

National Transportation Safety Board

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Washington, DC 20594



WPR22LA090

ENGINE TEST RUN REPORT

Factual Report

April 20, 2023

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A. ACCIDENT

Location: Ravendale, California
Date: January 28, 2022
Time: 1425 PDT
Airplane: Textron Aviation T240

B. PARTICIPANTS

IIC Andrew Swick
 NTSB AS-WPR
 Phoenix, Arizona

Subject Matter Expert James Wheeler
 Aircraft Engine Specialist
 Chandler, Arizona

C. SUMMARY

Prior examination of the engine revealed a separated induction tube at the right turbocharger compressor outlet. Several band clamps and rubber couplings were found on the engine that did not match part numbers from the manufacturer's parts catalog. The lower spark plugs were removed and exhibited dark deposits in the electrode areas. The airframe revealed no evidence of preexisting malfunctions or failures that would have precluded normal operation.

The engine was setup and ran successfully on a test stand at various RPM settings. The engine test run revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

D. DETAILS OF THE TEST RUN

1.0 Shipment of the Engine

The engine was shipped to Aircraft Engine Specialists from the wreckage recovery facility in Pleasant Grove, California. The turbochargers, parts of the exhaust piping and induction tubes were removed in preparation for shipping.

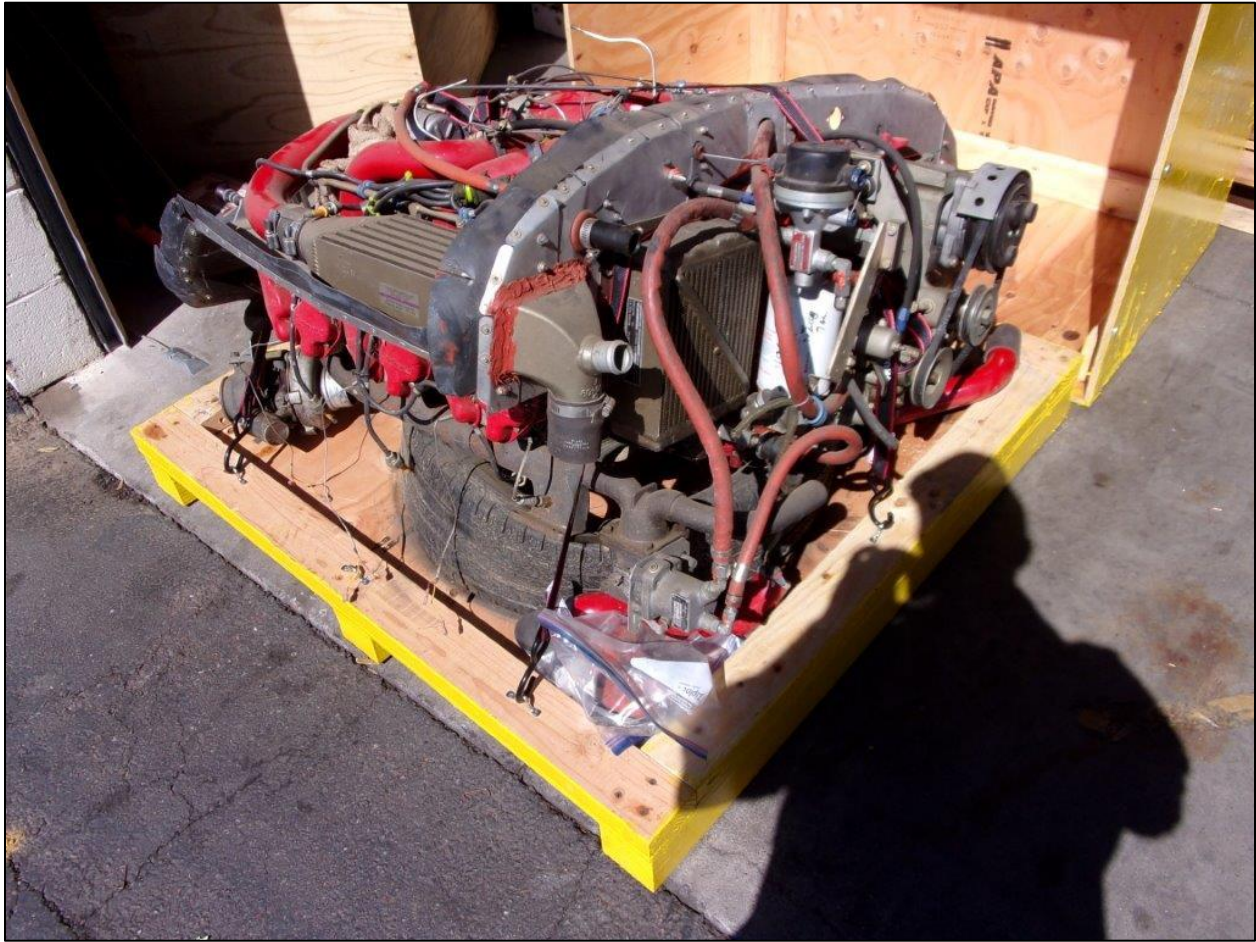


Figure 1-Engine after shipment.

1.1 Engine Installation for Test Run

The engine was removed from the shipping container and attached to an engine mount assembly and test stand. The turbochargers, wastegate, exhaust stacks and mufflers were not installed on the engine for the test run. The oil filter was removed, and a new filter was installed. The engine was serviced with 8 quarts of oil. A two-bladed fixed-pitched test propeller was attached to the crankshaft propeller flange.



Figure 2-Engine installed on a test stand.

1.2 Engine Test Run

The engine started with no hesitation and continued to idle smoothly at about 1,000 rpm for about 6 minutes. During this time, oil temperature increased to a normal level. Oil pressure continued to rise to about 80 psi.



Figure 3-Engine operating on the test stand.

The engine throttle was advanced to about 1,400 rpm and a "magneto check" was performed. The rpm drop was about 70 rpm for each magneto. The engine throttle then was advanced to about 2,400 rpm, where the engine continued to run smoothly at this rpm for about 7 minutes. No anomalies were noted. The engine throttle was brought back to an idle rpm where the engine continued to cool down for about 2 minutes. The mixture was pulled to the "cutoff" position and the engine shutdown normally.

1.3 Oil Filter Disassembly

The oil filter that was removed prior to the engine test run and disassembled. The filter revealed no contamination.



Figure 4-Disassembly of the oil filter.

Submitted by:

Andrew Swick
Aviation Accident Investigator