[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0059; Directorate Identifier 2013-NM-075-AD]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Supplemental notice of proposed rulemaking (NPRM); reopening of comment period.

SUMMARY: We are revising an earlier proposed airworthiness directive (AD) for certain Embraer S.A. Model ERJ 170 airplanes. The NPRM proposed to supersede AD 2012-07-08, which requires revising the maintenance or inspection program to incorporate structural inspection requirements. The NPRM was prompted by a determination that more restrictive maintenance requirements and airworthiness limitations are necessary. Since the NPRM was issued, a new revision of the airworthiness limitations section (ALS) of the EMBRAER S.A. ERJ 170/175 Maintenance Review Board Report (MRBR) was issued, which contains more restrictive airworthiness limitations. This action revises the NPRM by proposing to require revising the maintenance or inspection program, as applicable, to incorporate the new ALS of the MRBR. This supplemental NPRM (SNPRM) would also remove certain airplanes from the applicability. In addition, we propose to supersede AD 2006-06-09, AD 2012-05-08, and AD 2012-07-08, which require tasks that are now included in the new revision of the

MRBR. We are proposing this SNPRM to detect and correct fatigue cracking of various principal structural elements; such cracking could result in reduced structural integrity of the airplane. We are also proposing this SNPRM to prevent safety-significant latent failures; such failures, in combination with one or more other specified failures or events, could result in a hazardous or catastrophic failure condition of avionics, hydraulic systems, fire detection systems, fuel systems, or other critical systems. In addition, we are also proposing this SNPRM to prevent the potential for ignition sources inside fuel tanks caused by latent failures, alterations, repairs, or maintenance actions; such failures, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane. Since these actions impose an additional burden over those proposed in the NPRM, we are reopening the comment period to allow the public the chance to comment on these proposed changes.

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

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, 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 view this 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 by searching for and locating Docket No. FAA-2014-0059; 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket 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: Ana Martinez Hueto, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601

Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1622; fax 425-227-1320.

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-2014-0059; Directorate Identifier 2013-NM-075-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

We issued a NPRM to amend 14 CFR part 39 by adding an AD that would apply to all Embraer S.A. Model ERJ 170 airplanes. The NPRM published in the Federal Register on February 27, 2014 (79 FR 11013) ("the NPRM"). The NPRM was prompted by a determination that more restrictive maintenance requirements and airworthiness limitations were necessary. The NPRM proposed to require a revision to the maintenance or inspection program to incorporate new inspections.

Actions Since Previous NPRM was Issued

Since we issued the NPRM, a new revision to the ALS of the EMBRAER S.A. ERJ 170/175 MRBR was issued, which contains more restrictive airworthiness limitations. The Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directive 2015-06-01, effective June 2, 2015 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition on certain Embraer S.A. Model ERJ 170 airplanes. The MCAI states:

> This [Brazilian] AD was prompted by a new revision to the airworthiness limitations of the Maintenance Review Board Report. This [Brazilian] AD is being issued to ensure that fatigue cracking of various principal structural elements is detected and corrected; such fatigue cracking, could adversely affect the structural integrity of these airplanes.

The required action is revising the maintenance or inspection program, as applicable, to incorporate the airworthiness limitations in Appendix A - "Airworthiness Limitations;" to the EMBRAER 170/175 Maintenance Review Board Report, MRB-1621, Revision 10, dated February 23, 2015, which is divided into four parts: Part 1 – Certification Maintenance Requirements, Part 2 – Airworthiness Limitation Inspections, Part 3 – Fuel System Limitation Items, and Part 4 – Life Limited Parts. 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-2014-0059.

This SNPRM also proposes to supersede AD 2006-06-09, Amendment 39-14518 (71 FR 14365, March 22, 2006); AD 2012-05-08, Amendment 39-16980 (77 FR 16155,

March 20, 2012); and AD 2012-07-08, Amendment 39-17014 (77 FR 24342, April 24, 2012); which require tasks that are now included in the new revision of the MRBR.

This SNPRM also proposes to remove airplanes with an original airworthiness certificate or original export certificate of airworthiness issued on or after February 23, 2015, from the applicability.

Related Service Information under 1 CFR part 51

Embraer S.A. has issued Part 1 - "Certification Maintenance Requirements;" Part 2 - "Airworthiness Limitation Inspections (ALI) – Structures;" Part 3 – "Fuel System Limitation Items;" and Part 4 – "Life Limited Items;" of Appendix A - "Airworthiness Limitations;" to the EMBRAER 170/175 Maintenance Review Board Report, MRB-1621, Revision 10, dated February 23, 2015. This service information describes airworthiness limitations (Part 1, Part 2, Part 3, and Part 4 of the MRBR make up the airworthiness limitations). 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.

Comments

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

Request to Refer to Revised Service Information

An anonymous commenter noted that paragraph (i) of the proposed AD (in the NPRM) included terminating action(s) for the requirements of paragraph (g) of the proposed AD (in the NPRM) if a revision to the maintenance or inspection program was

accomplished by the incorporation of the tasks in Part 2 - "Airworthiness Limitation Inspections (ALI) – Structures," of the EMBRAER 170 Maintenance Review Board Report, MRB-1621, Revision 8, dated August 20, 2012. The commenter stated that since August 20, 2012, five additional temporary revisions to Part 2 had been issued and the NPRM did not include the incorporation of these temporary revisions as being acceptable for compliance with the requirements of paragraph (g) of the proposed AD (in the NPRM). We infer that the commenter is requesting that the NPRM be revised to allow incorporation of the tasks in the current service information into an operator's maintenance or inspection program and that this should be acceptable for compliance with the requirements of paragraph (g) of the proposed AD (in the NPRM).

We agree with the commenter's request to refer to the current revision of the EMBRAER 170/175 MRBR, which includes the temporary revisions mentioned by the commenter. Paragraph (i) of this proposed AD has been revised to refer to the EMBRAER 170/175 Maintenance Review Board Report, MRB-1621, Revision 10, dated February 23, 2015.

FAA's Determination and Requirements of this SNPRM

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.

This proposed AD would require revisions to certain operator maintenance documents to include new actions (e.g., inspections) and Critical Design Configuration Control Limitations (CDCCLs). Compliance with these actions and CDCCLs is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by this proposed AD, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (k)(1) of this proposed AD. The request should include a description of changes to the required inspections that will ensure the continued damage tolerance of the affected structure.

Notwithstanding any other maintenance or operational requirements, components that have been identified as airworthy or installed on the affected airplanes before accomplishing the revision of the airplane maintenance or inspection program specified in this proposed AD, do not need to be reworked in accordance with the CDCCLs. However, once the airplane maintenance or inspection program has been revised as

required by this proposed AD, future maintenance actions on these components must be done in accordance with the CDCCLs.

Certain changes described above expand the scope of the NPRM. As a result, we have determined that it is necessary to reopen the comment period to provide additional opportunity for the public to comment on this SNPRM.

Airworthiness Limitations Based on Type Design

The FAA recently became aware of an issue related to the applicability of ADs that require incorporation of an ALS revision into an operator's maintenance or inspection program.

Typically, when these types of ADs are issued by civil aviation authorities of other countries, they apply to all airplanes covered under an identified type certificate (TC). The corresponding FAA AD typically retains applicability to all of those airplanes.

In addition, U.S. operators must operate their airplanes in an airworthy condition, in accordance with 14 CFR 91.7(a). Included in this obligation is the requirement to perform any maintenance or inspections specified in the ALS, and in accordance with the ALS as specified in 14 CFR 43.16 and 91.403(c), unless an alternative has been approved by the FAA.

When a type certificate is issued for a type design, the specific ALS, including revisions, is a part of that type design, as specified in 14 CFR 21.31(c).

The sum effect of these operational and maintenance requirements is an obligation to comply with the ALS defined in the type design referenced in the manufacturer's conformity statement. This obligation may introduce a conflict with an

AD that requires a specific ALS revision if new airplanes are delivered with a later revision as part of their type design.

To address this conflict, the FAA has approved alternative methods of compliance (AMOCs) that allow operators to incorporate the most recent ALS revision into their maintenance/inspection programs, in lieu of the ALS revision required by the AD. This eliminates the conflict and enables the operator to comply with both the AD and the type design.

However, compliance with AMOCs is normally optional, and we recently became aware that some operators choose to retain the AD-mandated ALS revision in their fleet-wide maintenance/inspection programs, including those for new airplanes delivered with later ALS revisions, to help standardize the maintenance of the fleet. To ensure that operators comply with the applicable ALS revision for newly delivered airplanes containing a later revision than that specified in an AD, we plan to limit the applicability of ADs that mandate ALS revisions to those airplanes that are subject to an earlier revision of the ALS, either as part of the type design or as mandated by an earlier AD.

This proposed AD, therefore, would apply to Model ERJ 170 airplanes with an original certificate of airworthiness or original export certificate of airworthiness that was issued before the date of approval of the ALS revision identified in this proposed AD (airplanes having serial numbers 17000002, 17000004 through 17000013 inclusive, and 17000015 through 17000453 inclusive). Operators of airplanes with an original certificate of airworthiness or original export certificate of airworthiness issued on or

after that date must comply with the airworthiness limitations specified as part of the approved type design and referenced on the type certificate data sheet.

Costs of Compliance

We estimate that this SNPRM affects 286 airplanes of U.S. registry.

The actions that are required by AD 2012-07-08, Amendment 39-17014 (77 FR 24342, April 24, 2012), and retained in this SNPRM take about 1 work-hour per product, at an average labor rate of $85 per work-hour. Required parts cost about $0 per product. Based on these figures, the estimated cost of the actions that were required by AD 2012-07-08 is $85 per product.

We also estimate that it would take about 1 work-hour per product to comply with the new basic requirements of this SNPRM. The average labor rate is $85 per work-hour. Required parts would cost about $0 per product. Based on these figures, we estimate the cost of this SNPRM on U.S. operators to be $24,310, or $85 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 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.

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:

a. Removing airworthiness directives AD 2006-06-09, Amendment 39-14518 (71 FR 14365, March 22, 2006); AD 2012-0508, Amendment 39-16980 (77 FR 16155, March 20, 2012); and AD 2012-07-08, Amendment 39-17014 (77 FR 24342, April 24, 2012); and

b. Adding the following new AD:

Embraer S.A: Docket No. FAA-2014-0059; Directorate Identifier 2013-NM-075-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

This AD replaces the ADs specified in paragraphs (b)(1), (b)(2), and (b)(3) of this AD:

(1) AD 2006-06-09, Amendment 39-14518 (71 FR 14365, March 22, 2006) ("AD 2006-06-06").

(2) AD 2012-05-08, Amendment 39-16980 (77 FR 16155, March 20, 2012) ("AD 2012-05-08").

(3) AD 2012-07-08, Amendment 39--17014 (77 FR 24342, April 24, 2012) ("AD 2012-07-08").

(c) Applicability

This AD applies to 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; manufacturer serial numbers 17000002, 17000004 through 17000013 inclusive, and 17000015 through 17000453 inclusive.

(d) Subject

Air Transport Association (ATA) of America Codes 27, Flight controls; 28, Fuel; 52, Doors; 53, Fuselage; 54, Nacelles/pylons; 55, Stabilizers; 57, Wings; 71, Powerplant; and 78, Exhaust.

(e) Reason

This AD was prompted by a determination that more restrictive airworthiness limitations are necessary. We are issuing this AD to detect and correct fatigue cracking of various principal structural elements; such cracking could result in reduced structural integrity of the airplane. We are also issuing this AD to prevent safety-significant latent failures; such failures, in combination with one or more other specified failures or events, could result in a hazardous or catastrophic failure condition of avionics, hydraulic systems, fire detection systems, fuel systems, or other critical systems. We are also issuing this AD to prevent the potential for ignition sources inside fuel tanks caused by latent failures, alterations, repairs, or maintenance actions; such failures, in combination

with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

(f) Compliance

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

(g) Retained Maintenance Program Revision, with No Changes

This paragraph restates the action required by paragraph (i) of AD 2012-07-08, with no changes.

(1) Within 60 days after May 29, 2012 (the effective date of AD 2012-07-08): Revise the maintenance program to incorporate the new or revised tasks specified in Part 2 – "Airworthiness Limitation Inspection (ALI) – Structures," of Appendix A, "Airworthiness Limitations," to the EMBRAER 170 MRBR, MRB-1621, Revision 7, dated November 11, 2010; and EMBRAER Temporary Revision (TR) 7-1, dated February 11, 2011, to Part 2 – "Airworthiness Limitation Inspection (ALI) – Structures," of Appendix A, "Airworthiness Limitations," to the EMBRAER 170 MRBR, MRB-1621, Revision 7, dated November 11, 2010; with the initial compliance times and intervals specified in these documents.

(2) The initial compliance times for the tasks start from the date of issuance of the original Brazilian airworthiness certificate or the date of issuance of the original Brazilian export certificate of airworthiness of the applicable airplane at the applicable time specified in the tasks, or within 600 flight cycles after revising the maintenance program, whichever occurs later. For certain tasks, the compliance times depend on the pre-modification and post-modification status of the actions specified in the associated

service bulletin, as specified in the "Applicability" column of Part 2 – "Airworthiness Limitation Inspection (ALI) – Structures," of Appendix A, "Airworthiness Limitations," to the EMBRAER 170 MRBR, MRB-1621, Revision 7, dated November 11, 2010; and Embraer Temporary Revision 7-1, dated February 11, 2011, to Part 2 – "Airworthiness Limitation Inspection (ALI) – Structures," of Appendix A, "Airworthiness Limitations," to the EMBRAER 170 MRBR, MRB-1621, Revision 7, dated November 11, 2010.

(h) Retained No Alternative Actions Intervals, and/or Critical Design Configuration Control Limitations (CDCCLs), with New Exception

This paragraph restates the action required by paragraph (j) of AD 2012-07-08, with a new exception. Except as required by paragraph (i) of this AD, after accomplishing the revisions required by paragraph (g) of this AD, no alternative actions (e.g., inspections), intervals, and/or CDCCLs may be used other than those specified in Part 2 – Airworthiness Limitation Inspection (ALI) – Structures, of Appendix A, Airworthiness Limitations, of the EMBRAER 170 MRBR MRB-1621, Revision 7, dated November 11, 2010; and EMBRAER Temporary Revision 7-1, dated February 11, 2011, to Part 2 – Airworthiness Limitation Inspection (ALI) – Structures, of Appendix A, Airworthiness Limitations, of the EMBRAER 170 MRBR MRB-1621, Revision 7, unless the actions, intervals, and/or CDCCLs are approved as an AMOC in accordance with the procedures specified in paragraph (k)(1) of this AD.

(i) New Revision of Maintenance or Inspection Program

Within 12 months after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate the airworthiness limitations specified in Part 1 - "Certification Maintenance Requirements;" Part 2 - "Airworthiness Limitation

Inspections (ALI) – Structures;" Part 3 – "Fuel System Limitation Items;" and Part 4 – "Life Limited Items;" of Appendix A - "Airworthiness Limitations;" of the EMBRAER 170/175 MRBR, MRB-1621, Revision 10, dated February 23, 2015. The initial compliance times and repetitive intervals are specified in the applicable part of the EMBRAER 170/175 MRBR, MRB-1621, Revision 10, dated February 23, 2015. Accomplishing the revision to the maintenance or inspection program required by this paragraph terminates the requirements of paragraph (g) of this AD.

(j) No Alternative Actions, Intervals, CDCCLs

After accomplishing the revision required by paragraph (i) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs may be used unless the actions, intervals, and CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (k)(1) of 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: Ana Martinez Hueto, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1622; fax 425-227-1320.

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) Contacting the Manufacturer: As of the effective date of this AD, 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 Branch, ANM-116, Transport Airplane Directorate, 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.

(l) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information Brazilian Airworthiness Directive 2015-06-01, effective June 2, 2015, 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-2014-0059.

(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 August 25, 2016.

John P. Piccola, Jr.,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.
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