[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1077; Directorate Identifier 2012-NM-146-AD]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Embraer S.A. Model ERJ 170 and ERJ 190 airplanes. This proposed AD was prompted by a report that high rate discharge (HRD) bottle explosive cartridges of a cargo compartment fire extinguisher system were swapped between the forward and aft cargo compartments. Additional investigation also revealed the possibility of swapping between the electrical connectors of the HRD and low rate discharge (LRD) bottles, and a rotated installation of the HRD bottle. Improper assembly of the fire extinguishing bottle might cause the extinguishing agent to be discharged toward the unselected cargo compartment rather than toward the cargo compartment with fire. This proposed AD would require an inspection of the HRD bottle for correct installation and to determine if the pressure switch is in the correct position, and re-installation if necessary; an inspection of the HRD and LRD bottle discharge heads to determine the part number and replacement if necessary; and, for certain airplanes, an inspection to determine the part numbers of the HRD and LRD electrical connectors, and relocation if necessary. We are proposing this

AD to prevent the inability of the fire extinguishing system to suppress fire.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed 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. You may review copies of the 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.

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 proposed 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. Comments will be available in the AD docket shortly after receipt.

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:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2012-1077; Directorate Identifier 2012-NM-146-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will

also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

The Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directives 2012-07-01 and 2012-07-02, both effective July 30, 2012 (referred to after this as "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

> It was found during an inspection of the cargo compartment fire extinguisher system that High Rate Discharge (HRD) bottle explosive cartridges were swapped between forward and aft cargo compartments. Additional investigation has also revealed the possibility of swapping between the electrical connectors of the HRD and Low Rate Discharge (LRD) bottles and a rotated installation of the HRD bottle. Such improper assembly of the fire extinguishing bottle may cause the extinguishing agent to be discharged toward the unselected cargo compartment rather than toward the cargo compartment with fire, resulting in an insufficient concentration of fire extinguishing agent in the cargo compartment with fire, and consequent inability of the fire extinguishing system to suppress fire.
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> * * * * * * *

Required actions include an inspection of the HRD bottle for correct installation and to determine if the pressure switch is in the correct position, and re-installation if necessary; an inspection of the HRD and LRD bottle discharge heads to determine the part number and replacement if necessary; and, for certain airplanes, an inspection to determine the part numbers of the HRD and LRD electrical connectors, and relocation if necessary. You may obtain further information by examining the MCAI in the AD docket.

Relevant Service Information

Embraer has issued the following service bulletins to correct the unsafe condition identified in the MCAI.

- EMBRAER Service Bulletin 170-26-0011, Revision 01, dated June 19, 2012 (for 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).
- EMBRAER Service Bulletin 190-26-0011, Revision 01, dated June 19, 2012 (for 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).
- EMBRAER Service Bulletin 190LIN-26-0006, Revision 01, dated June 19, 2012 (for 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).

FAA's Determination and Requirements of this Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

Costs of Compliance

Based on the service information, we estimate that this proposed AD would affect about 163 products of U.S. registry. We also estimate that it would take about 7

work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is $85 per work-hour. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be $96,985, or $595 per product.

In addition, we estimate that any necessary follow-on actions would take about 1 work-hour and require parts costing $68,588, for a cost of $68,673 per product. We have no way of determining the number of products that may need these actions.

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 proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:

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 proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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:

Embraer S.A.: Docket No. FAA-2012-1077; Directorate Identifier 2012-NM-146-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the airplanes 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 170-26-0011, Revision 01, dated June 19, 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 Bulletins 190-26-0011, Revision 01, dated June 19, 2012, and 190LIN-26-0006, Revision 01, dated June 19, 2012.

(d) Subject

Air Transport Association (ATA) of America Code 26, Fire Protection.

(e) Reason

This AD was prompted by a report that high rate discharge (HRD) bottle explosive cartridges of a cargo compartment fire extinguisher system were swapped between the forward and aft cargo compartments. Additional investigation also revealed

the possibility of swapping between the electrical connectors of the HRD and low rate discharge (LRD) bottles, and a rotated installation of the HRD bottle. We are issuing this AD to prevent the inability of the fire extinguishing system to suppress fire.

(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) Inspections and Corrective Actions for Group 1 Airplanes

For airplanes on which EMBRAER Service Bulletin 170-26-0011, dated December 1, 2011 (for 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); EMBRAER Service Bulletin 190-26-0011, dated December 1, 2011 (for 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); or EMBRAER Service Bulletin 190LIN-26-0006, dated December 1, 2011 (for 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); has not been accomplished as of the effective date of this AD: Within 3,000 flight hours after the effective date of this AD, do the actions specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD. All actions must be done in accordance with Part I and Part II, as applicable, of the Accomplishment Instructions of EMBRAER Service Bulletin 170-26-0011, Revision 01, dated June 19, 2012 (for 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); EMBRAER Service Bulletin 190-26-0011, Revision 01, dated June 19, 2012 (for 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); or EMBRAER Service Bulletin 190LIN-26-0006, Revision 01, dated June 19, 2012 (for 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).

(1) Do a general visual inspection of the HRD bottle to determine if it is correctly installed and if the pressure switch is in the correct position. If the bottle is not correctly installed or the pressure switch is in the incorrect position, before further flight, remove and re-install the HRD bottle.

(2) Inspect the HRD and LRD bottle discharge heads to determine the part number. If the part number of the discharge heads is not the part number specified in Figure 3 of EMBRAER Service Bulletin 170-26-0011, Revision 01, dated June 19, 2012 (for 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); EMBRAER Service Bulletin 190-26-0011, Revision 01, dated June 19, 2012 (for 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); or EMBRAER Service Bulletin 190LIN-26-0006, Revision 01, dated June 19, 2012 (for 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); before further flight, replace the discharge bottle with a discharge bottle having the same part number.

(3) Inspect to determine the part numbers of the HRD and LRD bottle electrical connectors. If the part numbers of the HRD or LRD bottle electrical connectors are not the part numbers specified in Figure 1 of EMBRAER Service Bulletin 170-26-0011, Revision 01, dated June 19, 2012 (for 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); EMBRAER Service Bulletin 190-26-0011, Revision 01, dated June 19, 2012 (for 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); or EMBRAER Service Bulletin 190LIN-26-0006, Revision 01, dated June 19, 2012 (for 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); before further flight, relocate the HRD or LRD bottle electrical connectors by re-routing the electrical harness.

(h) Inspections and Corrective Actions for Group 2 Airplanes

For airplanes on which EMBRAER Service Bulletin 170-26-0011, dated December 1, 2011 (for 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); EMBRAER Service Bulletin 190-26-0011, dated December 1, 2011 (for 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); or EMBRAER Service Bulletin 190LIN-26-0006, dated December 1, 2011 (for 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); has been accomplished as of the effective date of this AD: Within 3,000 flight hours after the

effective date of this AD, do the actions specified in paragraphs (h)(1) and (h)(2) of this AD. All actions must be done in accordance with Part III of the Accomplishment Instructions of EMBRAER Service Bulletins 170-26-0011, Revision 01, dated June 19, 2012 (for 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); EMBRAER Service Bulletin 190-26-0011, Revision 01, dated June 19, 2012 (for 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); or EMBRAER Service Bulletin 190LIN-26-0006, Revision 01, dated June 19, 2012 (for 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).

(1) Do a general visual inspection of the HRD bottle to determine if it is correctly installed and if the pressure switch is in the correct position. If the bottle is not correctly installed or the pressure switch is in the incorrect position, before further flight, remove and re-install the HRD bottle.

(2) Inspect the HRD and LRD bottle discharge heads to determine the part number. If the part number of the discharge heads is not the part number specified in Figure 3 of EMBRAER Service Bulletin 170-26-0011, Revision 01, dated June 19, 2012 (for 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); EMBRAER Service Bulletin 190-26-0011, Revision 01, dated June 19, 2012 (for 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); or EMBRAER Service Bulletin 190LIN-26-0006, Revision 01,

dated June 19, 2012 (for 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), before further flight, replace the discharge bottle with a discharge bottle having the same part number.

(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, 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

(1) Refer to MCAI Brazilian Airworthiness Directives 2012-07-01 and 2012-07-02, both effective July 30, 2012, and the service bulletins identified in paragraphs (j)(1)(i), (j)(1)(ii), and (j)(1)(iii) of this AD, for related information.

(i) EMBRAER Service Bulletin 170-26-0011, Revision 01, dated June 19, 2012.

(ii) EMBRAER Service Bulletin 190-26-0011, Revision 01, dated June 19, 2012.

(iii) EMBRAER Service Bulletin 190LIN-26-0006, Revision 01, dated June 19, 2012.

(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. You may review copies of the 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.

Issued in Renton, Washington, on October 5, 2012.

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

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