



ERA21LA250

Matthews, VA

June 14, 2021

Diamond DA20-C1

NTSB ENGINE EXAMINATION REPORT

July 13, 2021

PARTICIPANTS IN THE EXAMINATION

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HISTORY OF FLIGHT

On June 14, 2021, about 1230 eastern daylight time, a Diamond DA20-C1, N458MA, was substantially damaged while ditching in the Chesapeake Bay, following a total loss of engine power. The flight instructor and student pilot sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

ENGINE INFORMATION

Engine Manufacturer: Continental
Engine Model Number: IO-240-B
Engine Serial Number: 650136
Recent Inspection: June 9, 2021 – 100-hr Inspection
Recent Recorded Tachometer Time: 2677.0

INITIAL EXAMINATION

The engine remained mounted to the airplane and the following was noted:

- The engine remained attached to the airframe through all engine mounts.
- The propeller remained attached to the flange.
- Two holes were present on the top of the crankcase (rear left and rear right).
- The cylinders remained attached to the crankcase.
- The drain plug was missing from the bottom of the oil sump and no oil was observed in the engine.



DETAILED EXAMINATION

Exhaust System

The exhaust piping was removed, and no anomalies were observed.

Cylinders and Valve Train

The baffling was removed from the left side to facility access to the cylinders. The No. 2 cylinder could not be removed, and a section of its fractured connecting rod was protruding through the hole on the top left side of the crankcase. The Nos. 3 and 4 cylinders were removed to provide further access to the crankshaft. The No. 1 cylinder could also not be removed; however, inspection through the left crankcase hole revealed that its connecting rod had fractured also.



Spark Plugs

All spark plugs were removed from the engine and their electrodes were intact with corrosion observed.



Oil System

No metallic debris was observed in the oil sump or oil filter element.



SUMMARY

The examination revealed that oil sump drain plug was missing and the Nos. 1 and 2 connecting rods fractured due to oil starvation.

FUTURE ACTIVITIES

The wreckage will remain in storage at Anglin Air Recovery in Clayton, Delaware.