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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2013-0092; Directorate Identifier 2012-NM-067-AD; Amendment 39-17560; AD 2013-16-22]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Embraer S.A. Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Embraer S.A. Model ERJ 170 and ERJ 190 airplanes. This AD was prompted by reports of chafing between the auxiliary power unit (APU) electronic starter controller (ESC) power cables and the airplane tail cone firewall. This AD requires a detailed inspection for damage to the insulation and inner conductors of the APU ESC power cables, installing a new grommet support in the tail cone firewall, and corrective actions if necessary. We are issuing this AD to detect and correct damage to the APU ESC power cable harness, which if not corrected, could result in reduced structural integrity of the fuselage and empennage in the event of fire penetration through the firewall.

**DATES:** This AD becomes effective September 27, 2013.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of September 27, 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, WA 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 February 22, 2013 (78 FR 12256). That NPRM proposed to correct an unsafe condition for the specified products. The Agência Nacional de Aviação Civil (ANAC), which is the airworthiness authority for Brazil, has issued Brazilian Airworthiness Directives 2012-03-03 and 2012-03-04, both effective April 13, 2012 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

It has been found the occurrences of chafing between the Auxiliary Power Unit (APU) Electronic Starter Controller (ESC) power cables (harness W205) and the airplane tail cone firewall due to the grommet installed in the tail cone firewall moves out of its place. This condition, if not corrected, may result in reduced structural integrity of the fuselage and empennage in an event of fire penetration through the firewall. \* \* \*

The required actions include a detailed inspection for damage to the harness insulation and inner conductors of the APU ESC power cables, installing a new grommet support in the tail cone firewall, and corrective actions if necessary. Corrective actions include repairing the harness W205 insulation or replacing the harness W205 of the APU ESC power cables with a new harness. 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 Add Credit for Actions Accomplished in Accordance With Previous Service Information**

Embraer S.A. requested that we revise the NPRM (78 FR 12256, February 22, 2013) to allow credit for work done prior to the effective date of the proposed AD using Embraer Service Bulletin 170-53-0093, dated February 28, 2011; Embraer Service Bulletin 190-53-0054, dated February 28, 2011; or Embraer Service Bulletin 190LIN-53-0059, dated March 29, 2011; which are now all at Revision 01, dated March 16, 2012. Embraer notes that the instructions contained in the original issue of the service information combined with the instructions Embraer has provided to operators on a case-by-case basis are equivalent.

We disagree with the commenter's request because the FAA has no familiarity with the individual repair or replacement instructions provided by Embraer to each operator and cannot evaluate them for equivalence to the instructions in the required service information. The MCAI also does not allow credit for work performed using previous versions of the service information. Operators may apply for an alternative method of compliance (AMOC) for these actions in accordance with the provisions of paragraph (i)(1) of this AD. We have not changed the AD in this regard.

### **Explanation of Additional Changes Made to This AD**

We have revised the wording of paragraph (g) of this AD, which previously required a detailed visual inspection instead of a detailed inspection. We have also added paragraph (h) of this AD, which includes the definition of a detailed inspection.

## **Conclusion**

We reviewed the available data, including the comment received, 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 (78 FR 12256, February 22, 2013) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (78 FR 12256, February 22, 2013).

## **Costs of Compliance**

We estimate that this AD will affect 253 products of U.S. registry. We also estimate that it will take about 15 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 \$0 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$322,575, or \$1,275 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 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 this AD, 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.

## **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:



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**2013-16-22 Embraer S.A:** Amendment 39-17560. Docket No. FAA-2013-0092; Directorate Identifier 2012-NM-067-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective September 27, 2013.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the airplane models identified in paragraphs (c)(1) and (c)(2) of this AD.

(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; certificated in any category; as identified in Embraer Service Bulletin 170-53-0093, Revision 01, dated March 16, 2012.

(2) 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 Embraer Service Bulletin 190-53-0054, Revision 01, dated March 16, 2012; and Embraer Service Bulletin 190LIN-53-0059, Revision 01, dated March 16, 2012.

**(d) Subject**

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

**(e) Reason**

This AD was prompted by reports of chafing between the auxiliary power unit (APU) electronic starter controller (ESC) power cables and the airplane tail cone firewall. We are issuing this AD to detect and correct damage to the APU ESC power cable harness, which could result in reduced structural integrity of the fuselage and empennage in the event of fire penetration through the firewall.

**(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) Detailed Inspection, Installation, and Corrective Actions**

Within 3,000 flight hours or 18 months after the effective date of this AD, whichever occurs first: Do a detailed inspection for damage to the insulation and inner conductors of the APU ESC power cables (harness W205), in accordance with the Accomplishment Instructions of Embraer Service Bulletin 170-53-0093, Revision 01, dated March 16, 2012 (for Model ERJ 170 airplanes);

Embraer Service Bulletin 190-53-0054, Revision 01, dated March 16, 2012 (for Model ERJ 190 airplanes except for Model ERJ 190-100 ECJ airplanes); and Embraer Service Bulletin 190LIN-53-0059, Revision 01, dated March 16, 2012 (for Model ERJ 190-100 ECJ airplanes).

(1) If no damage is found, before further flight, install a new grommet support having part number (P/N) 191-21716-003 in the tail cone firewall, in accordance with the Accomplishment Instructions of Embraer Service Bulletin 170-53-0093, Revision 01, dated March 16, 2012 (for Model ERJ 170 airplanes); Embraer Service Bulletin 190-53-0054, Revision 01, dated March 16, 2012 (for Model ERJ 190 airplanes except for Model ERJ 190-100 ECJ airplanes); or Embraer Service Bulletin 190LIN-53-0059, Revision 01, dated March 16, 2012 (for Model ERJ 190-100 ECJ airplanes).

(2) If any damage is found during any inspection required in paragraph (g) of this AD that affects only the insulation of harness W205 of the APU ESC power cables: Before further flight, repair the insulation and install a new grommet support having P/N 191-21716-003 in the tail cone firewall, in accordance with the Accomplishment Instructions of Embraer Service Bulletin 170-53-0093, Revision 01, dated March 16, 2012 (for Model ERJ 170 airplanes); Embraer Service Bulletin 190-53-0054, Revision 01, dated March 16, 2012 (for Model ERJ 190 airplanes except for Model ERJ 190-100 ECJ airplanes); or Embraer Service Bulletin 190LIN-53-0059, Revision 01, dated March 16, 2012 (for Model ERJ 190-100 ECJ airplanes).

(3) If any damage is found during any inspection required in paragraph (g) of this AD that affects the insulation of harness W205 of the APU ESC power cables and the inner conductors: Before further flight, replace the harness with a new harness and install a new grommet support having P/N 191-21716-003 in the tail cone firewall, in accordance with the Accomplishment Instructions of Embraer Service Bulletin 170-53-0093, Revision 01, dated March 16, 2012 (for Model ERJ 170 airplanes); Embraer Service Bulletin 190-53-0054, Revision 01, dated March 16, 2012 (for Model ERJ 190 airplanes except for Model ERJ 190-100 ECJ airplanes); or Embraer Service Bulletin 190LIN-53-0059, Revision 01, dated March 16, 2012 (for Model ERJ 190-100 ECJ airplanes).

#### **(h) Definition of Detailed Inspection**

For the purpose of this AD, a detailed inspection 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.

#### **(i) 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, WA 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.

**(j) Related Information**

Refer to Mandatory Continuing Airworthiness Information (MCAI) Brazilian Airworthiness Directives 2012-03-03 and 2012-03-04, both effective April 13, 2012, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov>.

**(k) 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 170-53-0093, Revision 01, dated March 16, 2012.

(ii) Embraer Service Bulletin 190-53-0054, Revision 01, dated March 16, 2012.

(iii) Embraer Service Bulletin 190LIN-53-0059, Revision 01, dated March 16, 2012.

(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](mailto: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 August 2, 2013.

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