

Report of Findings

Date of accident: 12/14/2018
Location of accident: Fredericksburg, VA
Aircraft registration: N350FT
Aircraft type: Quicksilver MXL11 port
Engine type and S/N: Rotax 582 mod 99 S/N
6759681
NTSB or TSB file number: ERA19FA066
Date of Report: 7/15/2019
File number: 2018-056

Original Accident Location;

Fredericksburg, VA, USA.

Preliminary engine inspection

Inspection carried out at: South Mississippi Light Aircraft

Date of inspection: 7/15/2019

Persons in attendance

Oversight by NTSB/FAA personnel:

Allan Crabbe – [REDACTED]

ENGINE

Rotax Engine Model Number: Rotax 582 99

Rotax engine serial number: S/N 6759681

OVERVIEW

See NTSB Preliminary

Initial condition of Engine as presented prior to detailed inspection

Chute cable was found wrapped around the propeller shaft. This is an indication the engine was running at the time of impact. The gearbox prop shaft seal was damaged from the chute cable being wrapped around shaft

Detailed Engine Inspection

Spark Plugs & Spark plug Caps

Appeared to be in good physical condition. The #1 PTO plug cap was black and not a Rotax spark plug cap (NGK)

Ignition System

Ignition was tested operational during test run. No anomalies found.

Fuel System including carb inspection and fuel lines

- MAG Carb displaced from intake socket – Mag float bowl vent lines were blocked with a crusty foreign substance. - The float bowl was removed and found to have corrosion and contamination contained within. 165 main jet not blocked or obstructed. Float weight 5.9 grams dry.
- PTO Carb was still attached to the carb socket- The float bowl was removed and found to have corrosion and contamination contained within. 165 main jet not blocked or obstructed. Floats weighed dry 6 grams. Float bowl vent lines were blocked with a crusty foreign substance. Carburetors were not mechanically balanced as the piston slide protruded below the bore at full throttle
- MAG carburetor primer line was broken off at attachment point. This could cause a lean running condition.

Fuel supply including fuel pump

Fuel lines are old and required replacement.

Original aircrafts fuel pump came with the engine for testing

Lubrication system

- Oil injection installed. Oil injection lines are wet and appear to be slightly leaking. When the MAG carb was removed a buildup of injection oil was sitting in the intake manifold indicating the injection pump check valve was not seating/sealing correctly.

Cylinder and cylinder head

Removed exhaust Y pipe and examined the sides of the pistons and cylinder walls. A buildup of dirt was found in the exhaust ports. It is believed this dirt entered from the exhaust system post-accident as no dirt was seen on the intake side of the engine.

Rotated the replacement propeller by hand and established compression and continuity

Rotary Valve train

Rotated propeller and established rotation and continuity

Rotary valve lubrication tank had oil present.

Cooling system

- Cooling system was not breached and coolant was still present in radiators. No overflow bottle was attached to the over flow line of the coolant radiators

Air Filter system

-The filter elements were grey and appeared dry with no dust protection oil on the elements. Filter was crushed due to impact damage

Exhaust system

Externally rusty but appeared in good overall condition and appeared unmodified.

Gearbox

The engine reduction gearbox was removed and replaced with another one with a good prop shaft seal. The gear oil that was remaining within the gearbox appeared to be old and dirty and required replacement.

Crankcase and crankshaft

Examined the crankshaft connecting rod at the point of connection to the crankshaft. No anomalies found and the crankshaft and connecting rods appeared to be in good overhaul condition with no corrosion present.

Engine Maintenance and Journey Log

- Not available for review