



NTSB MEMORANDUM FOR RECORD

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National Transportation Safety Board

Date of Memorandum: June 18, 2020
Subject: Airplane Inspection by A&P Mechanic Daniel Yates
NTSB Accident Number: ERA19FA265

The following record contains a summary of excerpts from emails received from Mr. Daniel Yates who inspected the accident airplane under the supervision of Todd Moses (FAA Inspector) on June 17, 2020, at the Wurtsboro Airport:

- Cylinder 1 is closest to the PTO shaft - in this installation, it is the rear cylinder. Cylinder 2 is the forward cylinder in this installation.
- Carburetors were dangling from the actuation cables. I removed the float bowl from cylinder 1's carb and found it to be half full of fuel. It leaked a little before I fully removed it. The carb floats worked properly. There was minimal wear on the needle valve bracket and the top of the carb float pins, indicative of excessive vibration at idle.
- Cylinder 2 carburetor float bowl was wet with gasoline, but only had enough to drip 3 drops onto the ground. When filled the floats performed normally, and the same wear was evident on the needle valve bracket and top of the float pins.
- I removed the primer bulb in the fuel line between the tank and the carburetors, and it was full of fuel.
- While checking the throttle cable actuation I found that the throttle levers did not activate the slides in the carbs more than a little bit - approximately one quarter of full throttle. I traced the cable sleeve clamps and they were very secure. The tubes holding the end of the cable sleeve attached to the throttle levers were not bent, and the distance between the end of the sleeve and the splitter that transferred the force of one cable and split it to three cables did not appear altered by the impact. When I held the cable sleeve tight in my hand the throttle worked normally. The piece holding the end of the throttle cable sleeve appeared broken, but I could not find any evidence of broken parts.
- I removed the spark plugs and checked them for signs of anything unusual. None of them were wet.
- All spark plug leads were firmly attached at both ends except for the aft spark plug in cylinder No. 2. That spark plug and wire were destroyed by impact.



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- I removed the exhaust system from the engine and inspected the cylinder walls, piston, and piston rings. There were no scratches to indicate micro-seizures, the rings all moved freely, and the engine appeared to make compression on both cylinders when the propeller was rotated to the extent allowed by the orientation of the aircraft on its back.
- Control continuity was determined through the rudder cables at all points. When the cables attached to the forward pedals were pulled, tension was felt on the cables exiting the sleeves immediately forward of the rudder connections. The pedals were not movable.
- Ballast weights from the front of the aircraft were identified, removed, and weighed.
- There were three bags that appear to be made of canvas - one on the right (contained 18 lbs of sand), one on the left (contained 5 lbs of sand), and one forward of the rudder pedals on the tube that braces the nose wheel (contained 22 lbs of sand).
- The bag on the right side of the aircraft came out with no trouble and had a minor rip in it. It also had a strip of tape running fore and aft along the side closest to the rudder pedals. When removed, I found that the tape was not covering anything.
- The bag on the left side of the aircraft was wrapped around the bottom of the left rudder pedal. It was torn very badly and leaked all the sand from the pouch on the side the rudder pedal it was next to. There was a piece of tape running fore and aft on the side next to the rudder pedals. When removed it showed a rip running fore and aft, just above where the bag is currently ripped.
- The center ballast bag was the heaviest and had a small rip in the side facing the pilot.
- The bags were identical in size and attachment method, and it was our determination that they would have had identical weight in both sides before the left bag was torn.
- When examining the broken propeller blade, I observed impact damage along the leading edge about 1 inch long starting at about 1.5 inches from the end of the blade. The top longitudinal tube that is directly below the engine was snapped by being bent in a horizontal direction (from right to left when viewed from above if the aircraft was in a normal attitude)
- I did not see any chordwise scratching on the propeller blades, only leading edge damage on the broken blade. That was minimal but there was no leading edge damage on the intact blades, only on the broken one.
- This aircraft has a tractor engine with a centerline of thrust above the aircraft's C.G. This pushes the nose down when power is added.



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This record was mailed to Mr. Yates on October 2, 2020, and Mr. Yates responded via email on the same date that this record was accurate.