

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA21LA222

ENGINE EXAMINATION

April 24, 2023

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A. ACCIDENT

Location: Dawson, Georgia
Date: May 20, 2021
Time: 0945 EDT
1345 UTC
Airplane: N9514R, Mooney M20K19

B. ENGINE EXAMINATION

Party Coordinator Danny Cox
Federal Aviation Administration
Atlanta, GA

C. SUMMARY

On May 20, 2021, at 0945 eastern daylight time, a Mooney M20K19, N9514R, was substantially damaged when it was involved in an accident near Dawson, Georgia. The commercial pilot and a passenger were seriously injured. The airplane was operated as a Title 14 Code of Federal Regulations (CFR) Part 91 personal flight.

Engine Manufacturer: Continental
Engine Model Number: TSIO-360-GB1
Engine Serial Number: 309522
Recent Inspection: May 27, 2020 - 100-hr Inspection
Time Since Major Overhaul: 1239.8

D. DETAILS OF THE EXAMINATION

1.0 Engine Examination

The engine remained attached to the engine mount but was removed from the airframe and the following was noted:

- Upon arrival the engine had already been removed from the airframe and was sitting on a shipping pallet.
- The propeller remained attached to the flange.
- Two holes were present on the top of the crankcase (near the center of the crankcase and aft of center on the right side).

- The cylinders remained attached to the crankcase.
- A no. 4 connecting rod bolt nut was found in the oil pan.
 - This nut did not exhibit any signs of impact damage or damage which would be consistent with separation during the engine failure.
 - A cotter pin associated with the nut was not found in the oil pan debris.
- All other connecting rod bolt nuts remained attached to their respective bolts with cotter pins in place.
- No. 4 connecting rod was found fractured midspan.

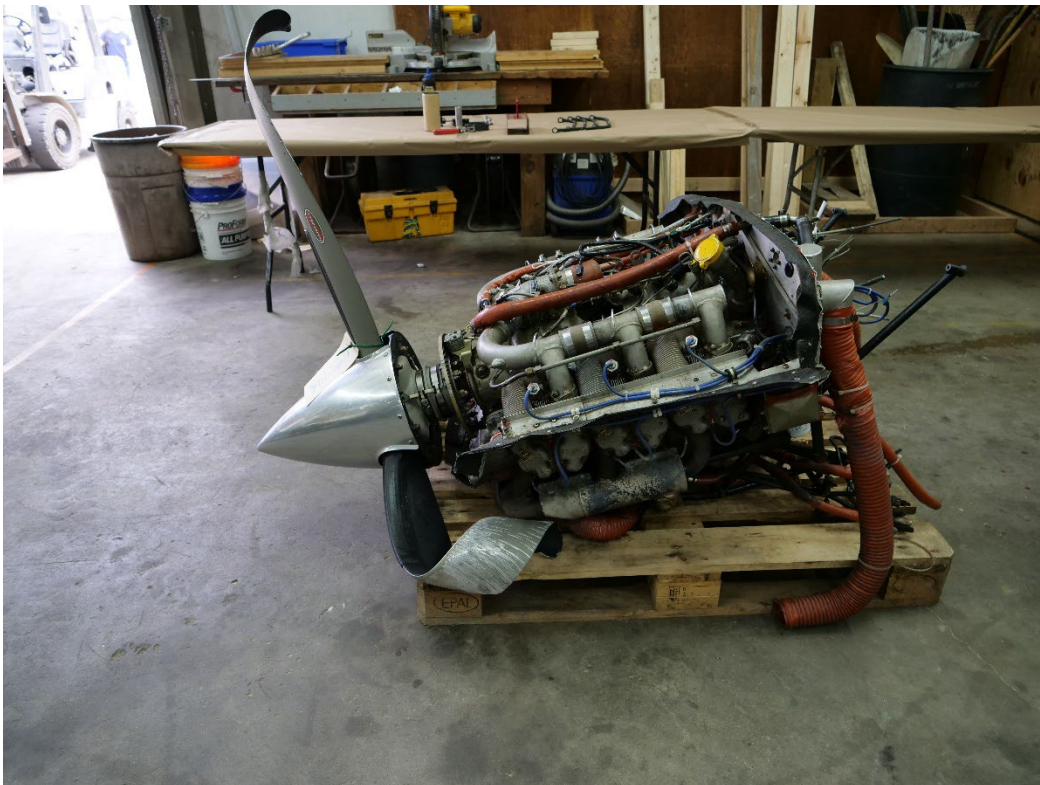


Photo 1: The engine as it was found upon arrival at the salvage facility.



Photo 2: Two holes in the crankcase from the aft looking forward.



Photo 3: Top view of the holes in the crankcase.



Photo 4: No. 4 connecting rod



Photo 5: No. 4 Connecting Rod Cap Bolt, Nut, And Cotter Pin



Photo 6: No. 4 Connecting Rod Cap Nut (no bolt or cotter pin)

1.1 Lubrication System

The oil filter pleats and oil sump contained large amounts of metallic debris.



Photo 7: Oil filter pleats containing a large amount of metallic debris.



Photo 8: Oil pan containing a large amount of metallic debris.



Photo 9: Metallic debris located in the oil pan.

Submitted by:

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