

WPR17LA168 Examination Notes

The helicopter was examined on November 6 and 7, 2017, at Arlin's Aircraft Services, Bozeman, Montana. Representatives from the NTSB, FAA, and Robinson were present. The helicopter, a Robinson R44 II, SN 10300, was powered by a 245-horsepower Lycoming IO-540-AE1A5 engine, serial number RL 26939-48E. The last annual maintenance inspection was conducted on July 6, 2017, at a total airframe and engine time of 53 hours. The engine had operated about 70 hours at the time of the accident, and it had operated 10 hours since its last maintenance inspection, an annual.

Control continuity was obtained from the cockpit throughout the control systems to the main rotor and tail rotor. The main rotor remained attached. The tail rotor remained attached, but the outer portions of both blades had separated. Damage and bending was evident throughout the systems.

The engine was examined. The V-belts remained secured to the engine and had no abnormal wear or defects. The engine oil sump contained about 3.5 gallons of water and water was evident throughout the remainder of the engine. The spark plugs were removed and contained debris and moisture from the engine. Once the spark plugs were dried and cleaned, the spark plugs were tested and operated normally.

Thumb compression was obtained on all cylinders. Initially, cylinder 6 had minimal compression but once the engine was rotated through several times, compression was obtained. The magnetos were removed from the engine and contained significant water. The magnetos were dried and then rotated using a drill. Spark was obtained at all posts. Control continuity from the cockpit mixture and throttle controls was obtained.

The intake and exhaust systems were unobstructed and all connections remained secure. The heater shroud was partially separated from the exhaust. This separation was consistent with impact damage.

The gascolator screen was clear and fuel was identified in the gascolator. The fuel injectors on cylinders 2 and 4 were partially obstructed and the material was similar to that found in the cylinders. It was easily removed when air was blown into the injector. The remainder of the fuel injectors were clean.

The fuel filter warning sending unit, fuel injection servo, and JPI engine monitor were sent to IIC Josh Cawthra for further investigation.