



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

March 16, 2017

ENGINE EXAMINATION

WPR17LA072

This document contains 8 embedded photos.

A. ACCIDENT

Location: Carson City, Nevada
Date: March 1, 2017
Aircraft: Bellanca 17-30A, Registration #N39894, Serial #73-30544
NTSB IIC: Samantha Link

B. EXAMINATION PARTICIPANTS:

Samantha Link
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C. SUMMARY

Examination of the engine was conducted on March 16, 2017 at the facilities of Faeth Aircraft Parts in Sacramento, California. No anomalies were noted during the examination, and the engine was prepared for shipping to Continental Motors for further examination.

D. DETAILS OF THE INVESTIGATION

1.0 Engine Examination

- The throttle and mixture controls were manipulated within the cockpit, both control arms on the fuel servo moved from stop to stop with no binding or seizing.
- The propeller control was moved in the cockpit and corresponding motion was observed on the propeller governor control arm.
- This engine is equipped with sensors for a JPI, however, there was no JPI Instrumentation within the cockpit. The Federal Aviation Administration informed us that the pilot had removed the JPI from the instrument panel and sent it in for repair prior to the accident.
- The fuel pump low end adjustment screw was secured and was resting against intake tubing.

- The fuel pump was removed and the drive coupling was intact. The fuel pump was rotated by hand and a little fuel pumped out of the unit.
 - The fuel that pumped out of the unit smelled like aviation 100LL fuel.
- The propeller was removed from the engine:
 - One propeller blade was undamaged
 - The outboard about 6 inches of the second propeller blade was curled aft and sustained heavy scrape damage
 - The third propeller blade was heavily damaged and was curled, similar to a spiral, throughout.
- The top spark plugs were removed and they were “normal” when compared to the Champion check-a-plug chart.
- The engine was rotated by hand and it rotated freely and spark was obtained on all top spark plug leads. In addition, thumb compression was obtained on all cylinders.
- The lower spark plugs were removed and they were “normal” when compared to the Champion check-a-plug chart.
 - Spark was obtained on all lower spark plugs when the engine was rotated.
- The right wing inboard fuel tank was exposed and the fuel lines to the airframe were intact and secured.
- The left wing inboard fuel tank was not exposed. The faring was removed and the fuel lines to the airframe were slightly visible.
- The cylinders were borescoped and all cylinders exhibited normal operating combustion signatures.
- The fuel selector was seized and unable to be manipulated due to airframe deformation and it was unable to be moved or removed from the airframe.
- Air was blown from the engine driven fuel pump inlet line, through the fuel selector, and air/fuel came out of the left wing fuel tank outlet.
- The exhaust system was removed from the 2, 4, 6 cylinder side of the engine and the inside of the exhausted appeared normal.
 - Crush damage was noted on the tailpipe.
- The exhaust system could not be removed from the 1, 3, 5 cylinder side of the engine due to deformation of the exhaust.
 - It was noted that the tailpipe was crushed.

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1.1 Photos



Figure 1: Left and Right Sides of Engine



Figure 2: View from the Front



Figure 3: The “third” Propeller Blade



Figure 4: The Fuel Selector

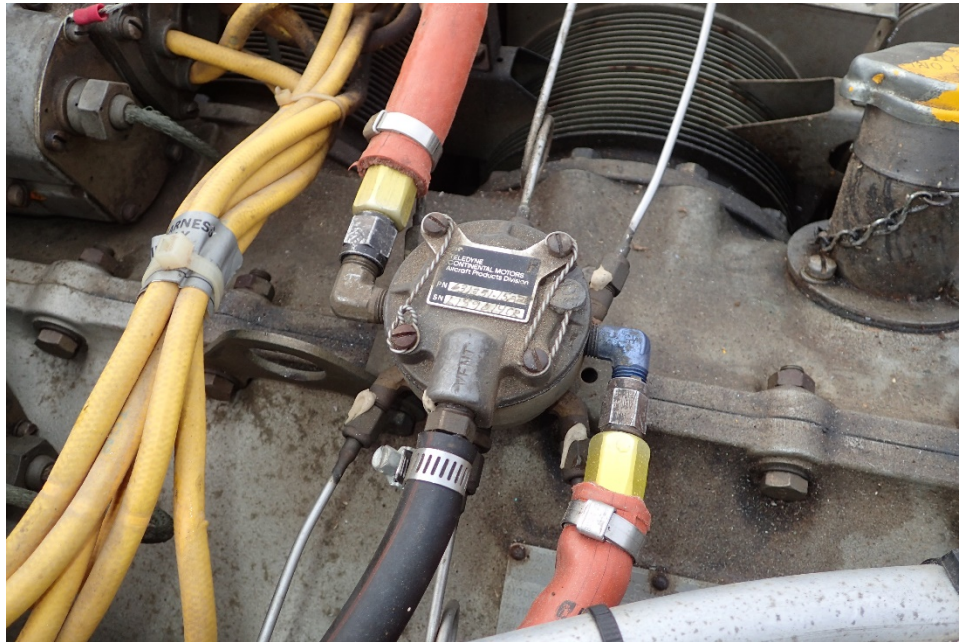


Figure 5: The Fuel Manifold

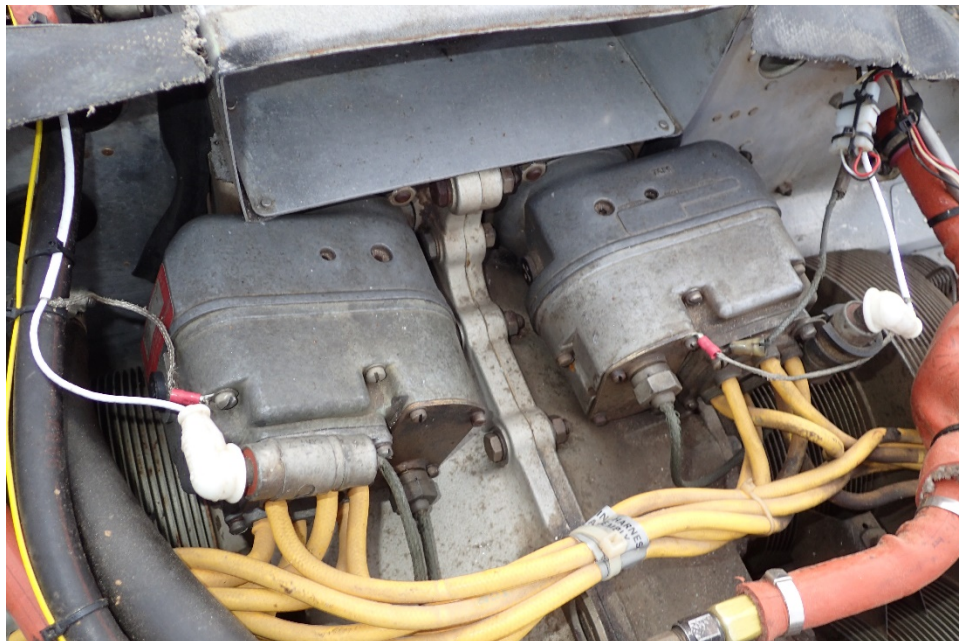


Figure 6: The Magnetos



Figure 7: Cylinders 5, 3, and 1 upper and lower spark plugs



Figure 8: Cylinder 2, 4, 6 top and bottom spark plugs

END.

Submitted by: Samantha Link