
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.

Embraer EMB-135 and EMB-145 Series Aeroplanes**AD/EMB-145/3****Pitot and TAT Current Sensor Relays****8/2008
DM**

Applicability: EMB-145 aircraft models with serial numbers (S/N) 145002 through 145362, 145364 through 145590 and 145592 through 14500987, all inclusive.

Requirement:

1. If not previously accomplished, perform a detailed inspection (DET) on Pitot 1 (K0053), Pitot 2 (K0054), TAT 1 (K0064) and TAT 2 (K0494) current sensor relays for possible damage caused by overheating of their contacts, enclosure and finishing material in accordance with either Embraer Service Bulletin (SB) 145-30-0052 initial issue or SB 145LEG-30-0019 initial issue, as applicable, or later revisions approved by the Brazilian Agência Nacional de Aviação Civil (ANAC). If current sensor relays K0053, K0054, K0064 and K0494 are not found to be damaged, they can be reinstalled on the aircraft.

Note 1: The “145LEG” series of Embraer Service Bulletins only applies to Legacy executive jets.

2. If, as a result of the Requirement 1 inspection, any of the current sensor relays K0053, K0054, K0064 and K0494 is found to be damaged, replace it with a new relay of the same part number (P/N) CS500-060-D4A in accordance with either SB 145-30-0052 or SB 145LEG-30-0019, as applicable, or later revision approved by the ANAC.
3. If not previously accomplished, perform a DET on Pitot 1 (XK0053), Pitot 2 (XK0054), TAT 1 (XK0064) and TAT 2 (XK0494) sockets for possible damage caused by overheating of their contacts, enclosure and finishing material in accordance with either SB 145-30-0052 or SB 145LEG-30-0019, as applicable, or later revisions approved by the ANAC.
4. If, as a result of the Requirement 2 inspection:
 - a. Sockets XK0053, XK0054, XK0064 and XK0494 that are not found to be damaged can be reused - Accomplish a rework to replace electrical contacts A1 and C1 with new ones, P/N M39029/92-536, in accordance with either SB 145-30-0052 or SB 145LEG-30-0019, as applicable, or later revisions approved by the ANAC. After being reworked, the sockets must be re-identified from P/N S500-9140 to S500-9140-A and the electrical codes must be changed from XK0053, XK0054, XK0064 and XK0494 to XK1243, XK1242, XK1245 and XK1244, respectively.

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- b. Any socket XK0053, XK0054, XK0064 or XK0494 that is found to be damaged, replace it with new socket, P/N S500-9140-A or S500-9216, in accordance with either SB 145-30-0052 or SB 145LEG-30-0019, as applicable, or later revisions approved by the ANAC.

Note 2: For the purpose of this Directive, a detailed inspection (DET) is: "An intensive examination of a specific item, installation or assembly to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate access procedures may be required."

Note 3: ANAC AD 2007-11-04R1 refers.

Compliance: For Requirements 1 and 3 - Within the next 2 500 hours time in service after 21 December 2007 (the effective date of ANAC AD 2007-11-04R1) or before 21 December 2009, whichever occurs first.

For Requirements 2 and 4 - Before further flight after the Requirement 1 or 3 DET.

This Airworthiness Directive becomes effective on 23 June 2008.

Background: The ANAC has advised that occurrences of smoke on the flight deck originating from Pitot 1/2 and TAT 1/2 current sensor relays and their respective sockets have been reported. The smoke was caused by poor electrical contacts between those relays and their sockets.

This Directive requires detailed inspections of the relays and their sockets and, if necessary, replacement of the relays and sockets together with rework of some undamaged sockets.



James Coyne
Delegate of the Civil Aviation Safety Authority

16 June 2008