



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety

Eastern Region

ENGINE EXAMINATION

CASE NUMBER: ERA24LA315

AIRCRAFT: Cessna 182C, N8523T

EXAMINATION PARTICIPANTS:

Aaron McCarter
Air Safety Investigator
National Transportation Safety Board

SUMMARY

Examination of the d engine was conducted on 8/27/2024 at the Florida Air Recovery.

DETAILS OF THE INVESTIGATION

Engine Examination

The engine remained securely attached to the fuselage, and an initial inspection was carried out to determine whether it was feasible to perform an engine test run. After thoroughly assessing the engine's condition and the overall setup, it was concluded that a test run could be safely conducted. The fueling system was examined carefully to ensure that there were no signs of damage, leakage, or breaches. This inspection revealed that the fueling system was intact and undamaged, providing assurance that no issues would arise from it during the test.

The fuel recovered from the accident site was also subjected to an inspection for contamination. The fuel appeared clean, with no foreign particles or substances detected, confirming that it was safe for use in the engine. Given that the fuel met the necessary standards, it was decided to proceed with using it for the engine test run.

Next, the battery power was connected, and the engine was successfully started without issue. The engine operated smoothly, with no irregularities or performance anomalies noted throughout the duration of the test run. The magnetos were tested during the run, and a slight RPM drop was observed when switching between magnetos, which is considered a normal and expected occurrence in such tests.

The throttle linkage was also thoroughly checked, and movement of the throttle was performed in various ranges. No problems or abnormalities were encountered during the process, and the engine responded to throttle adjustments in a predictable manner, with the engine RPM increasing smoothly and proportionally to throttle input.

After completing the engine run, the spark plugs were removed and carefully inspected for signs of wear or abnormal coloration. The spark plugs showed a normal color pattern when compared to the Champion Spark Plug chart, indicating proper combustion and no signs of issues such as fouling or abnormal wear.

In summary, after a comprehensive examination and engine test run, no anomalies were observed that would suggest any underlying issues with the engine's operation. All systems, including the fuel system, ignition, and throttle, were found to function within expected parameters, and the engine displayed normal performance throughout the testing process. At the conclusion of the engine examination, no anomalies were found that would prevent normal operation.