



MEMORANDUM FOR RECORD

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Subject: ERA19LA231 – Wreckage Examination

Engine:

- The engine remained attached to the engine mounts.
- The standby alternator was partially separated.
- The 3-bladed propeller remained attached to the engine. One blade was impact separated, the other two were impact damaged and remained attached to the hub. Blade “B” was delaminated the entire span of the blade. Blade “A” was partially bent aft and exhibited a small break in the leading edge of the blade. The propeller was removed to facilitate further examination of the engine.
- The induction tubing was impact damaged. Both induction coolers were removed to gain access to the spark plugs.
- The top spark plugs were removed and exhibited normal wear when compared to the champion cheek a plug chart. In addition, they were light grey in color.
- Crankshaft continuity was confirmed from the propeller flange to the accessory section of the engine. The crankshaft could be rotated 360 degrees by the propeller flange. Thumb compression and suction was confirmed on all cylinders by rotating the crankshaft by hand. Spark was obtained on Nos. 1, 5, 6 & 4 top ignition leads.
- All cylinders were borescoped and no anomalies were noted with the pistons or valves.
- The bottom spark plug leads were removed, and spark was observed on all towers when the crankshaft was rotated by hand.
- Both turbos could not be rotated by hand.
- The induction airbox was removed from the airframe. Tree leaves and similar debris was noted in the filter. In addition, it listed an installation date of January 22, 2018, at a Hobbs time of 89.1 hours.
- Fuel was noted in the line to the fuel manifold valve.

Airframe:

- The fuselage remained intact and exhibited crush damage on the forward section. In addition, buckling was noted in the airframe.
- Left wind screen was fully cracked but still attached to airframe.
- Right wind screen was undamaged.
- The Hobbs meter located in the cockpit indicated 215.7 hours of time.
- The fuel selector valve was in the Left position. The fuel selector was in the Left tank position.
- The outlet port from the electric boost pump in the left wing was disconnected and compressed air was blown through the selector valve. Air went forward through the selector valve, to the fuel strainer.
- Selector handle lever was moved to the right tank position, the fuel selector valve moved, and air was blown from the fuel line at the base of the right wing strut to the fuel filter bowl without obstruction.
- Both the left and right tanks fuel finger strainers were not obstructed and no debris was noted.
- The right and left fuel tanks were breached.
- The right fuel cap remained seated and in place.
- The left fuel cap remained seated and in place.
- 6 oz. of fluid was drained from the fuel strainer bowl. About 1 oz. was similar to 100LL.
- The ELT was found in the "Arm/Off" position and was remained mounted in the empennage. It was an ACR Electronics 121.5/406 Artex ELT.
- Flight control continuity on both left and right ailerons to wing root and was traced to the cockpit.
- Control continuity was confirmed from the rudder to the rudder pedals.
- The Trim tab actuator was measured and found to be in the slightly nose down position.
- Pilot seat (seat 1) and two aft seats shoulder belt inertial reel operated when maneuvered by hand.
- The copilot's seat (Seat 2) inertial reel spring was found outside of casing.
- Web stretching and thinning was noted on the #3 seat shoulder harness.
- #2 seat shoulder harness remained attached to the lap belt and exhibited stretching and thinning.
- The pilot seat lapbelt exhibited some stitching breaks on the lapbelt.
- Rivets on outside airframe, outside of right seat belt casing, were pulled out.