



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

December 15, 2022

ENGINE EXAMINATION SUMMARY REPORT

WPR22LA317

This document contains 6 embedded photos.

A. ACCIDENT

Location: Boulder City, Nevada
Date: August 26, 2022
Aircraft: N916CA
NTSB IIC: Andrew Swick

B. EXAMINATION PARTICIPANTS:

Andrew Swick
Aviation Accident Investigator-IIC
National Transportation Safety Board
Phoenix, Arizona

Jordan Paskevich
Chief Accident Investigator
Rotax Aircraft Engines
Vernon, British Columbia, Canada

C. SUMMARY

The examination revealed no evidence of preaccident mechanical malfunctions or anomalies that would have precluded normal operation. Engine data from the Dynon onboard instrument was downloaded which revealed multiple engine parameters.

D. ENGINE EXAMINATION

The Rotax 912iS Sport engine remained attached to the airframe during the examination. The Neuform CR3-65-(IP)-47-101.6, three-bladed propeller assembly remained attached to the crankshaft propeller flange. The engine cowling was crushed on the right side. The propeller spinner separated, and the propeller blades had impact damage. The upper and lower cowlings were removed, and damage was noted to the upper right side of the firewall area near the upper right engine mounting tube. The right exhaust stack separated from the exhaust muffler inlet flange. The muffler stack attachment springs remained attached and were stretched. Engine control continuity was established from the cabin area to the engine.

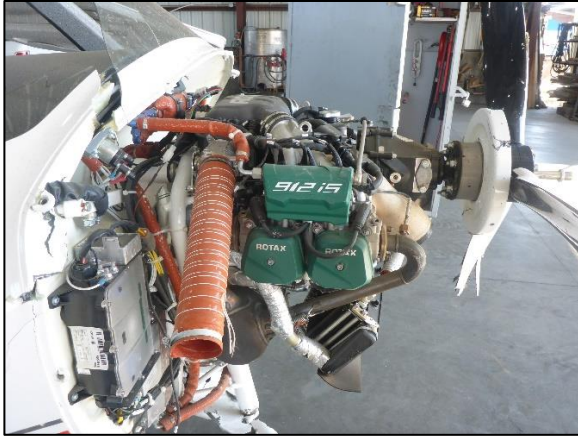


Figure 1-Right forward side view of the airplane.



Figure 2-Forward side view of the propeller and airplane.

The BRP spark plugs (297-656) were removed from the engine. The spark plugs electrodes had minimal wear and the electrode areas had white combustion deposits. According to Rotax, the white deposits were consistent with the engine operating Avgas 100LL fuel.

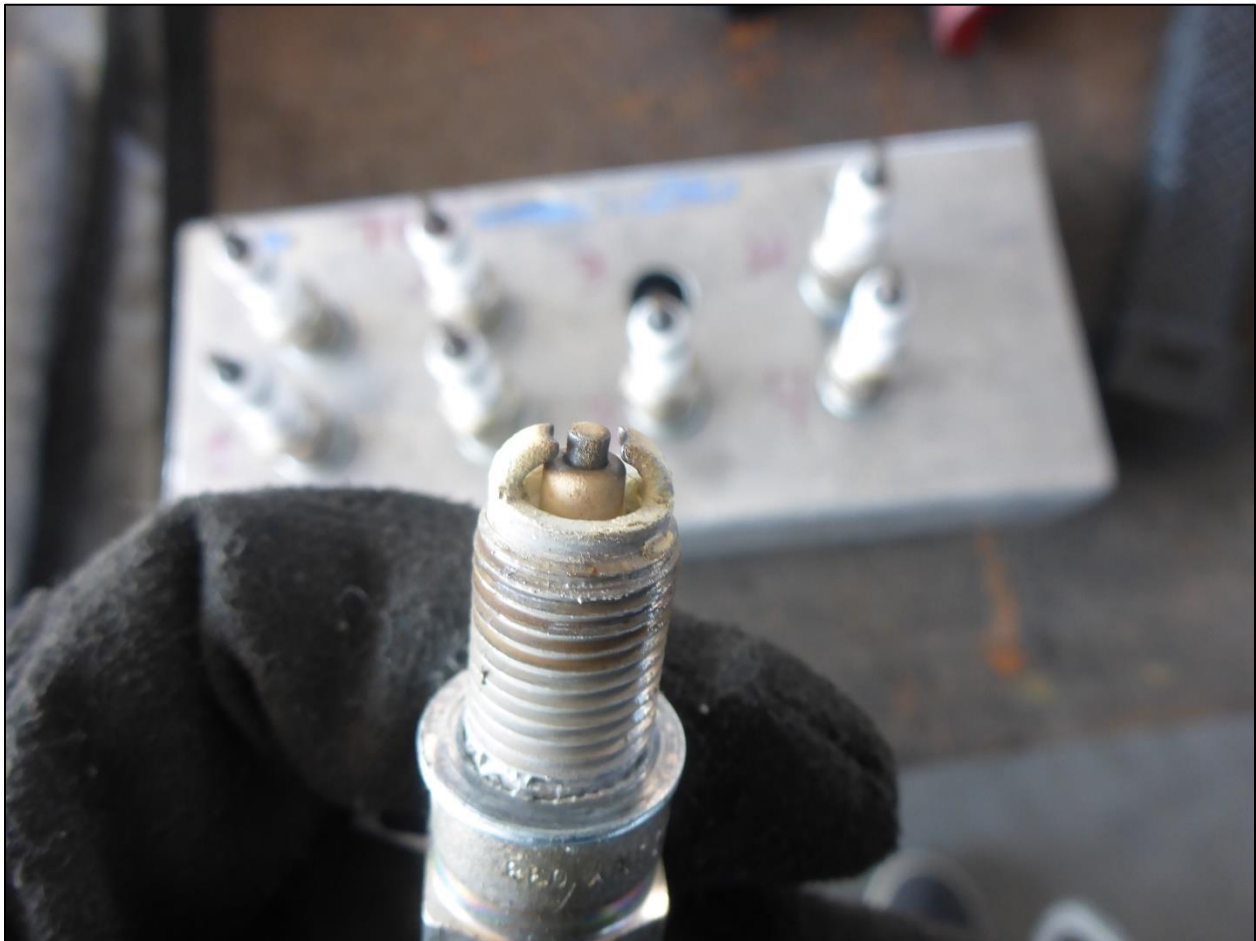


Figure 3-No. 3 spark plug electrode area.

The ignition system was examined, and no anomalies were noted.

The fuel pumps were removed from the firewall area and tested. The fuel pumps operated normally, and fuel flowed freely. The gascolator was removed and disassembled and contained a couple ounces of fuel. The fuel selector valve was opened from the Left to Right position, and fuel flowed from the gascolator. The fuel captured had a light green appearance.



Figure 4-Gascolator bowl removed.



Figure 5-Fuel captured.

The oil dip stick was checked and contained a quantity that was overfull and beyond the mix limit indication. The propeller assembly was rotated by hand and returning oil flow was confirmed back to the tank. The oil system had an aftermarket oil thermostat installed.



Figure 6-Oil tank dip stick.

The cylinder combustion areas were examined with a lighted boroscope and no damage was noted. Cylinder piston and overhead components moved freely during crankshaft rotation. Thumb compression was established on all cylinders.

The cooling system was undamaged, and coolant was found in the expansion tank and overflow bottle.

The induction air filter was removed and was slightly crushed. The filter pleats were dirty and unobstructed.

Submitted by: Andrew Swick