

NTSB Inspection of N46202
Dated 9/9/2022

On Scene

Inspector Osman

Inspector Thurber

Maintenance performed by Todd Cotter

NTSB Checklist

1. Document fuel level in each tank.
 - 10 gallons located in the right wing tank. 15 gallons located in the left wing tank.
2. Check forward and aft pick up wing pick up screens for debris.
 - The screens were not able to be checked at the current location, however a fuel flow check was performed with no anomalies. The fuel that came out of the associated line quickly and clear.
3. Check fuel caps are secure and are vents and there is no fuel aft-wise fuel streaks from the caps.
 - The fuel caps for both wings were secure with no fuel leaks noted. Cap vents were in working order.
4. Check wing venting which can be accomplished by blowing through a hose connected to the vent tube and heard at the fuel filler ports.
 - Check performed, no abnormalities noted.
5. Record fuel selector position and check if fuel selector moves freely through its positions and detents are felt.
 - The fuel selector was moved to the "off" position during the accident. The fuel selector moved freely and the detents worked and detents were felt as "normal".
6. Check fuel lines from fuel selector valve to engine carburetor for security and leakage. No fuel staining or loose attachments.
 - No staining of the fuel lines were noted and lines were secure.
7. Drain and capture fuel in gascolator. Check for contamination. Open gascolator and check screen for debris.
 - A small amount of sediment was noted in the gascolator, however it did not appear large enough to make a substantial impact on any engine operation. The filter appeared clean with no obstructions.
8. Try to run aux pump.
 - Not applicable
9. Remove fuel line to carb and capture and check fuel that drains from that line.
 - The fuel had a slight cloudy appearance, but no water was noted after letting the fuel settle.
10. Pull carb screen and check for debris.
 - The screen appeared clean and no debris was noted.
11. Check for carb to cockpit controls for mixture and throttle and carb heat control continuity and the min and max ranges do not hit the carb stops early or late.
 - The cockpit controls to the carburetor had initial damage. During the inspection the throttle line broke with minimal effort. The controls appeared to have proper continuity with no abnormalities that could be identified considering the previous accident damage.

12. Remove top spark plugs and photo condition of electrode end and measure gap.
 - Spark plugs were in good condition and the measured gap was within tolerance.
13. Borescope cylinders.
 - Performed borescope on all cylinders. No abnormalities found.
14. Check both mags are secure and did not slip on their mounting pads.
 - Both magnetos were secure and did not slip on the mounting pads.
15. Check magneto to engine timing.
 - Performed magneto to engine timing. The magneto timing appeared to be about 1 deg. off. The timing was at 26 degrees instead of 25 degrees as stated on the engine data plate. The advancement to 26 degrees would more than likely not play a significant role with the engine performance.
16. Remove valve covers
 - Removed valve covers. All rocker arms moved appropriately while rotating the engine. No abnormalities noted.
17. Rotate engine through looking for valve actions and rotation to the accessory section and check for thumb compression through the top spark plug holes.
 - Compression was noted in all cylinders. No abnormalities noted.
18. Rotate engine to obtain spark through the spark plug leads.
 - Spark was noted on the upper right spark plug leads and the lower left leads. The spark was only noted on 4 of the leads because only the left magneto has an impulse coupling. No abnormalities noted.
19. Remove mags and bench test for internal timing and functionality.
 - Left mag. Model 4371 S/N 17040134, Right mag. Model 4370 S/N 99031114 Mags were removed and will be bench test at a separate location with appropriate tools. Todd will send additional information after test is completed.
20. Remove carburetor and photo carb and data plate. Open carb and check fuel bowl level and contamination. Photo float and measure float height. Exercise accelerator pump and check if fuel gets pumped.
 - The carburetor was removed and opened. The accelerator pump worked appropriately. The float height was approximately 7/32". Minimal sediment noted in the bowl, drained fuel appeared clean. Carburetor did ingest soil from the impact of the accident through the air filter.
21. If there is an engine driven pump, the remove lines and check amount and of fuel and contamination. Exercise pump. Open pump and check if diaphragm is pliable.
 - Not applicable
22. Check for intake and exhaust (heat exchanger obstruction)
 - No abnormalities noted.

Some of the statements related to the quality of the fuel and potential effects are opinions based on mechanical experience. Please contact with any questions.

The photos of the required items will be sent next week along with the additional information for the bench test of the magnetos.