

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ANC23LA053

ENGINE EXAMINATION

August 21, 2023

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A. ACCIDENT

Location: Ninilchik, AK
Date: July 12, 2023
Time: 1620
Airplane: N83391

B. ENGINE EXAMINATION

IIC	Mark Ward NTSB
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C. SUMMARY

On July 12, 2023, about 1620 Alaska Daylight time, a Aeronca 7DC airplane, N83391 sustained substantial damage when it was involved in an accident near Ninilchik, Alaska. The pilot and passenger were not injured. The airplane was operated by the pilot as a Title 14 *Code of Federal Regulations Part 91* personal flight.

Pilot reported that he and a friend were on a scenic flight from the Homer Airport (HOM), Homer Alaska, to the Soldotna Airport (SXQ), Soldotna, Alaska. Enroute he noticed the engine was not making enough power for the set power setting. At full throttle the engine was only producing about 2400 RPM. He ran through checklist memory items for loss of engine power. Pulled carb heat which resulted in no change. Opened both wing tanks to increase fuel in the header tank which resulted in no change. He then noticed the oil pressure gauge and oil temperature gauge both indicated zero. He started a climb to clear rising terrain and the engine started to vibrate violently and then lost all power. He made a force landing on to a road. After touching down, he veered to the left to avoid cars subsequently the airplane impacted a guardrail and the airplane nosed over. The airplane sustained substantial damage to the fuselage and wings.

D. DETAILS OF THE EXAMINATION

1.0 Engine Examination

The engine oil pan was removed. The oil pan contained oil and the oil pick up tube was attached and free of obstruction (*figure 2*). The engine was removed from the airplane to remove the accessory case. Fuel was observed in the fuel line from the gascolator to the carburetor and the gascolator was full of fuel (*figure 4*). The

accessory case was removed from the engine (*figure 6*). All oil passages in the accessory case were clear of obstruction, Compressed air was applied to each oil passage and observed exiting out of the accessory case. The oil pump was inspected with no anomalies noted. The oil filter was removed, and the filter was examined with minor amounts of metal seen in the filter (*figure 3*). Two cylinders were removed to examine inside the engine case (*figure 8*). Fragments of a main bearing were observed on the walls inside the case (*figure 9*). The number one main bearing spun and blocked the oil supply journal to the main crank. This led to no oil being supplied to the engine's main bearings and led to the total loss of engine power.



Figure 1. Right side of engine after removal from airplane.



Figure 2. View of oil pick up tube.



Figure 3. View of oil filter.



Figure 4. View of gascolator.

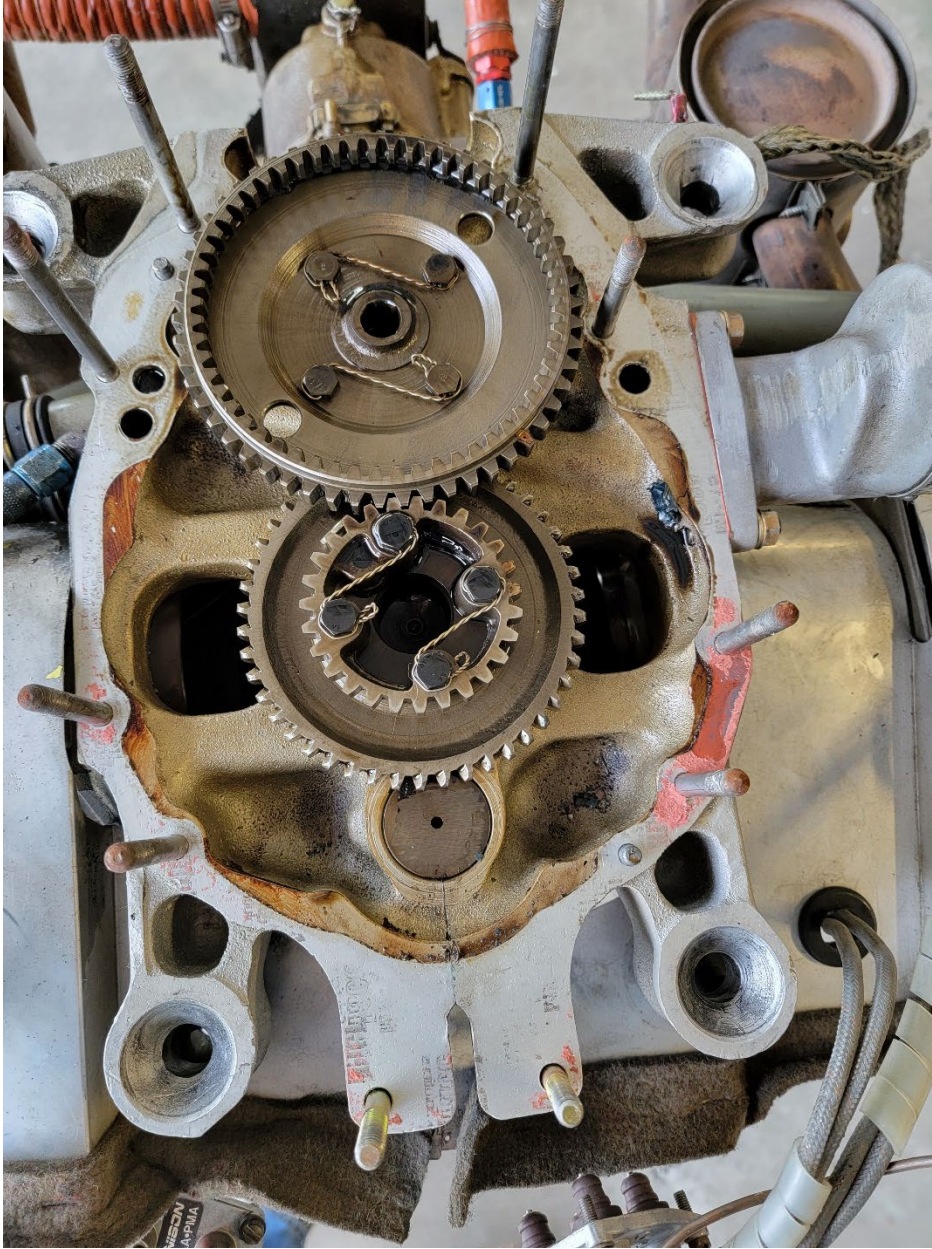


Figure 5. View of aft of engine with the accessory case removed.



Figure 6. View of oil pump in the accessory case.

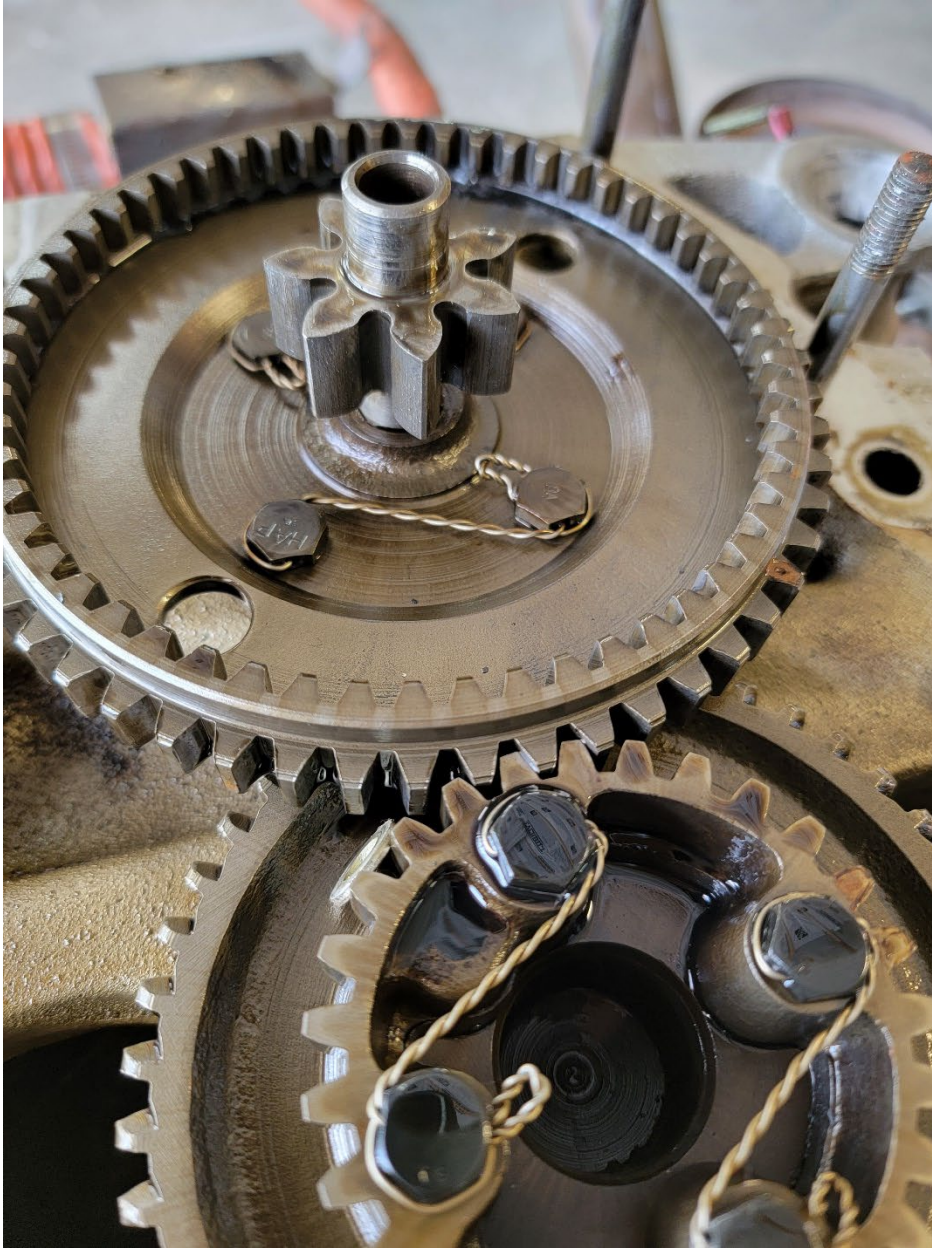


Figure 7. View of oil pump gear.



Figure 8. View of engine with the left side cylinders removed.



Figure 9. View looking inside the engine case and fragments of a main bearing.

Submitted by:

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AAI