

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA23LA141

ENGINE EXAMINATION

A. ACCIDENT

Location: Miami, Florida
Date: March 7, 2023
Time: 1722 EDT
2122 UTC
Airplane: Cessna 172, N64535

B. ENGINE EXAMINATION

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Party Coordinator Juan Garcia, Aviation Safety Inspector
FAA/FSDO
Miramar, Florida

SUMMARY

On March 7, 2023, about 1722 eastern standard time, a Cessna 172, N64535, was substantially damaged when it was involved in an accident near Miami, Florida. The flight instructor and the private pilot were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

The flight instructor said the engine began to make a “knocking” noise followed by a total loss of oil pressure. The engine then stopped producing power and the propeller “locked up.” The instructor said they were unable to return to the airport and made a forced landing in the Everglades National Park. The nose wheel of the airplane dug into the soft/wet terrain and slowly flipped over resulting in substantial damage to an engine mount.

C. DETAILS OF THE EXAMINATION

The airplane was recovered from the Everglades about seven days after the accident and taken to a secure facility. Examination of the engine’s oil system revealed no obvious mechanical failures. The engine was rotated manually via the propeller and movement was observed to the accessory case. Valve train continuity was established on each cylinder as well. About 1 quart of dark-colored oil was drained from the oil sump. The oil suction screen was removed, and several pieces of

metal were observed. The filter was also removed, and it was filled with dark colored oil. The element was removed, and small flecks of carbon were observed. The oil pump was removed, and all gearing was intact. The oil sump was partially exposed when the accessory gear box was removed, and several large pieces of metal debris were observed/removed. The oil filter tube was found slightly loose but was being held in place by safety-wire. Some oil was observed on the engine case around and below where the tube connected to the engine case. A review of photos taken by the National Park Service prior to the airplane being recovered revealed no major oil streaks on the lower engine cowling and fuselage.

Review of the engine maintenance records revealed the last 100-hour inspection was completed on December 20, 2022, at an engine total time of 1,124 hours. At the time of the accident the engine had accrued 1,279 hours, which was 55 hours past its next required 100 hr. inspection. The log also revealed several gaps in time where the airplane/engine were not used for several years. There were no entries made during the time the airplane was not utilized that indicated any preservation efforts were made to the engine.

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