

Robert Gretz
Senior Air Safety Investigator
Eastern Region Aviation

Date: 10/10/23

Subject: ERA23FA258 Engine Exam

Contact: Anglin Aircraft Recovery, Clayton, DE

I examined the engine today at the recovery facility. The slope controller was separated from the firewall and sustained heat damage. It remained attached to the engine via two hoses, one to the turbocharger wastegate and one oil return to the engine (just below the left magneto drive). The two hoses were cut for slope controller removal, and it was retained for teardown examination at the manufacturer's facility.

The pressure relief valve (PRV) remained attached to its front engine mount via four bolts. It also sustained heat damage. The four bolts were removed and the PRV was also retained for examination.

The turbocharger wastegate shaft tang was found midrange and could be moved by hand, full travel between the 6 o'clock and 9 o'clock positions. An engine exhaust tube was cut to facilitate visual examination of the turbocharger impeller, and the wastegate (via a mirror). No obstructions were observed in the exhaust tube, near the impeller, or the wastegate. Continuity was confirmed from the wastegate to its shaft.

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Date: 11/17/23

Subject: ERA23FA258 - Slope Controller & PRV Exam (via MS Teams)

Contact: Judd Hough, Hartzell Engine Technologies, Montgomery, AL
Les Doud, Hartzell Propeller, Piqua, OH
Brad Miller, Cirrus Aircraft, Duluth, MN

Mr. Hough provided video coverage of the examination. Comparison of the accident slope controller to a new exemplar unit was similar. The depth of the slope controller set screw on the accident unit measured .184" and a new exemplar unit from the factory measured .158". Disassembly of the accident slope controller revealed that the gasket and rubber diaphragm were destroyed consistent with heat damage. All internal components were accounted for, and no anomalies were noted other than heat damage from the postcrash fire.

The plastic PRV head had melted, and the solder bellows had seized consistent with heat damage. No anomalies were noted that would have precluded normal operation.