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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0697; Product Identifier 2017-NM-041-AD; Amendment 39-19080; AD 2017-21-09]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Embraer S.A. Model ERJ 170 airplanes and Model ERJ 190-100 STD, -100 LR, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. This AD was prompted by an evaluation by the design approval holder indicating that the forward pressure bulkhead is subject to widespread fatigue damage. This AD requires repetitive detailed inspections of the web aft face of the forward pressure bulkhead for any cracking and discrepancy, and repair if necessary. This AD also requires modification of the forward pressure bulkhead, which would terminate the inspections. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective November 27, 2017.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of November 27, 2017.

ADDRESSES: For service information identified in this final rule, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170–Putim–12227-901 São Jose dos Campos–SP–Brazil; 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 Standards Branch, 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-2017-0697.

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-2017-0697; 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: Ana Martinez Hueto, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1622; 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 Embraer S.A. Model ERJ 170 airplanes and Model ERJ 190-100 STD, -100 LR, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. The NPRM published in the Federal Register on July 17, 2017 (82 FR 32658) ("the NPRM").

The Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directive 2017-03-01, effective March 24, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain Embraer S.A. Model ERJ 170 airplanes and Model ERJ 190-100 STD, -100 LR, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. The MCAI states:

> This [Brazilian] AD was prompted by an evaluation by the design approval holder indicating that the forward pressure bulkhead is subject to widespread fatigue damage. The modification required by this [Brazilian] AD is intended to support the airplane reaching its limit of validity (LOV) of the engineering data that support the established structural maintenance program. We are issuing this [Brazilian] AD to prevent fatigue cracking of the forward pressure bulkhead, which could result in reduced structural integrity of the airplane.

Required actions include repetitive detailed inspections of the web aft face of the forward pressure bulkhead for any cracking and discrepancy (i.e., corrosion, dents, gauge marks, fastener anomalies); repair if necessary; and modification of the forward pressure bulkhead, which would terminate the repetitive inspections. 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-2017-0697.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed except for 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.

Related Service Information Under 1 CFR Part 51

Embraer S.A. has issued the following service information, which describes Task 53-10-001-0005, an airworthiness limitation task for a detailed inspection of the web aft face of the forward pressure bulkhead for any cracking and discrepancies. These documents are distinct since they apply to different airplane models.

- Embraer 170/175 MRB–Temporary Revision 12-3, dated September 19, 2016, to the Embraer 170/175 Maintenance Review Board Report, MRB-1621.
- Embraer 190/195 MRB–Temporary Revision 10-4, dated September 19, 2016, to the Embraer 190/195 Maintenance Review Board Report, MRB-1928.

Embraer S.A. has issued the following service information, which describes procedures for modifying the forward pressure bulkhead. These documents are distinct since they apply to different airplane models.

- Embraer Service Bulletin 170-53-0051, Revision 03, dated August 21, 2013.
- Embraer Service Bulletin 190-53-0019, Revision 03, dated August 21, 2013.

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 482 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	1 work-hour × $85 per hour = $85 per inspection cycle	$0	$85 per inspection cycle	$40,970 per inspection cycle.
Modification	158 work-hours × $85 per hour = $13,430	Up to $13,409	Up to $26,839	Up to $12,936,398.

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

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes to the Director of the System Oversight Division.

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):

2017-21-09 Embraer S.A.: Amendment 39-19080; Docket No. FAA-2017-0697; Product Identifier 2017-NM-041-AD.

(a) Effective Date

This AD is effective November 27, 2017.

(b) Affected ADs

None.

(c) Applicability

This AD applies to the airplanes specified in paragraphs (c)(1) and (c)(2) of this AD, certificated in any category.

(1) Embraer S.A. Model ERJ 170-100 LR, -100 STD, -100 SE., and -100 SU airplanes; and Model ERJ 170-200 LR, -200 SU, and -200 STD airplanes; as identified in Embraer Service Bulletin 170-53-0051, Revision 03, dated August 21, 2013.

(2) Embraer S.A. Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes; as identified in Embraer Service Bulletin 190-53-0019, Revision 03, dated August 21, 2013.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Reason

This AD was prompted by an evaluation by the design approval holder indicating that the forward pressure bulkhead is subject to widespread fatigue damage. We are issuing this AD to prevent fatigue cracking of the forward pressure bulkhead, which could result in reduced structural integrity of the airplane.

(f) Compliance

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

(g) Repetitive Inspections and Repairs

Before the accumulation of 25,954 total flight cycles, or within 3,600 flight cycles after the effective date of this AD, whichever occurs later: Do a detailed inspection of the web aft face of the forward pressure bulkhead for any cracking and discrepancy (i.e., corrosion, dents, gauge marks, fastener anomalies), in accordance with Task 53-10-001-0005 specified in Embraer 170/175 MRB–Temporary Revision 12-3, dated September 19, 2016, to the Embraer 170/175 Maintenance Review

Board Report, MRB-1621; or Task 53-10-001-0005 specified in Embraer 190/195 MRB–Temporary Revision 10-4, dated September 19, 2016, to the Embraer 190/195 Maintenance Review Board Report, MRB-1928; as applicable. Repeat the inspection thereafter at intervals not to exceed 6,489 flight cycles. If any cracking or discrepancy is found during any inspection required by this paragraph, before further flight, repair the forward pressure bulkhead using a method approved by the Manager, International Section, Transport Standards Branch, 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.

(h) Modification of the Forward Pressure Bulkhead

Before the accumulation of 38,931 total flight cycles: Modify the forward pressure bulkhead, in accordance with the Accomplishment Instructions of Embraer Service Bulletin 170-53-0051, Revision 03, dated August 21, 2013; or Embraer Service Bulletin 190-53-0019, Revision 03, dated August 21, 2013; as applicable. Accomplishing the modification required by this paragraph terminates the requirements of paragraph (g) of this AD.

(i) Credit for Previous Actions

(1) This paragraph provides credit for the actions applicable to Model ERJ 170 airplanes required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD, using the service information specified in paragraph (i)(1)(i), (i)(1)(ii), or (i)(1)(iii) of this AD.

(i) Embraer Service Bulletin 170-53-0051, dated February 26, 2010.

(ii) Embraer Service Bulletin 170-53-0051, Revision 01, dated May 25, 2011.

(iii) Embraer Service Bulletin 170-53-0051, Revision 02, May 28, 2012.

(2) This paragraph provides credit for actions applicable to Model ERJ 190 airplanes required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD, using the service information specified in paragraph (i)(2)(i), (i)(2)(ii), or (i)(2)(iii) of this AD.

(i) Embraer Service Bulletin 190-53-0019, dated February 26, 2010.

(ii) Embraer Service Bulletin 190-53-0019, Revision 01, dated May 25, 2011.

(iii) Embraer Service Bulletin 190-53-0019, Revision 02, dated May 28, 2012.

(j) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, 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 Section, send it to the attention of the person identified in paragraph (k)(2) of this AD. 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 Section, Transport Standards Branch, FAA; or the ANAC; or ANAC's authorized Designee. If approved by the ANAC Designee, the approval must include the Designee's authorized signature.

(k) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Brazilian AD 2017-03-01, dated March 24, 2017, 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-2017-0697.

(2) For more information about this AD, contact Ana Martinez Hueto, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1622; fax 425-227-1149.

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

(l) 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 170/175 MRB–Temporary Revision 12-3, dated September 19, 2016, to the Embraer 170/175 Maintenance Review Board Report, MRB-1621.

(ii) Embraer 190/195 MRB–Temporary Revision 10-4, dated September 19, 2016, to the Embraer 190/195 Maintenance Review Board Report, MRB-1928.

(iii) Embraer Service Bulletin 170-53-0051, Revision 03, dated August 21, 2013.

(iv) Embraer Service Bulletin 190-53-0019, Revision 03, dated August 21, 2013.

(3) For service information identified in this AD, contact Embraer S.A., 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 Standards Branch, 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 October 12, 2017.
Dionne Palermo,
Acting Director, System Oversight Division,
Aircraft Certification Service.