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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0483; Directorate Identifier 2008-NM-006-AD; Amendment 39-15716; AD 2008-22-19]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB-135 Airplanes, and Model EMB-145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

It has been found the occurrence of smoke in the flight deck originated from Pitot 1/2 and TAT 1/2 current sensor relays and [their] respective sockets, caused by poor electrical contacts between those relays and their sockets.

The unsafe condition is that smoke in the flight deck may interfere with the flightcrew's ability to operate the airplane. We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective December 19, 2008.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of December 19, 2008.

ADDRESSES: You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1405; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on April 29, 2008 (73 FR 23134). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

It has been found the occurrence of smoke in the flight deck originated from Pitot 1/2 and TAT 1/2 current sensor relays and [their] respective sockets, caused by poor electrical contacts between those relays and their sockets.

The unsafe condition is that smoke in the flight deck may interfere with the flightcrew's ability to operate the airplane. Corrective actions include inspecting for damage of the Pitot 1 and 2 and TAT 1 and 2 current sensor relays and sockets; and, as applicable, replacing the A1 and C1 electrical contacts of the sockets and reidentifying the sockets, replacing the sockets, and replacing current sensor relays. Damage may include melted points or stuck material of the silicone gasket, incorrect shape of the current sensor relay/sockets, discoloration of contacts, loose pin-type contacts, cracking or loose material of the polish and sealant of the bases, contaminants of the current sensor relays/sockets, and stuck material or roughness of the surface of the current sensor relay/pin-type contact. You may obtain further information by examining the MCAI in the AD docket.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comment[s] received.

Request To Clarify the Requirements of This AD

ExpressJet Airlines requests that we clarify the requirements for the inspection proposed by the NPRM. Embraer Service Bulletin 145-30-0052, dated August 2, 2007 (specified in the NPRM), calls for doing a general visual inspection, reporting damage that was found, and reporting service bulletin compliance. ExpressJet states that the NPRM calls for a detailed inspection and does not omit the reporting requirements. ExpressJet notes that it is not clear if inspections accomplished before the effective date of the AD according to the service bulletin would be acceptable for compliance or if an additional inspection would need to be accomplished. ExpressJet also notes it is not clear if reporting is required.

We agree that clarification is needed. Agência Nacional de Aviação Civil (ANAC), which issued the Brazilian Airworthiness Directive referenced in the NPRM, determined that a detailed inspection is necessary, instead of the general visual inspection specified in the referenced service bulletin, to adequately detect possible damage. We concurred with that determination. Wherever the requirements of an AD and the referenced service information differ, the AD takes precedence. Therefore, an inspection for possible damage that is accomplished before the effective date of this AD must be a detailed inspection to be acceptable for compliance with the requirements of this AD.

After we published the NPRM, we received Revision 01 to Embraer Service Bulletin 145-30-0052, dated January 23, 2008; and Revision 01 to Embraer Service Bulletin 145LEG-30-0019, dated January 25, 2008 (the original issue was referred to in the NPRM). Revision 01 of each service

bulletin specifies a detailed inspection. We have revised paragraph (f) of this AD to reference Revision 01 of each service bulletin and provide credit for accomplishing the original issue of the service bulletin, as long as a detailed inspection technique is used.

Additionally, although the service bulletin specifies reporting damage and service bulletin compliance, this AD does not require reporting. Our intent is to match the actions specified in the Brazilian Airworthiness Directive, which does not require the reporting. However, an operator may elect to submit such information, although not required to do so by this AD. We have not changed the AD in this regard.

Request To Shorten Compliance Time

Air Line Pilots Association, International (ALPA), supports the intent of the AD, but considers the proposed 2,500-flight-hours or 24-months (whichever is first) compliance time to be excessive. ALPA recommends a shorter compliance time.

We disagree with the commenter's request. While the service bulletins recommend a compliance time of 6,000 flight hours or 48 months, ANAC specified a compliance time of 2,500 flight hours or 24 months based on its engineering analysis. We concur with ANAC's engineering analysis and have determined that the compliance time, as proposed, represents an appropriate interval of time in which the required actions can be performed and provides an acceptable level of safety. We have not changed the AD in this regard.

Explanation of Change to Applicability

We have revised the model designations in the applicability of this AD to match the designations as published in the most recent type certificate data sheet for the affected models.

Conclusion

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

Differences Between This AD and the MCAI or Service Information

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are highlighted in a NOTE within the AD.

Costs of Compliance

We estimate that this AD will affect 704 products of U.S. registry. We also estimate that it will take about 8 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$80 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$450,560, or \$640 per product.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new AD:



2008-22-19 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-15716.
Docket No. FAA-2008-0483; Directorate Identifier 2008-NM-006-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective December 19, 2008.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to EMBRAER Model EMB-135BJ, -135ER, -135KE, -135KL, and -135LR airplanes and Model EMB-145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes; certificated in any category; having serial numbers 145002 through 145362, 145364 through 145590, and 145592 through 14500987.

Subject

- (d) Air Transport Association (ATA) of America Code 30: Ice and Rain Protection.

Reason

- (e) The mandatory continuing airworthiness information (MCAI) states:

It has been found the occurrence of smoke in the flight deck originated from Pitot 1/2 and TAT 1/2 current sensor relays and [their] respective sockets, caused by poor electrical contacts between those relays and their sockets.

The unsafe condition is that smoke in the flight deck may interfere with the flightcrew's ability to operate the airplane. Corrective actions include inspecting for damage of the Pitot 1 and 2 and TAT 1 and 2 current sensor relays and sockets; and, as applicable, replacing the A1 and C1 electrical contacts of the sockets and reidentifying the sockets, replacing the sockets, and replacing current sensor relays. Damage may include melted points or stuck material of the silicone gasket, incorrect shape of the current sensor relay/sockets, discoloration of contacts, loose pin-type contacts, cracking or loose material of the polish and sealant of the bases, contaminants of the current sensor relays/sockets, and stuck material or roughness of the surface of the current sensor relay/pin-type contact.

Actions and Compliance

(f) Unless already done: Within 2,500 flight hours or 24 months after the effective date of this AD, whichever occurs first, do the following actions in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145-30-0052, Revision 01, dated January 23, 2008; or

145LEG-30-0019, Revision 01, dated January 25, 2008; as applicable. Do all applicable replacements and re-identification before further flight.

(1) Perform a detailed inspection of the Pitot 1 (K0053), Pitot 2 (K0054), TAT 1 (K0064), and TAT 2 (K0494) current sensor relays for possible damage caused by overheating in their contacts, enclosure, and finishing material.

(i) If no damage is found on a current sensor relay, that relay may be reinstalled.

(ii) If any damage is found on a current sensor relay, replace the relay with a new relay having the same part number (P/N), CS500-060-D4A.

(2) Perform a detailed inspection on the Pitot 1 (XK0053), Pitot 2 (XK0054), TAT 1 (XK0064), and TAT 2 (XK0494) relay sockets for possible damage caused by overheating in their contacts, enclosure, and finishing material.

(i) If no damage is found on a socket, replace electrical contacts A1 and C1 of the socket with new contacts having P/N M39029/92-536; re-identify the socket from P/N S500-9140 to S500-9140-A; and re-identify the socket electrical code from XK0053, XK0054, XK0064, and XK0494, to XK1243, XK1242, XK1245, and XK1244, respectively.

(ii) If any damage is found on a socket, replace the socket with a new socket having P/N S500-9140-A or S500-9216.

(3) Actions accomplished in accordance with Embraer Service Bulletin 145-30-0052, dated August 2, 2007; or 145LEG-30-0019, dated August 28, 2007; as applicable; are acceptable for compliance with this AD, provided that a detailed inspection is accomplished in place of the general visual inspection specified in the service bulletins.

Note 1: For the purpose of this AD, 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."

FAA AD Differences

Note 2: This AD differs from the MCAI and/or service information as follows: No differences.

Other FAA AD Provisions

(g) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1405; fax (425) 227-1149. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act, the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

Related Information

(h) Refer to MCAI Brazilian Airworthiness Directive 2007-11-04R1, effective December 21, 2007; Embraer Service Bulletin 145-30-0052, Revision 01, dated January 23, 2008; and Embraer Service Bulletin 145LEG-30-0019, Revision 01, dated January 25, 2008; for related information.

Material Incorporated by Reference

(i) You must use Embraer Service Bulletin 145-30-0052, Revision 01, dated January 23, 2008; or Embraer Service Bulletin 145LEG-30-0019, Revision 01, dated January 25, 2008; as applicable; to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170–Putim–12227-901 São Jose dos Campos–SP–BRASIL; telephone: +55 12 3927-5852 or +55 12 3309-0732; fax: +55 12 3927-7546; e-mail: distrib@embraer.com.br; Internet: <http://www.flyembraer.com>. (3) You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on October 20, 2008.

Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.