Report of Findings

Date of accident:	May 6 2019
Location of accident:	Chelan Lake Airport
Aircraft registration:	N825PW
Aircraft type:	Just JA30
Engine type and S/N:	Rotax 914 UL S/N 7683354
NTSB or TSB file number:	WPR19FA133
Date of Report:	May 7 2019
File number:	2019-026

Original Accident Location;

Chelan Lake Airport

Preliminary engine inspection

Inspection carried out at: Lake Aero

Date of inspection: May 7 2019

Persons in attendance

Oversight by NTSB/FAA personnel:

Mrs. Maja Smith out of the Western Reginal NTSB Office.
Mr. Christopher A. Lang Spokane Flight Standards District Office [redacted]

Additional attendees:

William D. Mutter Owner of Lake Aero [redacted]

ENGINE

Rotax Engine Model Number; Rotax 914UL

Rotax engine serial number; 7683354

OVERVIEW

- See NTSB preliminary report
- Crashed shortly after take-off (See airport video footage of accident)

Initial condition of Engine as presented prior to detailed inspection

- Engine, engine mount and firewall all separated from wreckage
- Substantial damage from Post impact fire
- Both carbs displaced from intake manifolds
-Ignition system partially consumed by post impact fire
-Coolant and oil hoses consumed by post impact fire
-exhaust system complete and remained attached
-Oil tank still mounted to fire wall

Detailed Engine Inspection

Spark Plugs & Spark plug Caps

-Plug wires and caps consumed by fire
-Plugs examined after cylinder heads were removed.
-NGK DPR9EA 9
-All plugs appeared normal with no anomalies noted

Ignition System

-Modules were consumed by post impact fire.
-Coils were partially consumed by post impact fire
-Ignition wires consumed by post impact fire

Fuel System including carb inspection and fuel lines

- Both carbs were found displaced from intake manifolds and substantially damaged from post impact fire
-1/3 Carb main jet was clear of obstruction and size 156
-2/4 Carb main jet was not present for inspection and the mixing tube was substantially damaged from fire.
-Fuel pressure regulator was found sitting on top of engine. Only the stainless steel fuel line was found still attached.

Fuel supply including fuel pump
- Electric fuel pumps were not present during examination and could not be examine

Lubrication system

- All rubber oil lines were consumed by post impact fire
- Oil pump appeared to be in normal operational condition with no anomalies seen
- Stainless steel oil lines still intact and connected to oil pump and turbo

Cylinder and cylinder head

#1 Cylinder head – Removed and inspected. No anomalies seen
#2 Cylinder head – Removed and inspected. No anomalies seen
#3 Cylinder head – Removed and inspected. No anomalies seen
#4 Cylinder Head – Removed and inspected. No anomalies seen

Removed all cylinders and inspected. No anomalies seen with cylinders and cylinder bores.

Examined all pistons. No anomalies seen with any of the pistons.

Rotary Valve train

Valve train inspected and no anomalies seen
Removed most of the hydraulic lifters (the ones that were free of melted o-ring) and inspected with no anomalies seen

Cooling system

Coolant lines consumed by the post impact fire
Coolant pump appeared to be normal condition

Air Filter system

- Consumed by post impact fire

Exhaust system

Removed exhaust pipe from Cylinder heads. No anomalies seen with exhaust system and it appeared to be in good condition.

Gearbox

Removed gearbox from engine. Inspected the internal components. No anomalies seen with gearbox and evidence of oil lubrication was seen. The gearbox would not rotate normally due to the damage from the post impact fire.

Crankcase and crankshaft

The crankcase appeared to be in normal condition and undamaged. Crankshaft was inspected through the piston bore holes. No anomalies seen with the crankshaft

Engine Maintenance and Journey Log (review all logs and note all maintenance entries, engine times, service history and bulletin compliance and retain copy for records or note lack of);

Copy of log books provided

Summary

No mechanical anomalies were found with the engine components that were examined