

Inspector Statement

N35DC Powerplant Inspection on December 9, 2020.

On or about 1400 hours December 9, 2020 ; I, David M. Gutowski as an Aviation Safety Inspector (ASI) of the Baton Rouge Flight Standards District Office (BTR FSDO) conducted a physical inspection of the powerplant for aircraft N35DC. This inspection was requested through Chris Houghton, Front Line Manager (FLM) for support in the accident investigation for which this aircraft was involved.

The powerplant that was installed on this aircraft can be described as follows:

- 1) Manufacturer: Teledyne Continental Motors
Model: IO-520-BB
Serial Number: 809507-R
- 2) This is a fuel injected, six-cylinder, horizontally opposed engine with a normally aspirated induction system.
- 3) The powerplant was approved for use on this aircraft as an optional engine installation per TCDS 3A15, Revision 98.
- 4) The propulsion system consists of a constant speed 2 blade propeller attached to the engine crankshaft.

A post-accident visual examination of the powerplant revealed the following observations:

- 1) Nearly all externally installed components to include Cool Air Baffling, external wiring, fuel hoses, crankcase breather tubes, ignition system wiring, Oil Filter, Propeller, Spinner, Air Intake tubing, Exhaust pipes, etc. exhibited varying levels of damage consistent with high velocity impact, smoke and fire.
- 2) Essential externally installed components appeared to be present and in their proper locations except where affected by damaged as noted above.
- 3) The Spark plugs appeared to have been very recently replaced with wear patterns consistent with normal operation. Note: Oil residue on plugs in 1B, 3B and 5B positions was apparently due to post accident oil migration. This was evidenced by the engine orientation during storage at the salvage warehouse and no carbon buildup. Spark Plug in 6B position was irretrievable due to being pinned beneath the bent exhaust.
- 4) The crankshaft was free to turn by hand via the propeller indicating that the engine was not seized.
- 5) Cylinder Valve Rocker Arms, pistons and accessory gearbox/drive splines appeared to move in a manner consistent with normal operation when the Propeller was turned by hand.
- 6) Both the Left and Right Magnetos were removed and turned by a drill motor with strong consistent spark observed from all distribution points. The timing clamp flange on both Magnetos was cracked off (apparently during impact) at the clamps preventing a proper identification of Magneto to engine timing.
- 7) The fuel distribution manifold atop the crankcase was inspected for integrity of the diaphragm and debris captured by the mesh screen. No anomalies detected with the exception of smoke and ash residue from the burned delivery hose.

- 8) The propeller spinner was severely crushed against the propeller hub and the blades bent backward in a manner consistent with a high angle, high velocity impact. Power settings were suspected to be on the lower side but could not be easily determined due to this type of impact.

The above information is true to the best of my knowledge.

DAVID M

Digitally signed by DAVID M

David M. Gutowski
Aviation Safety Inspector
Airworthiness
Baton Rouge FSDO