

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA24FA265

WRECKAGE EXAMINATION

June 24, 2024

A. ACCIDENT

Location: Methuen, MA
Date: June 17, 2024
Time: 1415 EDT
1815 UTC
Airplane: N715PA, RV6A

B. WRECKAGE EXAMINATION

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C. SUMMARY

On June 17, 2024, about 1415 eastern daylight time, an experimental homebuilt Vans RV-6A airplane, N715PA, was substantially damaged when it was involved in an accident near Methuen, Massachusetts. The private pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

WRECKAGE INFORMATION

The airplane came to rest inverted on a sandbar in the Merrimack River in about 3 ft of water. There was no postimpact fire. The airplane was completely intact but sustained impact damage to the outboard section of the left wing, the canopy, and the engine cowling. The entire cockpit area, including the panel was undamaged. Rescue personnel cut open the floor of the airplane to extract the pilot. This process involved cutting the control tubes and cables for the flaps, elevator, and rudder. However, flight control continuity was confirmed for each of these control

surfaces, including the ailerons, to the cockpit. The airplane was airlifted out of the river and taken to a secure facility where it was examined on June 24, 2024. The tail section was removed to facilitate transport to the salvage yard.

The engine and the two-bladed propeller were relatively undamaged. Some longitudinal scoring was noted on the spinner. The cowling was removed to facilitate an engine exam/test-run.

Examination of the airplane's fuel system revealed there were no breaches anywhere in the system. There was a 19-gallon fuel tank in each wing. About 18 gallons of 100LL fuel was drained from the left-wing tank. Some water was observed in the fuel. Less than a gallon of yellow/brown colored water was drained from the right tank and no fuel was observed. The fuel selector was found positioned to the right tank.

The firewall fuel strainer was damaged, and a few ounces of liquid (half fuel, half water) were drained from the strainer bowl. About 1oz of liquid (half fuel, half water) was found in the fuel line from the strainer to the fuel pump, and in the fuel line from the pump to the fuel transducer. There was no liquid in the line from the transducer to the carburetor.

The carburetor was intact. About 4.5 ounces of water and about 1 ounce of fuel were drained from the carburetor bowl. The fuel filter screen was absent of debris.

Continuity for the throttle, mixture and carburetor heat cables was confirmed from the cockpit to the engine. The throttle lever was at the full throttle position and the mixture lever was at the full rich position, which matched the controls in the cockpit. The controls in the cockpit actuated the throttle arm from "stop-to-stop" and the mixture lever from "stop-to-stop". The carburetor heat was off and functioned normally when tested.

The sparkplugs remained secured in their respective cylinder housings. Varying levels of water and oil contamination were noted in the plugs, as a result of the accident sequence and aircraft recovery efforts. The sparkplugs were photo documented "as is" and then the water and oil were cleaned with a rag and the spark plugs were photo documented again. The electrodes gaps were within limits when test with the Champion Aerospace gap gage, and the ground electrodes were not worn beyond limits when checked with the Champion Aerospace Erosion gage. The spark plugs were then reinstalled to facilitate the engine run.

The engine was rotated manually via the two-bladed propeller. As the engine was rotated, compression and suction were established to each cylinder.

About 1 gallon of water was removed from the oil sump. The water was drained from the sump to facilitate an engine run.

The engine was then test-run on the airframe using the airplane's existing fuel system with the fuel selector remaining in the position it was found in when the airplane was recovered from the river. Five gallons of 100LL fuel (that was drained from the left tank) was placed in the right-wing tank. The system was pressurized, and the engine was started. The engine did not start, so the distributor caps for both magnetos were partially removed so water could be cleared. The caps were reinstalled, and the engine was re-started. The engine started and ran without interruption through its full power band. The engine was then run with the fuel selector set to the left fuel tank. The engine started immediately and ran without interruption through its full powerband. Both magnetos were tested with the engine running. The engine ran rough when the right mag was tested (most likely due to moisture). The left magneto drop was normal.

Examination of the engine and fuel system revealed no evidence of any preimpact mechanical malfunctions or failures that would have precluded normal operation.

The airplane was equipped with an Electronics International MVP-50 engine monitor; however, the circuit breaker for the unit was found pulled when the airplane was recovered from the river. The unit was retained for further evaluation.

Submitted by:

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