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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1227; Directorate Identifier 2012-NM-016-AD; Amendment 39-17467; AD 2013-11-07]

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 190 airplanes. This AD was prompted by reports of cracks on the side stay of the main landing gear (MLG). This AD requires repetitive measurements of the left-hand (LH) and right-hand (RH) MLG side stay support fitting to detect bushing migration, and eventual replacement of the bushing; and a detailed inspection for damage on the LH and RH MLG side stay support assembly, and related investigative and corrective actions if necessary. We are issuing this AD to prevent excessive bearing friction, which might compromise the MLG free fall extension and cause fatigue cracking on the MLG side stay and on its support assembly, resulting in reduced structural integrity of the MLG.

DATES: This AD becomes effective July 9, 2013.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of July 9, 2013.

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: Cindy Ashforth, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 227-2768; 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 December 17, 2012 (77 FR 74628). That NPRM proposed to correct an unsafe condition for the specified products. The Mandatory Continuing Airworthiness Information (MCAI) states:

This [Agência Nacional de Aviação Civil (ANAC)] AD results from reports of cracks on the Main Landing Gear (MLG) Side Stay. Further investigation has revealed that the cracks were caused by excessive friction on the MLG Side Stay Support Fitting due to its outer bushing migration. This [ANAC] AD is being issued to prevent such excessive bearing friction which may compromise the MLG free fall extension and; cause fatigue cracks on the MLG Side Stay and on the MLG Side Stay Support Assembly resulting in reduced structural integrity of the MLG.

* * * * *

The required actions include repetitive measurements of the LH and RH MLG side stay support fitting to detect bushing migration, and eventual replacement of the bushing; and a detailed inspection for damage on the LH and RH MLG side stay support assembly, and related investigative and corrective actions if necessary. The related investigative actions include a general visual inspection and an eddy current inspection for any cracking on the upper and lower side stays of the affected side stay support assembly. The corrective actions include replacing or repairing the MLG side stay or MLG side stay assembly and removing corrosion. 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 have considered the comments received.

Request To Revise Compliance Time

JetBlue Airways requested that the compliance time for the inspection and replacement of the bushing for the MLG side stay support fitting be revised to match the EMBRAER service information. JetBlue Airways stated that according to EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011, the reason for the replacement of the bushing of the MLG side stay support fitting is to ensure that the MLG side stay support fitting remains properly lubricated. In addition, JetBlue Airways stated that the service information is based on the difficulty of the lubrication of the MLG side stay fitting, which is lubricated using a certain maintenance manual and has a compliance time of intervals not to exceed 600 flight cycles. JetBlue Airways stated that if the bushing lubrication of the MLG side stay support fitting is normal with no difficulties, there should not be a technical reason to defer the replacement of the MLG side stay support fitting to an interval not to exceed 1,200 flight cycles after the effective date of the final rule. JetBlue Airways stated, however, that if the MLG side stay support fitting cannot be properly lubricated, then it is prudent to inspect the bushing for migration of the MLG side stay support fitting and replace the MLG side stay fitting in accordance with paragraphs (g) and (h) of the NPRM (77 FR 74628, December 17, 2012), respectively.

We disagree with the commenter's request. Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has determined that an unsafe condition can occur regardless of

whether or not the MLG side stay is properly lubricated. We have not received sufficient data to deviate from ANAC's determination. Affected operators, however, may request approval of an alternative method of compliance (AMOC) under the provisions of paragraph (k)(1) of this AD by submitting data substantiating that the change would provide an acceptable level of safety. We have not changed this final rule in this regard.

Request for an AMOC

US Airways commented that approval of an AMOC will be needed for replacement of the bushing for the MLG side stay. US Airways stated that it already performed the tasks using an engineering order that differs from the Accomplishment Instructions presented in EMBRAER Service Bulletin 190-57-0036, dated September 20, 2010.

We disagree with the commenter's request. We need to clarify the AMOC process. AMOCs provide an alternative method of compliance to the methods required to be used in the associated AD. An AMOC is issued only after an AD has been issued and only after data are provided to show that the proposed solution is complete and addresses the unsafe condition. You may apply for an AMOC using the procedures in paragraph (k)(1) of this AD. We have not changed this final rule in this regard.

Conclusion

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the 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 (77 FR 74628, December 17, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (77 FR 74628, December 17, 2012).

Costs of Compliance

We estimate that this AD will affect 97 products of U.S. registry. We also estimate that it will take about 44 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$362,780, or \$3,740 per product.

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.

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.

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 (77 FR 74628, December 17, 2012), 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:



2013-11-07 Embraer S.A.: Amendment 39-17467. Docket No. FAA-2012-1227; Directorate Identifier 2012-NM-016-AD.

(a) Effective Date

This airworthiness directive (AD) becomes effective July 9, 2013.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes; certificated in any category; as identified in the service information specified in paragraphs (c)(1) and (c)(2) of this AD.

(1) EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011.

(2) EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011.

(d) Subject

Air Transport Association (ATA) of America Code 32, Landing gear.

(e) Reason

This AD was prompted by reports of cracks on the side stay of the main landing gear (MLG). We are issuing this AD to prevent excessive bearing friction, which might compromise the MLG free fall extension and cause fatigue cracking on the MLG side stay and on its support assembly, resulting in reduced structural integrity of the MLG.

(f) Compliance

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

(g) Measurement for Bushing Migration of the MLG Side Stay Support Fitting

Within 100 flight cycles after the effective date of this AD: Measure the left-hand (LH) and right-hand (RH) MLG side stay support fitting to detect bushing migration, in accordance with Part I of the Accomplishment Instructions of EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011 (for Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes); or EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011 (for Model ERJ 190-100 ECJ airplanes).

(1) If the distance of bushing migration is less than 5 millimeters (mm), repeat the measurement required by paragraph (g) of this AD thereafter at intervals not to exceed 100 flight cycles until the actions required by paragraph (h) of this AD are accomplished.

(2) If the distance of bushing migration is equal to or more than 5 mm, before further flight, do the actions required by paragraph (h) of this AD.

(h) Replacement of the MLG Side Stay Support Fitting Bushing

Within 1,200 flight cycles after the effective date of this AD, except as specified by the compliance time in paragraph (g)(2) of this AD: Replace the LH and RH MLG side stay support fitting bushing, in accordance with Part II and Part III, respectively, of the Accomplishment Instructions of EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011 (for Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes); or EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011 (for Model ERJ 190-100 ECJ airplanes). Replacing the bushings terminates the repetitive measurements required by paragraph (g)(1) of this AD.

(i) MLG Side Stay and MLG Side Stay Support Assembly Inspection and Repair

At the applicable time specified in paragraph (i)(1), (i)(2), or (i)(3) of this AD: Perform a detailed inspection for damage on the LH and RH MLG side stay support assembly, and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-32-0043, Revision 02, dated August 23, 2011 (for Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes); or EMBRAER Service Bulletin 190LIN-32-0017, dated June 10, 2011 (for Model ERJ 190-100 ECJ airplanes). Do all applicable related investigative and corrective actions before further flight.

(1) For airplanes on which the actions specified in Part II and Part III of EMBRAER Service Bulletin 190-57-0036, or EMBRAER Service Bulletin 190LIN-57-0016, as applicable, have been done as of the effective date of this AD: Within 100 flight cycles after the effective date of this AD.

(2) For airplanes on which the actions specified in EMBRAER Service Bulletin 190-57-0036, or EMBRAER Service Bulletin 190LIN-57-0016, as applicable, have not been done as of the effective date of this AD; except for airplanes identified in paragraph (i)(3) of this AD: Within 1,200 flight cycles after the effective date of this AD.

(3) For airplanes on which the actions specified in EMBRAER Service Bulletin 190-32-0043, dated March 1, 2011, have been done as the effective date of this AD, and a repair of the MLG side stay support assembly was done if damage was found: Within 600 flight cycles after the effective date of this AD.

(j) Credit for Previous Actions

(1) This paragraph provides credit for the actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using EMBRAER Service Bulletin 190-57-0036, dated September 20, 2010; or EMBRAER Service Bulletin 190-57-0036, Revision 01, dated February 28, 2011; which are not incorporated by reference in this AD.

(2) This paragraph provides credit for the actions required by paragraph (i) of this AD, if those actions were performed before the effective date of this AD using EMBRAER Service Bulletin 190-32-0043, Revision 01, dated April 29, 2011, which is not incorporated by reference in this AD.

(k) 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: Cindy Ashforth, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 227-2768; 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. The AMOC approval letter must specifically reference this AD.

(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.

(l) Special Flight Permits

Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the airplane can be modified (if the operator elects to do so), provided that it is not a revenue flight and it meets weight limitations requirements specified by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA.

(m) Related Information

(1) Refer to MCAI Brazilian Airworthiness Directive 2012-01-01, effective January 28, 2012, and the service information specified in paragraphs (m)(1)(i) through (m)(1)(iv) of this AD, for related information.

(i) EMBRAER Service Bulletin 190-32-0043, Revision 02, dated August 23, 2011.

(ii) EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011.

(iii) EMBRAER Service Bulletin 190LIN-32-0017, dated June 10, 2011.

(iv) EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011.

(2) 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>.

(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 the AD specifies otherwise.

(i) EMBRAER Service Bulletin 190-32-0043, Revision 02, dated August 23, 2011.

(ii) EMBRAER Service Bulletin 190-57-0036, Revision 02, dated August 12, 2011.

(iii) EMBRAER Service Bulletin 190LIN-32-0017, dated June 10, 2011.

(iv) EMBRAER Service Bulletin 190LIN-57-0016, dated June 10, 2011.

(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 review copies of the 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 May 17, 2013.

Jeffrey E. Duven,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.