



NTSB MEMORANDUM FOR RECORD

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Eastern Region, Office of Aviation Safety (ERA)
National Transportation Safety Board

Date: July 17th, 2019
Person Contacted: Jordan Paskevich (Rotax Engines)
NTSB Accident Number: ERA19FA200

Narrative:

The following record is a summary of notes provided by Jordan Paskevich, Rotax Engines, from his examination of the engine onboard N661PF. His examination was supervised by Michael Salas, Federal Aviation Administration (FAA) inspector from the Nashville, Tennessee office. The examination was conducted after the airplane had been transported to AMF Aviation in Springfield, Tennessee. Additional engine examination notes were included from the examination of the engine at the accident site, which were produced by the NTSB investigator-in-charge.

Engine

Rotax Engine Model Number: Rotax 912 UL
Rotax engine serial number: 4406283

Examination of Engine at the Accident Site

The throttle lever was found full forward. The engine choke lever was stowed. The ignition switches were both found in the on position by the first responders and were moved to off during their activities. The on/off fuel shut off valve (SOV) was found on and was moved to off by the first responders. Low pressure air was blown through the fuel SOV with the valve open, and air flowed freely.

The engine remained attached to the firewall and sustained impact damage. The crankshaft was rotated by hand and valve train continuity was established. All cylinders remained attached to the crankcase and thumb compression and suction was attained on all cylinders. All spark plugs were removed and displayed normal operating and combustion signatures. The left and right carburetors remained intact. When both were opened, fuel was observed inside the bowls and no debris was found. The propeller hub contained fragment splinters of the propeller blades, and the majority of the blades had separated from the hub.



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Follow-up Engine Examination Notes (FAA, Rotax Engines)

Spark Plugs

Each spark plugs were in good condition and displayed normal operating combustion signatures.

Ignition System

The ignition system functioned normal during an engine test run (reference engine test run section below)

Fuel System and Carburetors

Both carburetor float bowls were free of debris and contamination. Both carburetor butterfly valves sustained impact damage. The pierburg fuel pump functioned normally during the engine test run.

Oil System

There were no anomalies observed with the oil filter and lubrication system. The oil filter sustained impact damage.

Cylinders

There were no anomalies observed during an engine test run.

Air Filter System

There were no anomalies observed during an engine test run. The air filter sustained impact damage.

Gearbox, Crankcase, and Crankshaft

There were no anomalies observed with the engine's valve train continuity.

Engine Test Run

The engine was test run, utilizing an external fuel source. The engine rotated and started normally through its ignition system and produced power for a short period of time until the fuel source was removed.



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Photographs of Engine



Photo 1: View of the left side of the engine



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Photo 2:View of the right side of the engine



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Photo 3: View of the right side of the engine and the propeller fragments



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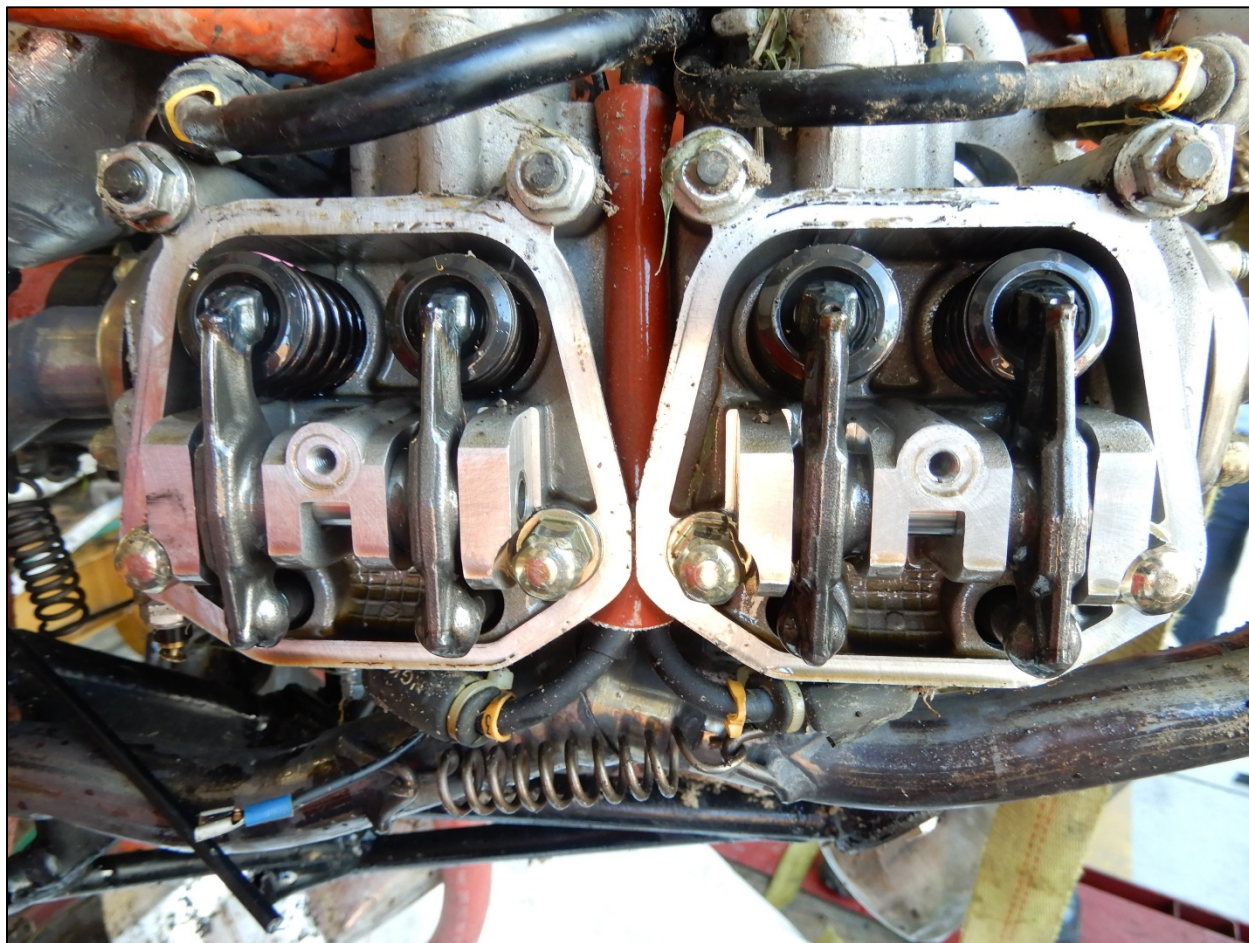


Photo 4: View of the right side of the engine with the cylinder covers removed



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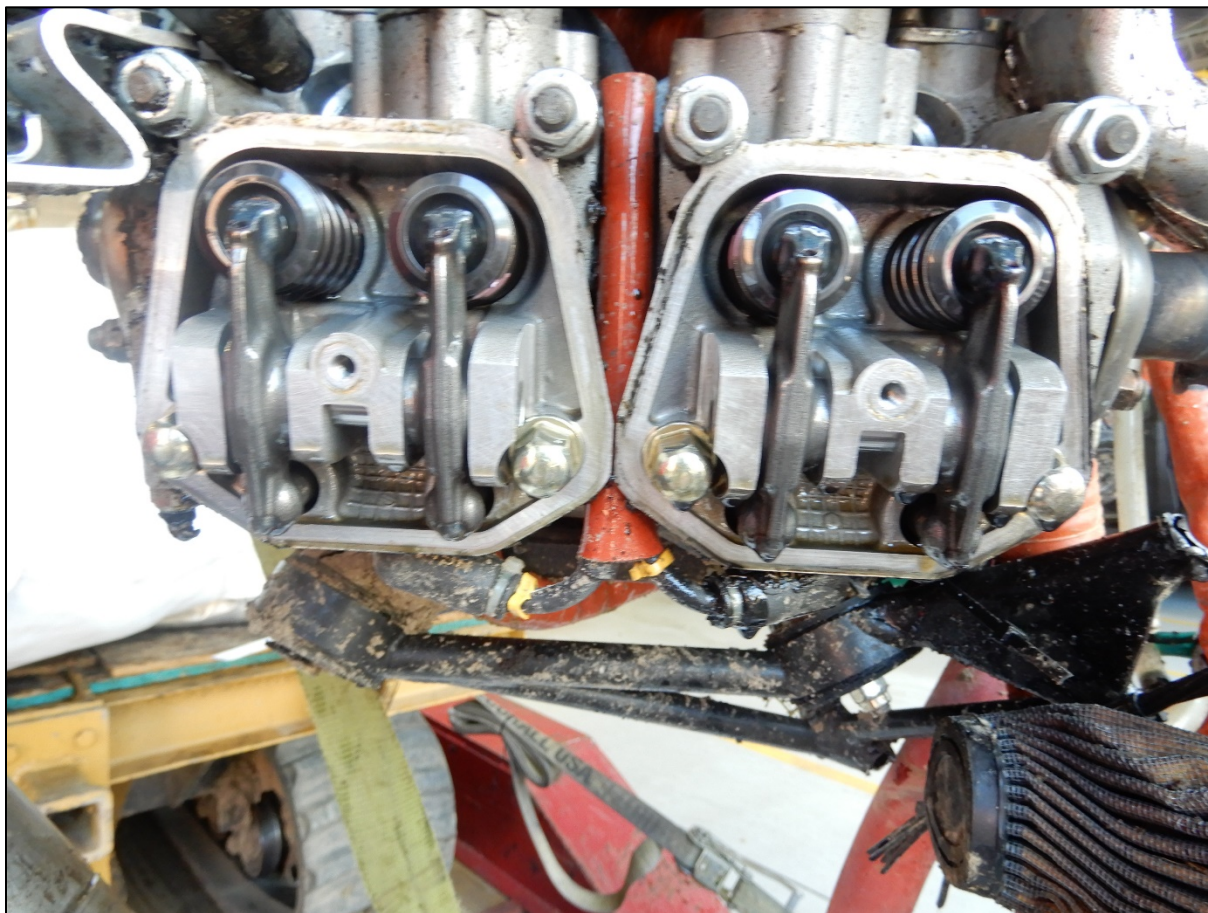


Photo 5: View of the left side of the engine with the cylinder covers removed



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Photo 6: View of the carburetor float bowl with remnants of fuel inside



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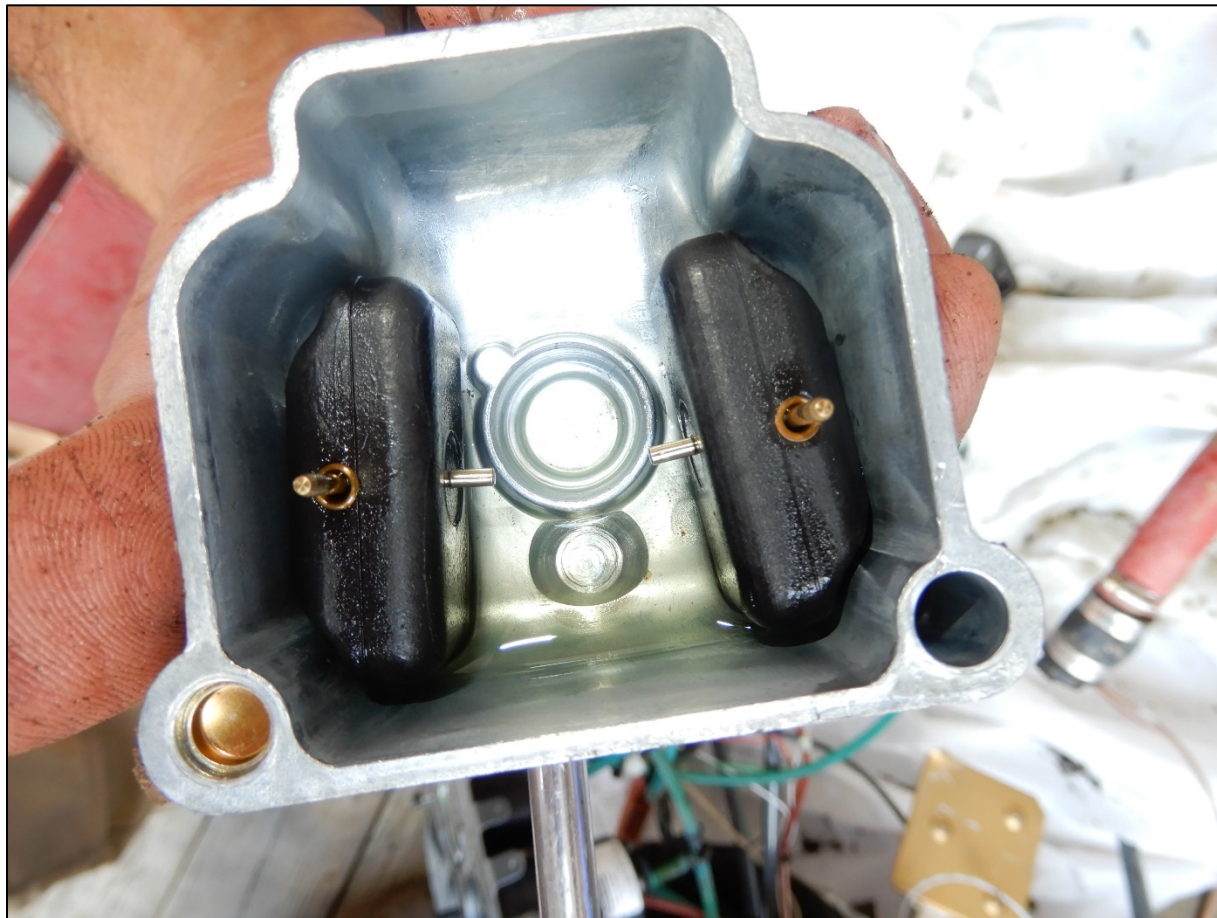


Photo 7: View of the carburetor float bowl with remnants of fuel inside