

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR22LA263

ENGINE EXAMINATION

10/18/2023

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A. ACCIDENT

Location: Bothell, Washington
Date: July 19, 2022
Time: 22:00 Pacific Daylight Time
Airplane: N8787G

B. ENGINE EXAMINATION

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C. DETAILS OF THE EXAMINATION

1.0 Engine Examination



Figure 1. View of engine

Engine: Jabiru 3300A
Serial Number: 33A 453

Total time: About 252.1 hours

The owner coordinated the removal of the wreckage from the accident site, and it was transported to a private residence in Chattaroy, Washington. A subsequent engine examination was conducted on October 11-12, 2023.

The engine (figure 1) remained attached to the engine truss, with which remained attached to the firewall. The baffles were found secured to the engine. The starter remained secured and was unremarkable. The distributor caps and wires were secured. The Bing carburetor (figure 2) was secured. The throttle and mixture levers moved freely without binding when manually actuated from the cockpit control levers; the corresponding choke plate moved freely and simultaneously with the throttle mechanics. Both floats were intact and moved freely (figure 3). Traces of fuel was found in the fuel bowl and inlet line from the fuel pump. The fuel pump and its corresponding fuel lines were secured. The induction body and assembly and exhaust pipe set remained secured to the engine and sustained minor damage consistent with impact.



Figure 2. View of carburetor

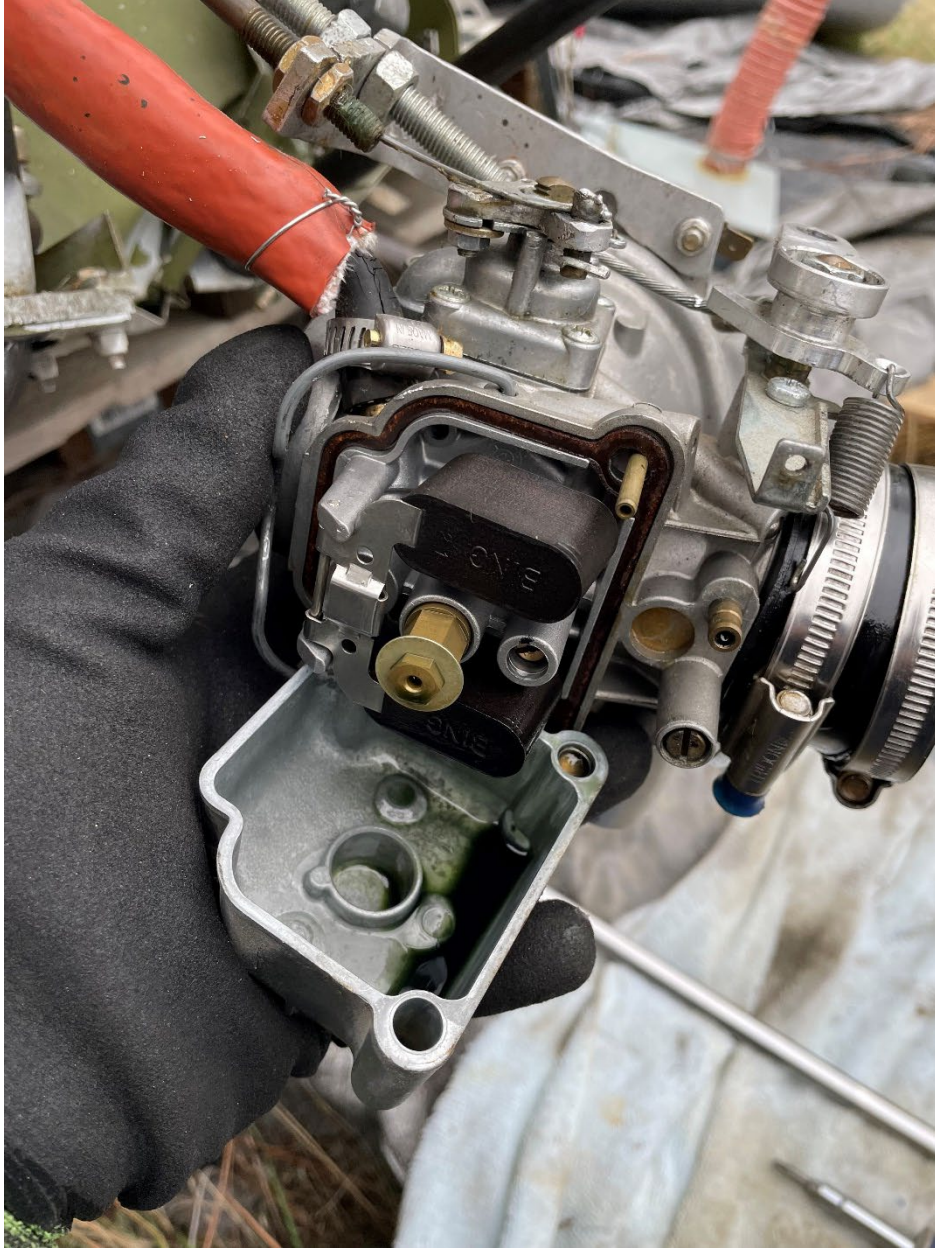


Figure 3. View of carburetor filter bowl removed revealing floats

The oil filter was secured and found unremarkable. The oil sump and case (figure 4) sustained damage consistent with impact. Traces of oil was found when the oil case after it was removed from the engine case. The oil cooler remained secured to its mounting pad, while slightly deformed, as it sustained damage consistent with impact.



Figure 4. View of removed engine oil sump and case

All spark plug wires were secured to its corresponding spark slug. The (6) intake (figure 5) and (6) exhaust spark plugs (figure 6) were removed and found to have carbon on the surfaces of each ground & central electrodes and threads.



Figure 5. View of removed intake spark plugs



Figure 6. View of removed exhaust spark plugs

After the engine baffles and rocker covers were removed, the crankshaft was manually rotated using the propeller and compression was established in each of the six cylinders. However, the intake and exhausts valve train had no movement.

Subsequently, the flywheel and starter ring were removed (figure 7) and it revealed that the cap bolts which secured the flywheel assembly to the crankshaft had separated, consistent with torsional failure (figure 8). The flywheel assembly and the gear crankshaft were removed and secured for further testing.

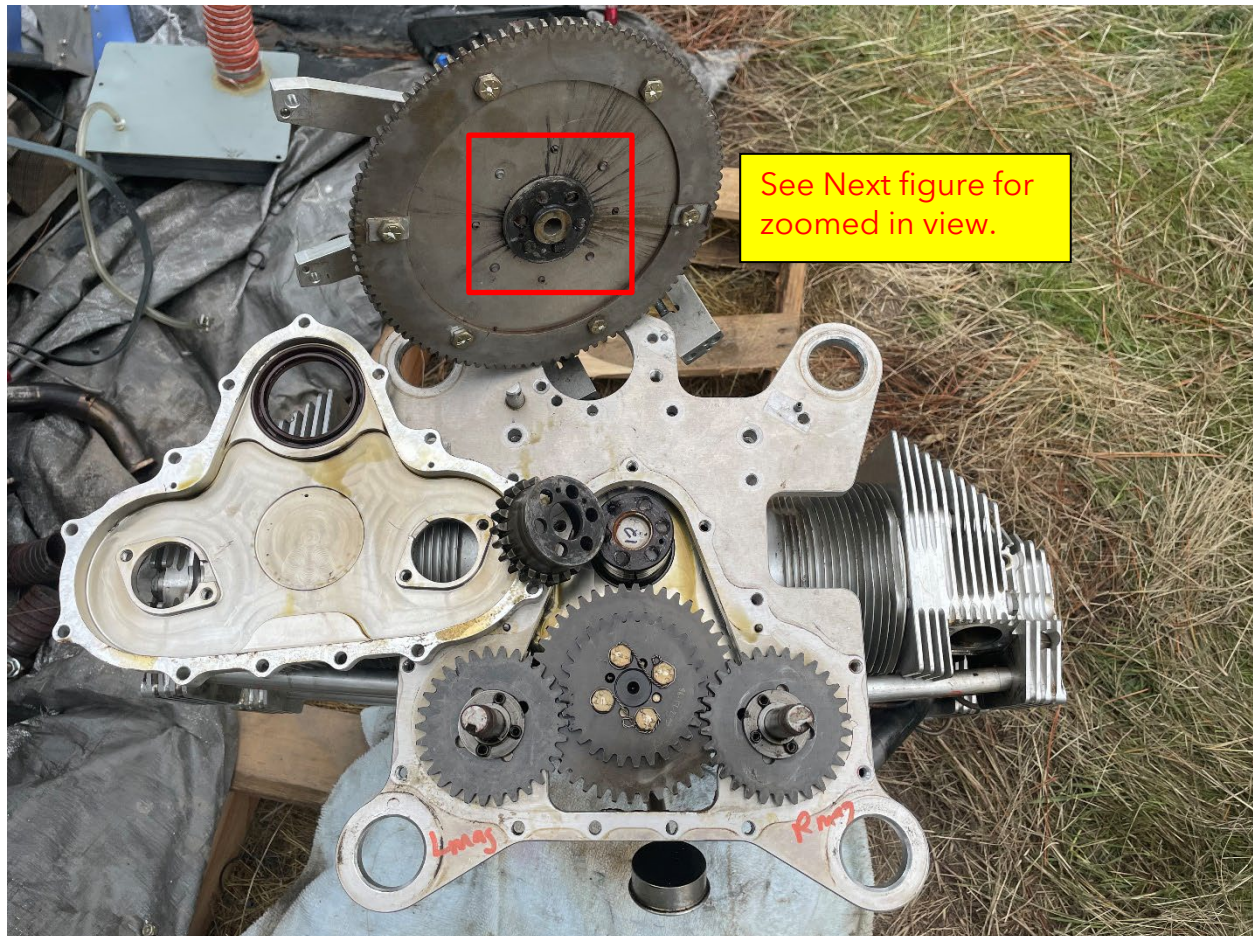


Figure 7. View of disassembled flywheel and starter ring assembly



Figure 8. Close-up view of damaged cap bolts

2.0 Propeller Examination

Manufacturer: Warp Drive Inc
P/N: C03HPH

The three bladed constant speed propeller remained attached at the crankshaft flange. The spinner was secured to the propeller hub. Two of the three blades were found unremarkable; the third blade sustained tip damage.

Submitted by:

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