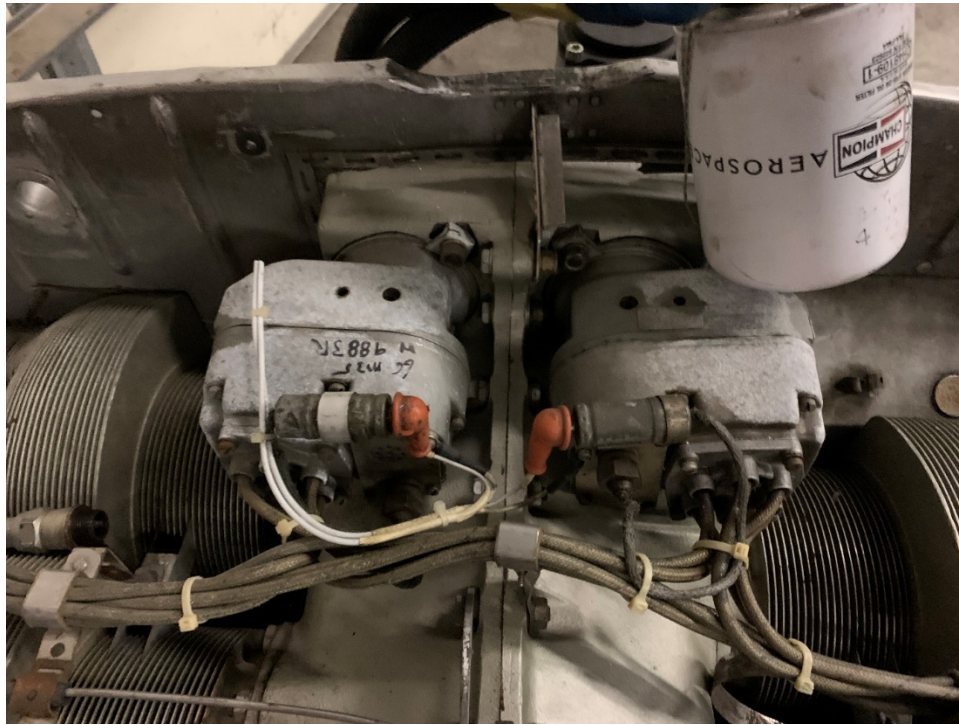


Figure 6: Magnetos



Figure 7: Fuel Servo



Figure 8: Internal Components of Fuel Manifold Valve



Figure 9: Debris inside of Fuel Manifold Valve



Figure 10: Left Side of Engine



Figure 11: Right Side of Engine

END.

Submitted by: Samantha Link