
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Instruments and Automatic Pilots**AD/INST/57 Harco Labs, Inc. Pitot/Angle of Attack Probes 13/2008**

Applicability: Harco Labs, Inc. pitot/angle of attack (AOA) probe part numbers (P/N) 100435-39, 100435-39-001, 100435-40 and 100435-40-001, serial numbers 740000 through 799999.

Note 1: Pitot/AOA probes are known to be installed on, but not limited, to Eclipse Aviation Company Model EA500 aeroplanes, as follows:

- a. Aeroplanes with a serial number in the range of 000001 through 000189, where the affected probe was installed at manufacture, or*
- b. Any serial number aeroplane where an affected probe was installed in the field.*

Requirement: 1. Carry out a logbook check of the maintenance records to determine if any pitot/AOA probe (P/N 100435-39, 100435-39-001, 100435-40 or 100435-40-001) with any affected serial number is installed. If, as a result of this check, it is positively identified that all P/N 100435-39, 100435-39-001, 100435-40 or 100435-40-001 pitot/AOA probes installed do not have a serial number affected by this Directive, then no further action is required.

The owner/operator holding at least a private pilot licence may carry out the logbook check and make an entry into the aircraft logbook showing compliance with this Requirement.

2. If, as a result of the Requirement 1 check, any pitot/AOA probe with an affected serial number is found to be installed or the serial number of any installed pitot/AOA probe cannot be positively identified, incorporate the following text into the Limitations Section of the aircraft flight manual (AFM):
 - a. “Operate Only under Day Visual Flight Rules (VFR)”; and
 - b. “File Only a VFR Flight Plan.”

Inserting a copy of this Directive into the AFM satisfies this Requirement.

The owner/operator holding at least a private pilot licence may insert the above information into the AFM and make an entry into the aircraft logbook showing compliance with this Requirement.

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3. If any pitot/AOA probe with an affected serial number is installed or the serial number of any installed pitot/AOA probe cannot be positively identified, test the pitot/AOA probe heater performance as follows:
 - a. For all probes installed on Eclipse Model EA500 aeroplanes, use Eclipse Aviation Alert Service Bulletin SB 500-34-019, Rev C, dated 20 August 2008, and
 - b. For all probes, use Harco Labs, Inc. Service Bulletin SB-34-10-10-001, Revision F, dated 19 August 2008, and Harco Pitot AOA Probe Internal Tubing Heater Verification Test Procedure P1149, Rev: E, also referenced in Appendix A of SB-34-10-10-001 Revision F.

Completion of the test with all pitot/AOA probes passing terminates the Requirement 2 AFM operational limitations.

4. If any pitot/AOA probe fails the Requirement 3 test procedure, replace it with a pitot/AOA probe under the following situations:
 - a. The replacement pitot/AOA probe serial number is not affected by this Directive;
 - b. The replacement pitot/AOA probe successfully passes the Requirement 3 test procedure; or
 - c. The replacement pitot/AOA probe fails the test or is not tested and:
 - (i) the Requirement 3 test of the pitot/AOA probe is accomplished, and
 - (ii) a pitot/AOA probe that meets the criteria of Requirement 4.a. or 4.b. is installed within the next 90 days after 30 December 2008.

Any pitot/AOA probe replacement is to be accomplished following Eclipse Aviation Alert Service Bulletin SB 500-34-019, Rev C, dated 20 August 2008, or by following an approved repair procedure (eg the approved aircraft maintenance manual), as applicable.

5. Any pitot/AOA probe with P/N 100435-39, 100435-39-001, 100435-40 or 100435-40-001 may not be installed on any aeroplane unless the criteria of Requirement 4.a., 4.b. or 4.c. are met.
6. Remove the Requirement 2 operating limitations from the Limitations Section of the AFM.

Note 2: FAA AD 2008-19-01 Amdt 39-15668 refers.

Compliance: For Requirement 1 and 2 - Before further flight after 30 December 2008.

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For Requirement 3 and 4 - Within the next 90 days after 30 December 2008.

For Requirement 5 - As of 18 December 2008 (the effective date of this Directive).

For Requirement 6 - Before further flight after completion of the Requirement 3 test with all pitot/AOA probes passing or replacement of all failed pitot/AOA probes with:

- a. pitot/AOA probes having serial numbers not affected by this Directive, or
- b. pitot/AOA probes successfully passing the test in accordance with Requirement 3.

This Airworthiness Directive becomes effective on 18 December 2008.

Background: The United States Federal Aviation Administration has received several reports of airspeed disagree caution indication due to blockage within the pitot/AOA system from freezing condensation. The Directive is issued to detect and correct improperly performing pitot/AOA probe heaters.

This condition, if not corrected, could result in a blockage within the pitot/AOA system from condensation freezing with consequent incorrect indication of impact air pressure (airspeed/AOA). This blockage could lead to the stall warning becoming unreliable and the stick pusher, overspeed warning, autopilot, and yaw damper to malfunction.

The requires the incorporation of information into the Limitations Section of the AFM that will allow operation only under day visual flight rules (VFR) and allow only a VFR flight plan. The Directive also requires the test the pitot/AOA probes for heater performance and replacement of the pitot/AOA probe if it fails the heater performance test.



James Coyne
Delegate of the Civil Aviation Safety Authority

6 November 2008