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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0668; Directorate Identifier 2008-NM-088-AD; Amendment 39-15847; AD 2009-06-11]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 190 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:

During aircraft structure fatigue tests, cracks were found in the wing lower skin stringers between ribs 7 and 10 on both wings. In order to prevent fatigue cracks in the wing lower skin stringers, which could result in fuel leakage and reduced structural integrity of the wing, the referred stringers must be reworked.

We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective April 28, 2009.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of April 28, 2009.

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: Kenny Kaulia, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2848; 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 June 24, 2008 (73 FR 35597). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

During aircraft structure fatigue tests, cracks were found in the wing lower skin stringers between ribs 7 and 10 on both wings. In order to prevent fatigue cracks in the wing lower skin stringers, which could result in fuel leakage and reduced structural integrity of the wing, the referred stringers must be reworked.

The corrective actions include spot-facing the lower wing stringers between ribs 7 and 10, doing a dye-penetrant inspection of the reworked stringers, shot-or flap-peening if no cracking is found, contacting the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the Agência Nacional de Aviação Civil (ANAC) (or its delegated agent) if any crack is found, and repairing.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

Request To Include New Revision of Service Bulletin and New Inspection Option

EMBRAER states that it has issued EMBRAER Service Bulletin 190-57-0005, Revision 02, dated May 27, 2008. (We referred to EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006, as the appropriate source of service information in the NPRM.) EMBRAER states that EMBRAER Service Bulletin 190-57-0005, Revision 02, dated May 27, 2008, provides procedures for an eddy current inspection rather than the dye-penetrant inspection method specified in EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006. The eddy current inspection method uses equipment that is more appropriate for handling inside the fuel tank. EMBRAER states that airplanes already inspected using the dye-penetrant inspection method do not require additional inspection, and requests that EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006, be considered an alternative method for complying with the NPRM.

We agree that the eddy current inspection method specified in EMBRAER Service Bulletin 190-57-0005, Revision 02, dated May 27, 2008, is an acceptable optional way to do the inspection for cracking of the reworked stringers. Therefore, we have revised paragraph (f) of this AD to specify that operators may accomplish either the dye-penetrant inspection in accordance with EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006, or the eddy current inspection in accordance with EMBRAER Service Bulletin 190-57-0005, Revision 02, dated May 27, 2008.

Request To Change Shot-Peening to Flap-Peening

EMBRAER states that paragraph (f)(2)(i) of the NPRM should specify flap-peening of the reworked stringers if no cracking is found, rather than shot-peening as is specified in the NPRM. EMBRAER states that EMBRAER Service Bulletin 190-57-0005, Revision 02, dated May 27, 2008, specifies flap peening rather than shot peening.

We partially agree. We agree with the request to specify flap-peening in paragraph (f)(2)(i) of the AD; however, we disagree with specifying only flap peening in that paragraph because shot-peening

is also an acceptable method of compliance. Airplanes that are in compliance with EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006, do not need additional action. We have revised paragraph (f)(2)(i) of this AD to specify that both shot peening and flap peening are acceptable methods of compliance.

Request To Revise Contact for Repair Information

EMBRAER requests that we revise paragraph (f)(2)(ii) of the NPRM to specify that operators may contact not only Agência Nacional de Aviação Civil (ANAC) for repair instructions if cracking is found, but also its delegated agent, or the Manager of the FAA's Transport Airplane Directorate (TAD).

We agree that contacting one of ANAC's delegated agents or the TAD is appropriate. Therefore, we have changed paragraphs (e) and (f)(2)(ii) of this AD, and the last paragraph of the "Discussion" section, to specify that operators may also contact a delegated agent of ANAC, or the Manager of the TAD for repair instructions.

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 18 products of U.S. registry. We also estimate that it will take 110 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 \$158,400 or \$8,800 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:



2009-06-11 Empresa Brasileira De Aeronautica S.A. (EMBRAER): Amendment 39-15847.
Docket No. FAA-2008-0668; Directorate Identifier 2008-NM-088-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective April 28, 2009.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to EMBRAER Model ERJ 190-100 STD, -100 LR, -100 IGW, -100ECJ, -200 STD, -200 LR, and -200 IGW airplanes, certificated in any category, serial numbers 19000004, 19000006 through 19000028 inclusive, and 19000030 through 19000039 inclusive.

Subject

- (d) Air Transport Association (ATA) of America Code 57: Wings.

Reason

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

During aircraft structure fatigue tests, cracks were found in the wing lower skin stringers between ribs 7 and 10 on both wings. In order to prevent fatigue cracks in the wing lower skin stringers, which could result in fuel leakage and reduced structural integrity of the wing, the referred stringers must be reworked.

The corrective actions include spot-facing the lower wing stringers between ribs 7 and 10, doing a dye-penetrant or eddy current inspection of the reworked stringers, shot- or flap-peening if no cracking is found, contacting the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the Agência Nacional de Aviação Civil (ANAC) (or its delegated agent) if any crack is found, and repairing.

Actions and Compliance

(f) Unless already done: Prior to the accumulation of 5,000 total flight cycles, or within 500 flight cycles after the effective date of this AD, whichever occurs later, do the following actions.

(1) Spot-face the lower wing stringers between ribs 7 and 10 on both wings by changing their run out in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006; or Revision 02, dated May 27, 2008.

(2) Do a dye-penetrant inspection for cracking of the reworked stringers in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006; or an eddy current inspection for cracking of the reworked stringers in accordance

with the Accomplishment Instructions of EMBRAER Service Bulletin 190-57-0005, Revision 02, dated May 27, 2008.

(i) If no cracking is detected: Before further flight, flap-peen or shot-peen the stringer reworked area following the parameters indicated in the Accomplishment Instructions of EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006; or Revision 02, dated May 27, 2008.

(ii) If any cracking is detected: Before further flight, repair the airplane using a method approved by either the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the ANAC (or its delegated agent).

(3) Actions done before the effective date of this AD in accordance with EMBRAER Service Bulletin 190-57-0005, dated October 10, 2006; are acceptable for compliance with the corresponding requirements of paragraph (f) of this AD.

FAA AD Differences

Note 1: 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: Kenny Kaulia, Aerospace Engineer, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2848; fax (425) 227-1149. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office.

(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 2008-01-02, effective February 25, 2008; EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006; and EMBRAER Service Bulletin 190-57-0005, Revision 02, dated May 27, 2008; for related information.

Material Incorporated by Reference

(i) You must use EMBRAER Service Bulletin 190-57-0005, Revision 01, dated October 27, 2006; or EMBRAER Service Bulletin 190-57-0005, Revision 02, dated May 27, 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 of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221 or 425-227-1152.

(4) You may also review copies of the 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on February 20, 2009.

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