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Dates: November 7 and November 15, 2024

Subject: CEN25LA035 Record of Examinations

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N420TD was located about ¼ mile short of the turf runway at La Crosse, Wisconsin. The aircraft was situated upright in an open field, oriented approximately 130 ft in a nose-down attitude of approximately 8°. Ground scars indicated the aircraft continued its course for 35 feet following the initial impact. Significant structural damage to the right wing, fuselage, and propeller was evident. The left main landing gear was separated from its mounting and embedded in the right-wing structure. The right main landing gear was sheared off and located beneath the right-wing flap.

All components of the engine and engine compartment were intact. Signs of significant combustion leakage between the #2 and #4 engine cylinders and their respective cylinder heads were noted on the right side. The engine controls were examined for continuity and found functionally intact, with excessive wear noted at the throttle linkage left bellcrank resulting in about ¾ in of free play in the engine throttle control. Flight control continuity was normal except for the right flap and aileron due to ground contact.

The fuel selector valve was found in the right wing fuel tank position. The aircraft was equipped with direct-reading fuel gauges at the inboard left and right wing, adjacent to each wing fuel filler port. Both gauges indicated zero at the accident site. The left wing fuel tank was empty of fuel. Approximately 1 ½ gallon of fuel was in the right tank. No fuel was present at the carburetor jets or the fuel supply line to the carburetor. A slight amount of fuel was present at the two engine driven fuel pumps and fuel filter when the fuel supply line disconnected during the examination.

The pilot arrived near the conclusion of the inspection and was briefed on the results. The aircraft maintenance records were reviewed and found to follow applicable requirements.

On November 15, 2024, a follow-up examination was conducted at the aircraft owner's hangar at East Troy, Wisconsin. The remaining fuel from the right fuel tank was measured at 1.5 gallons. The aircraft was leveled, and fuel was added and drained in one-gallon increments to check fuel system function. Left- and right-wing fuel tank integrity, tank venting, and fuel selector valve function was confirmed.

While testing the fuel quantity gauges for accuracy, it was noted that the left fuel gauge indication was stuck at 3 gallons when fuel was introduced, and remained at 3 gallons as the fuel quantity was altered. The right fuel quantity indicator was accurate throughout its range. No fuel leaks were noted to the left and right fuel tanks. The tank venting and fuel selector valve functions were normal.

The left and right wing fuel gauges were removed by a mechanic who provided photos of a green colored corrosion on the left fuel gauge components shown in Figure 1.



Figure 1 - The left wing fuel gauge pointer (left) and the underside of the fuel gauge (right)