

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR24LA265

MGT GAUGE INSTALLATION EXAM

June 16, 2025

A. ACCIDENT

Location: Raft River, Idaho

Date: August 2, 2024

Helicopter: Bell 407, N20BH

B. MGT GAUGE INSTALLATION EXAM

IIC Elliott Simpson
NTSB

Specialist Matthew McLuckie
Bell

C. DETAILS OF THE EXAMINATION

1.0 System Design

The MGT indication system comprised of an indicator mounted to the center instrument panel, which was supplied 28vdc electrical power via a 3-amp circuit breaker mounted to the overhead panel. The MGT signal was captured by 3 thermocouples connected in parallel and mounted to the engine exhaust section. The thermocouples provided data to both the MGT instrument and the engine FADEC.

The purpose of this examination was to determine the integrity of the electrical supply and ground to the indicator.

2.0 Examination

The airframe had sustained impact damage that had caused the center instrument panel to become dislodged, rotating it onto its right side. The MGT indicator had been removed previously for testing. The MGT circuit breaker was found in the closed (pressed) position. The circuit electrical resistance was then checked in the open and closed position with an ohmmeter; an open circuit was observed in the open position and 0-ohms in the closed.

The electrical connectors on the back of the circuit breaker remained securely attached to both the bus bar and the feed wire that led to the indicator. The power cables to the bus bar were also firmly in place, and there was no evidence of arcing, smoke, or electrical damage to any of the breaker panel.

The overhead and center windshield post panels were removed, exposing the wire bundle that contained the power feed wire from the indicator to the circuit breaker. The feed wire was removed and examined, and there was no evidence of chafing, nicks or wire damage.

The indicator's ground wire was tested with the ohmmeter and appeared to be secured to the airframe ground.

The Cannon plug to the indicator, along with the intermediate Cannon plug "adapter" was intact. The 28vdc supply (pin 1) and ground (pin 8) wires were secure within each plug receptacle, and their respective pin contacts remained firmly enclosed within the insulator shell.

Submitted by:

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