

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



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AIRFRAME AND ENGINE EXAMINATION REPORT

October 17, 2024

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A. ACCIDENT

Location: Reno, Nevada
Date: June 13, 2024
Time: 2024
Airplane: Cessna P210 / N36RW

B. AIRFRAME AND ENGINE EXAMINATION REPORT

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C. SUMMARY

On June 13, 2024, about 1510 Pacific daylight time, a Cessna P210N, N36RW, was substantially damaged when it was involved in an accident near Reno, Nevada. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

On October 17, 2024, the IIC travelled to Air Transport Recovery, Phoenix, Arizona, to conduct an examination of the airframe. Examination of the airframe revealed no preaccident mechanical malfunctions or failures that would have precluded normal operations. The JP Instruments Engine Data Monitor, model 800 (EDM-800) and the airplane voltage regulator were recovered for further examination. A test run of the engine revealed normal operations.

D. DETAILS OF THE EXAMINATION

1.0 Airframe Examination

1.1 Fuselage

The fuselage was minimally damaged with only the left horizontal stabilizer and elevator exhibiting damage. The wings, horizontal stabilizers and elevators were removed for recovery. The airplane was upright on the main landing gear and the nose was supported by a metal frame.



Figure 1. Photo of N36RW showing substantial damage to the left horizontal stabilizer and elevator (Photo courtesy of the pilot).

1.2 Empennage

The vertical stabilizer and rudder remained installed on the fuselage and exhibited minimum damage. The left horizontal stabilizer and elevator were displaced upward and exhibited wrinkles in the sheet metal.

1.3 Wings

The wings remained attached to the upper fuselage and were not damaged.

1.4 Landing Gear

The nose wheel strut assembly was displaced aft and to the right of the fuselage. The nose wheel remained installed and exhibited minimum damage. The left and right main landing gear were partially retracted in the wheel bays.

1.5 Cockpit

The cockpit was not damaged, and all instruments remained installed on the instrument panel.

1.6 Fuel/Fuel System.

The fuel system was examined by the FAA. About 6 gallons were recovered from the left-wing fuel tank. 1.0 to 1.5 gallons were removed from the right-wing fuel tank.

1.7 Electrical System

The circuit breaker panel was secured, and all circuit breakers were properly installed in the panel. Not loose wires were observed. No evidence of any electrical faults or anomalies was observed.



Figure 2. Circuit breaker panel.

The battery remained secure in the mount and the positive and negative leads were firmly attached to the battery posts. The battery received a charge from a ground unit and remained charged throughout the examination.

The aft-mounted alternator remained installed to the engine and the electrical leads were all firmly secured to their respective terminals.

One electrical lead to the ground receptacle unit exhibited a loose attachment and could be moved with minimal hand force.



Figure 3. Ground service contactor.

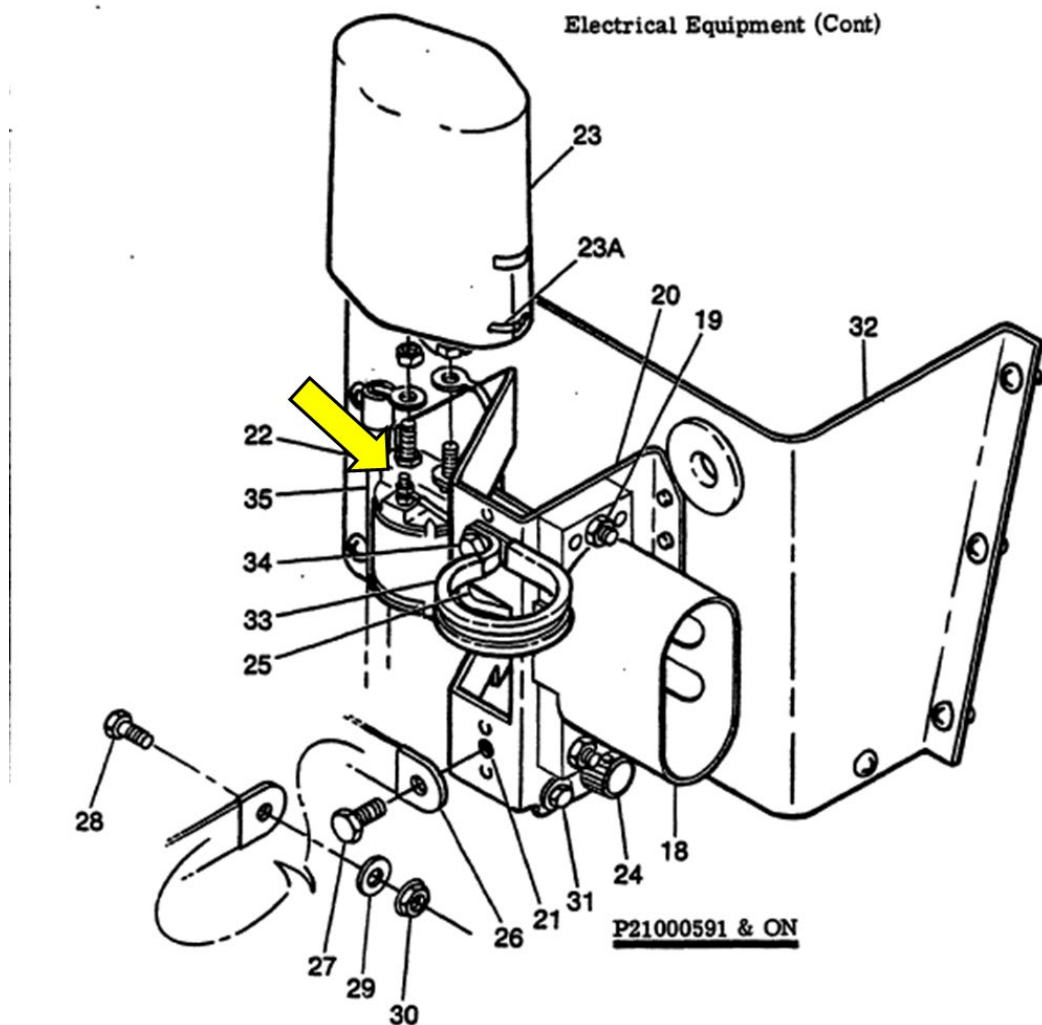


Figure 4. Illustrated parts catalog image showing the ground service contactor.

The ground to the alternator was snug but could be moved with moderate hand force.

The electrical system was tested using the Troubleshoot for Single Engine Externally Controlled Alternator Checklist and was found to be within normal operating limits.

The voltage regulator (alternator controller, serial number: 80M41505), was removed from the inside-firewall for further examination. The unit was tested in accordance with the manufacturer's Technical Data sheet and found to be within the specifications. The unit was then installed onto an airplane with a normally functioning electrical system. Application of power to the accident unit revealed normal indications on the airplane's instrumentation.

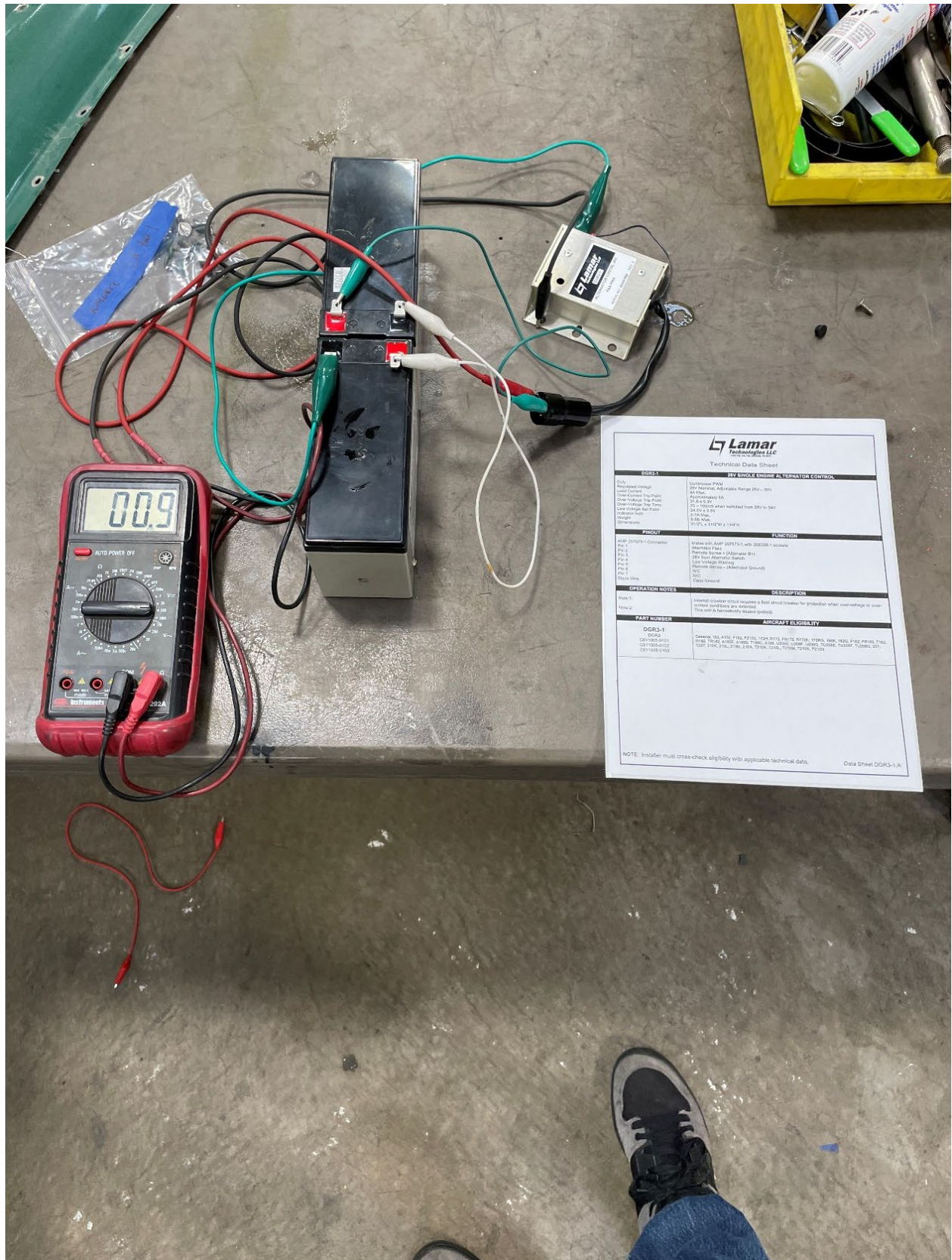




Figure 6. Accident voltage regulator alongside the exemplar voltage regulator.



Figure 7. Exemplar electrical system with accident voltage regulator showing 24.2 volts.

The JP Instruments, EDM-800, serial number: 23670, was removed for download of non-volatile memory. Figure 8 is a graph showing data from the accident flight.



Figure 8. Image of the JPI EDM-800.

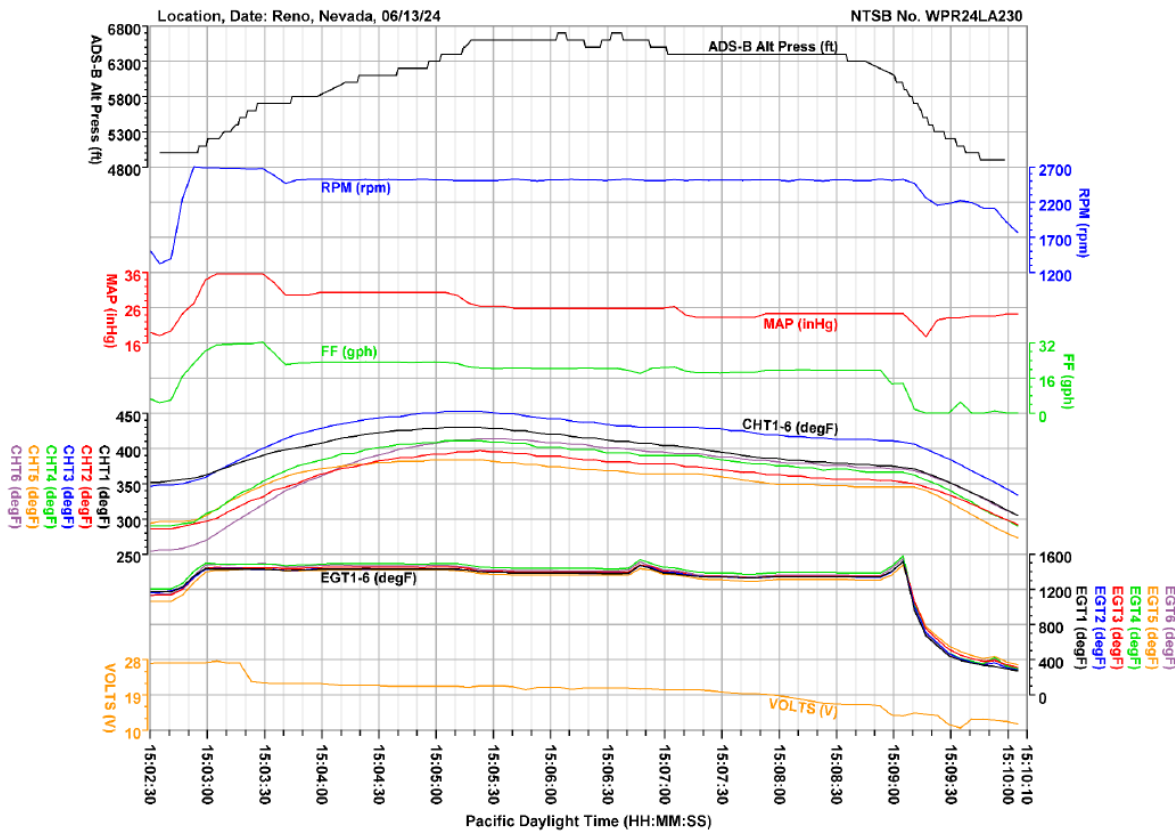


Figure 9. EDM-800 Graphic data for the accident flight.

2.0 Engine Examination

The engine remained attached to the undamaged engine mount and exhibited minimal damage. On June 25, 2024, under the observation of the Federal Aviation Administration (FAA) representative, a mechanic removed the propeller and conducted a test run of the engine. According to the mechanic, the engine started and ran without abnormalities. He then drained about 6 gallons of fuel from the left tank and about 1.5 gallons from the right tank. He did not identify any leaks in either fuel tanks.

3.0 Propeller Examination

The three-bladed, constant speed, aluminum propeller remained installed on the propeller flange. Two blades exhibited chordwise striations at the tips and one blade exhibited small nicks at the tip. One blade exhibited a uniform forward facing spanwise bend.

Submitted by:

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