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Title: Sr. ASI
Division: ERA

Date: August 19, 2024

Subject: ERA24LA343

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Inspector Larivee performed an examination of N55YA, and had the following observations:

- Several spark plugs were fouled, but only the No. 4 cylinder's forward and aft plugs were both fouled. Fouled plugs can cause engine roughness, but it was not determined if the fouling was preexisting or from the engine being inverted.
- The engine rotated freely when the propeller was manually rotated. Compression was confirmed on each cylinder via manual rotation of the propeller.
- Throttle and RPM levers moved freely as did the friction control. There was no mixture lever on the control quadrant.
- Received MX records from the previous owner. They show a 19 DEC 2019 Engine Overhaul, 3 SEP 2019 Propeller overhaul and the last engine condition inspection was completed by Stick and Rudder Aero Maintenance on 12 JAN 2024. Compression ratios were as follows: 1 - 76/80, 2 - 78/80, 3 - 75/80, 4 - 76/80, 5 - 80/80, 6 - 79/80, 7 - 79/80, 8 - 78/80, 9 - 78/80. As of the condition inspection the engine had 68.8 hours SMOH.
- Only the elevators had movement of the primary flight controls, the rudder and right aileron were physically jammed in the accident. Found an obvious crack in the Right wing aft spar outboard and suspect a second at the root.