



National Transportation Safety Board

Office of Aviation Safety
Central Region

Wreckage Examination Summary

NTSB Accident No:	CEN18LA181
Accident Date:	Friday, May 18, 2018
Accident Time:	2032 CDT
Accident Location:	Hanover Park, Illinois 41°59'40"N 88°08'07"W 797 ft mean sea level
Aircraft Make/Model:	Vans RV7A
Aircraft Registration:	N667AZ
Aircraft Serial No:	70683
Aircraft Airworthiness Date:	March 30, 2006
Engine Make/Model:	Lycoming IO-360-GNX
Engine Serial No:	71120-1215
Propeller Make/Model:	Hartzell HC-C2YK-1BF
Propeller Serial No:	CH20337
Examination Date:	Monday, May 21, 2018
Examination Location:	Northwest Flyers, Inc. Schaumburg Regional Airport Schaumburg, Illinois, 60172
Participants:	Andrew T. Fox – National Transportation Safety Board Victor C. Liberatore – Federal Aviation Administration

A postaccident examination of the airplane and its engine was completed by a National Transportation Safety Board (NTSB) investigator and a Federal Aviation Administration (FAA) airworthiness inspector. The fuselage, both wings, and the empennage were substantially damaged during the accident. The engine remained attached to the firewall, and the propeller remained attached to the propeller flange. One propeller blade exhibited a slight aft bend, was twisted toward low-pitch, and had a leading-edge gouge near the blade tip. The other propeller blade exhibited a slight aft bend. The propeller flange was bent aft slightly, which resulted in the ring gear binding with the starter Bendix drive during crankshaft rotation. The propeller and ring gear were removed to facilitate full crankshaft rotation.

Internal engine and valve train continuity were confirmed as the engine crankshaft was rotated by hand. Compression and suction were noted on all cylinders in conjunction with crankshaft rotation. The upper spark plugs were removed and exhibited features consistent with normal engine operation. The engine was equipped with an electronic ignition system, which was not tested. Engine control cable continuity was confirmed from the cockpit controls to their respective engine component.

Fuel samples taken from each wing tank sump were free of any water contamination. A fluid sample collected from the fuel supply line connected to the fuel injector servo inlet contained a mixture of 100 low-lead aviation fuel and a small amount water contamination. The electric fuel pump was used to obtain an additional fuel sample, which also contained water contamination. The fuel filter was removed from the fuselage and its contents drained. The fuel filter was not equipped with a drain sump. An application of water detection paste established that the fuel drained from the fuel filter contained water. The fuel filter was disassembled, and its filter screen tested positive for water contamination.

Besides the water contamination found in the fuel system, the postaccident examination did not reveal any anomalies that would have precluded normal engine operation during the flight.

A review of maintenance documentation revealed that on February 20, 2017, water and particulate contamination was observed in the fuel filter and the fuel injection servo finger screen during a routine condition inspection. The final airframe logbook entry, dated March 27, 2018, did not indicate if any water or particulate contamination had been observed during a routine condition inspection; however, the logbook entry did note that the fuel filter and fuel injector servo finger screen had been removed and cleaned. The airplane had flown 4.6 hours since the last condition inspection.