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Region

Attendees: NTSB (Todd Gunther), Rotax (Jordan Paskevich)
Aircraft: Pipistrel Sinus 912 LSA
Aircraft registration: N6263R
Date of Examination: 10/15/2020

This information was gathered during the examination of N6263R and sent via email to the NTSB regarding the engine examination of N6263R. The maintenance records (MX) were not available at the time of examination but were received at a latter date. Review of the MX records did not reveal any discrepancies.

Initial condition of Engine as presented prior to detailed inspection:

- ***Substantially damaged from the post impact fire***
- ***Fuel pump broken off at base. Top of fuel pump not present for examination***
- ***1/3 Carburetor not present for examination***
- ***2/4 Carburetor displaced from intake manifold***
- ***1/3 side of engine experienced greater post fire impact damage then 2/4 side***
- ***Propeller hub still attached to reduction gearbox. 1 of 2 blades was broken off at base and the other blade still had approximately 4 inches remaining.***
- ***Exhaust system substantially damaged and exhaust can muffler not present for examination.***
- ***Ignition system substantially damaged and partially consumed by the post impact damage***
- ***2/4 intake manifold substantially damaged from post impact fire***
- ***Engine was still attached to the engine mount and fire wall***

Detailed Engine Inspection

Spark Plugs & Spark plug Caps:

- ***2/4 spark plug caps were consumed by the post impact fire. Spark plugs were examined after the cylinder heads were removed. No anomalies noted.***
- ***1/3 spark plug caps were damaged from the post impact fire. Spark plugs were examined after the cylinder heads were removed. No anomalies noted.***

Ignition System:

- ***Substantially damage and mostly consumed by the post impact fire. Could not be tested due to poor condition***

Fuel System including carb inspection and fuel lines:

- ***Only the 1/3 carburetor was available for examination. The 1/3 carb float bowl was not attached to carburetor and could not be examined. The Carb floats were consumed by the post impact fire. No anomalies were seen with the 1/3 carb. Fuel lines were consumed by the post impact fire and only fires eve remained.***

Fuel supply including fuel pump:

- ***The fuel pump was broken off at the base and the top portion with diaphragm was not present for examination. No other anomalies were noted***

Lubrication system:

- ***Oil lines were consumed by the post impact fire. Oil tank was substantially damaged by impact and the post impact fire damage.***
- ***The oil pump was removed and examined. No anomalies were seen with the oil pump.***
- ***Oil lubrication could be seen thought the engine. No evidence of oil starvation was found.***
- ***Oil filter was damaged by the post impact fire damage***

Cylinder and cylinder head:

- ***# 1 Cylinder and Cylinder head was removed. The combustion chamber was filled with engine oil. No anomalies were found with the cylinder head or cylinder.***
- ***# 2 Cylinder and Cylinder head was removed. The combustion chamber contained a small amount of oil. No anomalies were found with the cylinder head or cylinder.***
- ***# 3 Cylinder and Cylinder head was removed. No anomalies were found***

- *# 4 Cylinder and Cylinder head was removed. No anomalies were found*

Push rod valve train:

- *All pushrods removed from cylinder heads and examined. No anomalies were found with the pushrods.*

Cooling system:

- *The coolant radiator was not present for examination.*
- *The coolant lines were consumed by the post impact fire*
- *The water pump was removed and examined. No anomalies were seen with the water pump*

Air Filter system

- *The air filters were consumed by the post impact fire.*

Exhaust system:

- *The exhaust system was substantially damage from the post impact fire. The exhaust can muffler was not present for examination.*

Gearbox:

- *The gearbox was removed from the engine. The propeller shaft was pushed aft (from impact) into the crankcase and the large propeller shaft gear made an imprint tooth stamp on the crankcase. The propeller shaft bearing and retainer bolts were damaged from impact.*

Crankcase and crankshaft:

- *The crankcase was disassembled and inspected. A tooth stamp from the large gear contained within the gearbox was seen on the case half's behind the gearbox. No anomalies were seen with the crankcase.*
- *The crankshaft was removed and examined. A straight edge was placed onto the crankshaft lobes to determine if it was twisted. The crankshaft was straight and did not appear to be twisted or damaged. No anomalies seen with the crankshaft.*

Engine Maintenance and Journey Log

- *Not available for review at this time*

