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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9049; Directorate Identifier 2016-NM-039-AD; Amendment 39-18807; AD 2017-04-12]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (Embraer) Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Empresa Brasileira de Aeronautica S.A. (Embraer) Model EMB-135BJ, EMB-135ER, EMB-135KE, EMB-135KL, EMB-135LR, EMB-145, EMB-145EP, EMB-145ER, EMB-145LR, EMB-145MP, EMB-145MR, and EMB-145XR airplanes. This AD was prompted by reports of main airspeed indication discrepancies during flight; these discrepancies resulted from ice blockages in certain pitot total pressure lines. This AD requires an inspection for tube misalignment of the pitot number 1 and pitot number 2 tube assembly lines, and corrective actions if necessary; installation or replacement (as applicable) of a tube ribbon heater on the pitot number 1 and pitot number 2 tube assembly lines; and revision of the airplane flight manual (AFM) to provide certain procedures and airspeed tables for the flightcrew. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective March 29, 2017.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of March 29, 2017.

ADDRESSES: For service information identified in this final rule, 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; email distrib@embraer.com.br; Internet <http://www.flyembraer.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9049.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9049; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1175; fax 425-227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Empresa Brasileira de Aeronautica S.A. (Embraer) Model EMB-135BJ, -135ER, -135KE, -135KL, and -135LR airplanes; and Model EMB-145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. The NPRM published in the Federal Register on August 30, 2016 (81 FR 59528) (“the NPRM”). The NPRM was prompted by reports of main airspeed indication discrepancies during flight; these discrepancies resulted from ice blockages in certain pitot total pressure lines. The NPRM proposed to require an inspection for tube misalignment of the pitot number 1 and pitot number 2 tube assembly lines, and corrective actions if necessary; installation or replacement (as applicable) of a tube ribbon heater on the pitot number 1 and pitot number 2 tube assembly lines; and revision of the AFM to provide certain procedures and airspeed tables for the flightcrew. We are issuing this AD to detect and correct water accumulating and freezing in the pitot number 1 and pitot number 2 total pressure lines, which could result in erroneous main airspeed indications and consequent reduced ability of the flightcrew to maintain safe flight and landing of the airplane.

Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directive 2016-03-01, effective March 11, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Empresa Brasileira de Aeronautica S.A. (Embraer) Model EMB-135 airplanes, and Model EMB-145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. The MCAI states:

This [Brazilian] AD results from reports of main airspeed indication discrepancies during flight. The investigation has revealed that Pitot #1 and #2 total pressure line blockage may occur due to water accumulation and freezing during heavy rain conditions. We are issuing this [Brazilian] AD to prevent water accumulation and freezing in the Pitot #1 and Pitot #2 total pressure lines, which could result in erroneous main airspeed indications and reduce the ability of the flight crew to maintain the safe flight and landing of the airplane.

Since this condition may occur in other airplanes of the same type and affects flight safety, a corrective action is required. Thus, sufficient reason exists to request compliance with this [Brazilian] AD * * *.

The required actions include a general visual inspection for tube misalignment of pitot number 1 and pitot number 2 tube assembly lines. Corrective actions include replacement of affected pitot tubes with new pitot tubes. The required actions also include installation, or, for certain airplanes, replacement, of a tube ribbon heater on the pitot number 1 and pitot number 2 tube assembly lines, and revision of the AFM to provide certain procedures and airspeed tables for the flightcrew. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9049.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comment received. The Air Line Pilots Association, International supported the NPRM.

Changes Since the NPRM Was Issued

We have revised this AD to refer to Embraer Service Bulletin 145-30-0056, Revision 03, dated February 6, 2015. The service information specifies that no additional work is needed if the actions in Embraer Service Bulletin 145-30-0056, Revision 01, dated March 31, 2014; or Revision 02, dated December 10, 2014; have been accomplished. We have revised paragraph (k) of this AD to provide credit for actions done prior to the effective date of this AD using Embraer Service Bulletin 145-30-0056, Revision 01, dated March 31, 2014; or Revision 02, dated December 10, 2014.

Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

Embraer has issued the following service information.

- Embraer Service Bulletin 145-30-0056, Revision 03, dated February 6, 2015; and Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014. This service information describes procedures to inspect the pitot pressure tubes for misalignment, install new heaters, and perform repairs. These documents are distinct since they apply to different airplane models.
- Embraer Temporary Revision (TR) 19.1, dated April 22, 2014, to Volume 1 of the Embraer Legacy Aircraft Operations Manual (AOM) AOM-135/1542-01. This service information contains, among other things, the “Unreliable Airspeed Procedure” in the Emergency/Abnormal Procedures section and the “Unreliable Airspeed Tables” (corresponding to the airplane configuration) in the Performance section.
- Embraer TR 40.2, dated April 4, 2014, to Volume 1, of the Embraer EMB-145 AOM AOM-145/1114-01. This service information contains, among other things, the “Unreliable Airspeed Procedure” in the Emergency/Abnormal Procedures section and the “Unreliable Airspeed Tables” (corresponding to the airplane configuration) in the Performance section.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 668 airplanes of U.S. registry.

We also estimate that it will take up to 5 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$3,254 per product. Based on these figures, we estimate the cost of this AD on U.S. operators to be up to \$2,457,572, or up to \$3,679 per product.

We have received no definitive data that will enable us to provide cost estimates for the on-condition actions specified in this AD.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all available costs in our cost estimate.

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 that 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);
3. Will not affect intrastate aviation in Alaska; and
4. 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.

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 airworthiness directive (AD):



2017-04-12 Empresa Brasileira de Aeronautica S.A. (Embraer): Amendment 39-18807; Docket No. FAA-2016-9049; Directorate Identifier 2016-NM-039-AD.

(a) Effective Date

This AD is effective March 29, 2017.

(b) Affected ADs

None.

(c) Applicability

This AD applies to the Empresa Brasileira de Aeronautica S.A. (Embraer) airplanes, certificated in any category, identified in paragraphs (c)(1) through (c)(4) of this AD.

(1) Model EMB-135ER, EMB-135KE, EMB-135KL, EMB-135LR, EMB-145, EMB-145EP, EMB-145ER, EMB-145LR, EMB-145MP, EMB-145MR, and EMB-145XR airplanes, as identified in Embraer Service Bulletin 145-30-0056, Revision 03, dated February 6, 2015.

(2) Model EMB-135BJ airplanes, as identified in Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014.

(3) Model EMB-135ER, EMB-135KE, EMB-135KL, EMB-135LR, EMB-145, EMB-145EP, EMB-145ER, EMB-145LR, EMB-145MR, EMB-145MP, and EMB-145XR airplanes, manufacturer serial numbers (MSNs) 14501153 and subsequent.

(4) Model EMB-135BJ airplanes, MSNs 14501190 through 14501197 inclusive, 14501199 through 14501210 inclusive, 14501212 through 14501227 inclusive, 14501229 through 14501249 inclusive, and subsequent.

(d) Subject

Air Transport Association (ATA) of America Code 30, Ice and rain protection.

(e) Reason

This AD was prompted by reports of main airspeed indication discrepancies during flight; these discrepancies resulted from ice blockages in certain pitot total pressure lines. We are issuing this AD to detect and correct water accumulating and freezing in the pitot number 1 and pitot number 2 total pressure lines, which could result in erroneous main airspeed indications and consequent reduced ability of the flightcrew to maintain safe flight and landing of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Inspection, Corrective Action, and Installation

(1) For airplanes identified as Group 1 in Embraer Service Bulletin 145-30-0056, Revision 03, dated February 6, 2015: Within 6,600 flight hours after the effective date of this AD, do a general visual inspection for tube misalignment on the pitot number 1 and pitot number 2 tube assemblies; do all applicable corrective actions; and install a new tube ribbon heater on the pitot number 1 and pitot number 2 tube assemblies; in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145-30-0056, Revision 03, dated February 6, 2015. Do all applicable corrective actions before further flight.

(2) For airplanes identified as Group 1 in Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014: Within 5,000 flight hours or 48 months after the effective date of this AD, whichever occurs first, do a general visual inspection for tube misalignment on the pitot number 1 and pitot number 2 tube assemblies; do all applicable corrective actions; and install a new tube ribbon heater on the pitot number 1 and pitot number 2 tube assemblies; in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014. Do all applicable corrective actions before further flight.

(h) Inspection, Corrective Action, and Replacement

(1) For airplanes identified as Group 2 in Embraer Service Bulletin 145-30-0056, Revision 03, dated February 6, 2015: Within 6,600 flight hours after the effective date of this AD, do a general visual inspection for tube misalignment on the pitot number 1 and pitot number 2 tube assemblies; do all applicable corrective actions; and replace the tube ribbon heater with a new tube ribbon heater on the pitot number 1 and pitot number 2 tube assemblies; in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145-30-0056, Revision 03, dated February 6, 2015. Do all applicable corrective actions before further flight.

(2) For airplanes identified as Group 2 in Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014: Within 5,000 flight hours or 48 months after the effective date of this AD, whichever occurs first, do a general visual inspection for tube misalignment on the pitot number 1 and pitot number 2 tube assemblies; do all applicable corrective actions; and replace the tube ribbon heater with a new tube ribbon heater on the pitot number 1 and pitot number 2 tube assemblies; in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014. Do all applicable corrective actions before further flight.

(i) Airplane Flight Manual (AFM) Revision

(1) For airplanes identified in paragraphs (c)(1) and (c)(3) of this AD: Within 60 days after the effective date of this AD, revise the AFM to include the information in the “Unreliable Airspeed Procedure” in the Emergency/Abnormal Procedures section and the “Unreliable Airspeed Tables” (corresponding to the airplane configuration) in the Performance section, as specified in Embraer Temporary Revision (TR) 40.2, dated April 4, 2014, to Volume 1, of the Embraer EMB-145 Aircraft Operations Manual (AOM) AOM-145/1114-01 (“Embraer TR 40.2”).

(2) For airplanes identified in paragraphs (c)(2) and (c)(4) of this AD: Within 60 days after the effective date of this AD, revise the AFM to include the information in the “Unreliable Airspeed Procedure” in the Emergency/Abnormal Procedures section and the “Unreliable Airspeed Tables” (corresponding to the airplane configuration) in the Performance section, as specified in Embraer TR 19.1, dated April 22, 2014, to Volume 1 of the Embraer EMB-145 AOM AOM-135/1542-01 (“Embraer TR 19.1”).

(j) AFM Revision Method of Compliance

The AFM revisions required by paragraphs (i)(1) and (i)(2) of this AD may be done by inserting Embraer AOM TR 40.2 or Embraer AOM TR 19.1, as applicable, into the AFM. When the applicable Embraer AOM TR has been included in general revisions of the AFM, the general revisions may be inserted in the AFM, provided the relevant information in the general revision is identical to that in Embraer AOM TR 40.2 or Embraer AOM TR 19.1, as applicable, and the applicable Embraer AOM TR may be removed from the AFM.

(k) Credit for Previous Actions

This paragraph provides credit for the actions required by paragraphs (g)(1) and (h)(1) of this AD, if those actions were performed before the effective date of this AD using Embraer Service Bulletin 145-30-0056, dated December 19, 2013; Revision 01, dated March 31, 2014; or Revision 02, dated December 10, 2014.

(l) Other FAA AD Provisions

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. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1175; fax 425-227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the Agência Nacional de Aviação Civil (ANAC); or ANAC's authorized Designee. If approved by the ANAC Designee, the approval must include the Designee's authorized signature.

(m) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Brazilian Airworthiness Directive 2016-03-01, effective March 11, 2016, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9049.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(3) and (n)(4) of this AD.

(n) Material Incorporated by Reference

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

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Embraer Service Bulletin 145-30-0056, Revision 03, dated February 6, 2015.

(ii) Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014.

(iii) Embraer Temporary Revision 19.1, dated April 22, 2014, to Volume 1 of the Embraer Legacy Aircraft Operations Manual AOM-135/1542-01.

(iv) Embraer Temporary Revision 40.2, dated April 4, 2014, to Volume 1, of the Embraer EMB-145 Aircraft Operations Manual AOM-145/1114-01.

(3) 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; email distrib@embraer.com.br; Internet <http://www.flyembraer.com>

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference 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 February 3, 2017.

Michael Kaszycki,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.