



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2011-1325; Directorate Identifier 2010-NM-250-AD]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER)

Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) that applies to all EMBRAER Model ERJ 170 airplanes. The existing AD currently requires revising the Airworthiness Limitations Section (ALS) of the Instructions for Continued Airworthiness (ICA) to incorporate new structural inspection requirements. Since we issued that AD, during full scale fatigue testing, cracks were found in certain structural components of the airplane. Analysis of these cracks resulted in manufacturer modifications of the ALS of Embraer ERJ 170 Maintenance Review Board Report (MRBR), which include new inspections tasks, or modification of the current tasks and their respective thresholds and intervals. This proposed AD would revise the maintenance program to incorporate new or revised structural inspection requirements. We are proposing this AD to detect and correct fatigue cracking which could result in the loss of structural integrity of the airplane.

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 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>. You may review copies of the referenced 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.

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, Washington 98057-3356; telephone 425-227-2768; 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-2011-1325; Directorate Identifier 2010-NM-250-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

On May 14, 2010, we issued AD 2010-11-13, Amendment 39-16318 (75 FR 30284, June 1, 2010). That AD required actions intended to address an unsafe condition on the products listed above.

Since we issued AD 2010-11-13, Amendment 39-16318 (75 FR 30284, June 1, 2010): The Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directive 2011-04-01, dated May 5, 2011 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

During the airplane full scale fatigue test, cracks were found in some structural components of the airplane. Analysis of these cracks resulted in modifications on the Airworthiness Limitation Section (ALS) of Embraer ERJ 170 Maintenance Review Board Report (MRBR), to include new inspections tasks or modification of existing ones and its respective thresholds and intervals.

Failure to inspect these structural components, according to the new/ revised tasks, thresholds and intervals, could prevent a timely detection of fatigue cracking. These cracks, if not properly addressed, could adversely affect the structural integrity of the airplane.

* * * * *

The required action is revising the maintenance program to incorporate new structural inspection requirements. You may obtain further information by examining the MCAI in the AD docket.

Relevant Service Information

EMBRAER has issued Part 2 – Airworthiness Limitation Inspection (ALI) – Structures, of Appendix A, Airworthiness Limitations of the EMBRAER 170

Maintenance Review Board Report (MRBR) MRB-1621, Appendix A, Part 2, Airworthiness Limitations, Revision 7, dated November 11, 2010; and Temporary Revision (TR) 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, dated November 11, 2010. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

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 166 products of U.S. registry.

The actions that are required by AD 2010-11-13, Amendment 39-16318 (75 FR 30284, June 1, 2010) and retained in this proposed AD take about 1 work-hour per product, at an average labor rate of \$85 per work hour. Based on these figures, the estimated cost of the currently required actions is \$85 per product.

We estimate that it would take about 1 work-hour per product to comply with the

new 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 \$14,110, 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 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 removing Amendment 39-16318 (75 FR 30284, June 1, 2010) and adding the following new AD:

Empresa Brasileira de Aeronautica S.A. (EMBRAER): Docket No. FAA-2011-1325; Directorate Identifier 2010-NM-250-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 supersedes AD 2010-11-13, Amendment 39-16318 (75 FR 30284, June 1, 2010).

(c) Applicability

This AD applies to all Empresa Brasileira de Aeronautica S.A. (EMBRAER) 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.

Note 1: This AD requires revisions to certain operator maintenance documents to include new actions (e.g., inspections). Compliance with these actions is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, 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) of this AD. The request should include a description of changes to the required inspections that will ensure the continued damage tolerance of the affected structure. The FAA has provided guidance for this determination in Advisory Circular (AC) 25.1529-1A.

(d) Subject

Air Transport Association (ATA) of America Code 53: Fuselage; 57: Wings.

(e) Reason

This AD was prompted by cracks found in certain structural components during

full scale fatigue testing of the airplane. Analysis of these cracks resulted in manufacturer modifications of the ALS of Embraer ERJ 170 Maintenance Review Board Report (MRBR), which include new inspections tasks, or modification of the current tasks and their respective thresholds and intervals. We are issuing this AD to detect and correct fatigue cracking which could result in the loss of structural integrity of the airplane.

(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.

RESTATEMENT OF REQUIREMENTS OF AD 2010-11-13, AMENDMENT 39-16318 (75 FR 30284, JUNE 1, 2010):

(g) Actions

Within 90 days after July 6, 2010 (the effective date of AD 2010-11-13, Amendment 39-16318 (75 FR 30284, June 1, 2010)), revise the Airworthiness Limitations Section (ALS) of the Instructions for Continued Airworthiness (ICA) to incorporate the inspection tasks identified in the EMBRAER temporary revisions (TRs) to Appendix A – Part 2 of the EMBRAER 170 Maintenance Review Board Report (MRBR) MRB-1621 listed in table 1 of this AD. The initial compliance times for the tasks start from the applicable threshold times specified in the TRs for the corresponding tasks of the maintenance review board report or within 500 flight cycles after July 6, 2010, 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 the applicable TRs identified in table 1 of this AD. The threshold values stated in the TRs referenced in

table 1 of this AD are total flight cycles on the airplane since the date of issuance of the original Brazilian airworthiness certificate or the date of issuance of the original Brazilian export certificate of airworthiness.

Table 1 – Inspection Tasks

TR	Date	Subject	Task Number
TR 4-1	October 15, 2007	Ram air turbine compartment, support structure and cutout structure—internal	53-10-012-0002
			53-10-012-0003
		Nose landing gear wheel well metallic structure	53-10-021-0005
			53-10-021-0006
TR 4-3	December 6, 2007	Wing stub spar 3 side fitting—internal	57-01-012-001
		Wing upper skin panels—external	57-10-010-0002
		Fixed trailing edge lower skin panel—external	57-50-002-0002
		Fixed trailing edge rib 4A—external	57-50-005-0003
		Fixed trailing edge rib 6—internal	57-50-005-0004
TR 4-4	January 18, 2008	Wing stub main box lower—internal	57-01-002-003

(h) No Alternative Inspections for Paragraph (g) of This AD

Except as required by paragraph (i) of this AD, after accomplishing the actions specified in paragraph (g) of this AD, no alternative inspections or inspection intervals may be used unless the inspection or inspection interval is approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, or the Agência Nacional de Aviação Civil (ANAC) (or its delegated agent); or unless the inspection or interval is approved as an alternative method of compliance (AMOC) in accordance with

the procedures specified in paragraph (k)(1) of this AD.

NEW REQUIREMENTS OF THIS AD:

(i) Revision of the Maintenance Program

Within 60 days after the effective date of this AD: 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 of the EMBRAER 170 MRBR MRB-1621, Appendix A, Part 2, Airworthiness Limitations, Revision 7, dated November 11, 2010; and Temporary Revision (TR) 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, dated November 11, 2010, with the initial compliance times and intervals stated in these documents. 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 of the EMBRAER 170 MRBR MRB-1621, Appendix A, Part 2, Airworthiness Limitations, Revision 7, dated November 11, 2010; and Temporary Revision (TR) 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, dated November 11, 2010. For tasks identified in the documents identified in this paragraph, doing the initial task required by this paragraph terminates the requirements of paragraph (g) of this AD for that task.

(j) No Alternative Actions Intervals, and/or Critical Design Configuration Control Limitations (CDCCLs)

After accomplishing the revisions required by paragraph (i) 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, Appendix A, Part 2, Airworthiness Limitations, Revision 7, dated November 11, 2010; and Temporary Revision (TR) 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, dated November 11, 2010, 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.

(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, 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 425-227-1320. Information may be e-mailed 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.

(1) Related Information

Refer to MCAI Brazilian Airworthiness Directive 2011-04-01, dated May 5, 2011; and Part 2 – Airworthiness Limitation Inspection (ALI) – Structures, of Appendix A, Airworthiness Limitations of the EMBRAER 170 MRBR MRB-1621, Appendix A, Part 2, Airworthiness Limitations, Revision 7, dated November 11, 2010; and Temporary Revision (TR) 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, dated November 11, 2010; for related information.

Issued in Renton, Washington, on December 19, 2011.

Kalene C. Yanamura,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

[FR Doc. 2011-33279 Filed 12/28/2011 at 8:45 am; Publication Date: 12/29/2011]