

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-23187; Directorate Identifier 2005-NM-203-AD; Amendment 39-14397; AD 2005-25-04]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB-135BJ, -135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP Airplanes

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

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all EMBRAER Model EMB-135BJ, -135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. This AD requires reviewing the airplane maintenance records for recent reports of vibration from the tail section or rudder pedals. This AD also requires repetitively inspecting the skin, attachment fittings, and control rods of rudder II to detect cracking, loose parts, wear, or damage; and related investigative/corrective actions if necessary. This AD results from reports of rudder vibration due to wear. We are issuing this AD to prevent failure of multiple hinge fittings, which could result in severe vibration, and to prevent failure of the rudder control rods, which could result in jamming of the rudder II; and possible structural failure and reduced controllability of the airplane.

DATES: This AD becomes effective December 23, 2005.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of December 23, 2005.

We must receive comments on this AD by February 6, 2006.

ADDRESSES: Use one of the following addresses to submit comments on this AD.

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, room PL-401, Washington, DC 20590.

- Fax: (202) 493-2251.
 - Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343–CEP 12.225, Sao Jose dos Campos–SP, Brazil, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Dan Rodina, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2125; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

The Departamento de Aviacao Civil (DAC), which is the airworthiness authority for Brazil, notified us that an unsafe condition may exist on all EMBRAER Model EMB-135BJ, -135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. The DAC advises that it has received reports of rudder vibration. Investigation revealed wear in the attachment flange bushings of rudder II that progressed over the hinge fittings of rudder II. Investigation also revealed excessive freeplay of the end-to-rod attachment of the lower control rod on rudder II. Failure of multiple hinge fittings could result in severe vibration, and failure of the rudder control rods could result in jamming of the rudder II. These conditions, if not corrected, could result in possible structural failure and reduced controllability of the airplane.

Relevant Service Information

EMBRAER has issued Alert Service Bulletins 145LEG-55-A010, dated August 26, 2005, and 145-55-A036, Revision 01, dated September 5, 2005. The following table identifies the actions described in the service bulletins, which are divided into six parts.

SERVICE BULLETIN PROCEDURES

Part	Action	Condition	Related investigative and corrective actions
I	Visual inspection of the rudder II skin.	Crack	Repair or replacement of the affected area.
	Inspection of the rudder II control rods.	Relative movement between a control rod and its rod end.	Replacement of the control rod.
	Detailed visual inspection of the rudder II attachment fittings.	Wear or damage at only one attachment.	Part(s) II, III, IV, or V, as applicable, of the service bulletin.
		Wear or damage at more than one attachment.	Parts II, III, IV, and V of the service bulletin.
II–V	Dimensional inspection of hinge attachment points I, II, III, and IV.	Adequate measurements	Part VI of the service bulletin.
		Measurements within certain limits.	Replacement of the bolt and/or bushing, and accomplishment of the remaining parts of the service bulletin.
		Measurements for the bushing less than certain limits.	Repair as approved by EMBRAER.

Part	Action	Condition	Related investigative and corrective actions
VI	Install washers in hinge fittings	Group and modification status	Installation as specified in Figure 4 of the service bulletin, or restoration of modified airplanes as specified in the airplane maintenance manual (AMM).
	Install washers in control rod assembly.	Modification status	Installation as specified in Figure 5 of the service bulletin, or restoration of modified airplanes as specified in the AMM.

Accomplishing the actions specified in the service information is intended to adequately address the unsafe condition. The DAC mandated the service bulletins and issued Brazilian emergency airworthiness directive 2005-09-02R1, dated November 3, 2005, to ensure the continued airworthiness of these airplanes in Brazil.

The service bulletins refer to EMBRAER Service Bulletins 145LEG-55-0008, Revision 01, dated January 14, 2005; 145LEG-55-0009, dated June 21, 2004; and 145-55-0034, Revision 01, dated January 14, 2005, as additional sources of service information for installing washers in the rudder II hinge fittings and control rod assembly.

FAA's Determination and Requirements of This AD

These airplane models are manufactured in Brazil and are type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, the DAC has kept the FAA informed of the situation described above. We have examined the DAC's findings, evaluated all pertinent information, and determined that we need to issue an AD for products of this type design that are certificated for operation in the United States.

Therefore, we are issuing this AD to prevent failure of multiple hinge fittings, which could result in severe vibration, and to prevent failure of the rudder control rods, which could result in jamming of the rudder II; and possible structural failure and reduced controllability of the airplane. This AD requires reviewing the airplane maintenance records for recent reports of vibration from the tail section or rudder pedals. This AD also requires the actions specified in the service information described previously, except as discussed below.

Differences Between AD and Service Information/Brazilian Airworthiness Directive

The Brazilian airworthiness directive allows operators up to 20 flight hours/cycles to inspect airplanes that experienced vibration from the tail section or rudder pedals. However, for vibration reported before the effective date of the AD, to avoid unnecessary burden on operators, this AD requires compliance for the initial inspection within 2 days after the records review. And, for vibration reported after the effective date of the AD, the AD will require an inspection before the next flight. We have not received data to substantiate the continued safe operation of airplanes with reported vibration. However, if EMBRAER provides inspection criteria or analyses that would substantiate continued operational flight for the specified time period, we may consider further rulemaking in the future.

The service bulletins specify to contact the manufacturer for instructions on how to repair certain conditions, but this AD requires repairing those conditions using a method that we or the DAC (or its delegated agent) approve. In light of the type of repair that would be required to address the unsafe

condition, and consistent with existing bilateral airworthiness agreements, we have determined that, for this AD, a repair we or the DAC approve under those conditions would be acceptable for compliance with this AD.

Clarification of Inspection Terminology

Where Part I of the service bulletins refers to inspections for discrepancies of the rudder II, we have determined that these procedures should be described as a "detailed inspection." Note 1 in this AD defines this type of inspection.

FAA's Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD; therefore, providing notice and opportunity for public comment before the AD is issued is impracticable, and good cause exists to make this AD effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any relevant written data, views, or arguments regarding this AD. Send your comments to an address listed in the ADDRESSES section. Include "Docket No. FAA-2005-23187; Directorate Identifier 2005-NM-203-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD that might suggest a need to modify it.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of that web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or you may visit <http://dms.dot.gov>.

Examining the Docket

You may examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after the Docket Management System receives them.

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 have 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 the 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); and
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 AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

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 Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at www.faa.gov/aircraft/safety/alerts/

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2005-25-04 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-14397.
Docket No. FAA-2005-23187; Directorate Identifier 2005-NM-203-AD.

Effective Date

- (a) This AD becomes effective December 23, 2005.

Affected ADs

- (b) None.

Applicability

- (c) This AD applies to all EMBRAER Model EMB-135BJ, -135ER, -35KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes; certificated in any category.

Unsafe Condition

- (d) This AD results from reports of rudder vibration due to wear. We are issuing this AD to prevent failure of multiple hinge fittings, which could result in severe vibration, and to prevent failure of the rudder control rods, which could result in jamming of the rudder II; and possible structural failure and reduced controllability of the airplane.

Compliance

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

Records Review

- (f) Within 5 days after the effective date of this AD: Review the airplane maintenance records to determine whether any vibration from the tail section or rudder pedals was reported within 120 flight hours or 100 flight cycles before the effective date of this AD.

Inspection

- (g) At the applicable time specified in paragraph (g)(1) or (g)(2) of this AD: Do a detailed inspection of the skin, attachment fittings, and control rods of rudder II to detect cracks, loose parts,

wear, or damage. Inspect in accordance with the Accomplishment Instructions of EMBRAER Alert Service Bulletin 145LEG-55-A010, dated August 26, 2005 (for Model EMB-135BJ airplanes); or 145-55-A036, Revision 01, dated September 5, 2005 (for all other airplanes). Do all related investigative/corrective actions before further flight by doing all applicable actions specified in the service bulletin; except as required by paragraph (i) of this AD. Repeat the inspection at intervals not to exceed 2,500 flight hours, except as required by paragraph (h) of this AD.

(1) If any vibration was reported during the time period specified in paragraph (f) of this AD, inspect within 2 days after the records review.

(2) If no vibration was reported during the time period specified in paragraph (f) of this AD, except as required by paragraph (h) of this AD, inspect before the later of:

(i) 2,500 total accumulated flight hours.

(ii) 600 flight hours or 500 flight cycles, whichever occurs first, after the effective date of this AD.

Note 1: For the purposes 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 a mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required."

(h) If any vibration from the tail section or rudder pedals is reported after the effective date of this AD, do the inspection specified in paragraph (g) of this AD before the next flight. Repeat the inspection thereafter at intervals not to exceed 2,500 flight hours.

Note 2: EMBRAER Alert Service Bulletin 145LEG-55-A010, dated August 26, 2005, and 145-55-A036, Revision 01, dated September 5, 2005; refer to EMBRAER Service Bulletins 145LEG-55-0008, Revision 01, dated January 14, 2005, 145LEG-55-0009, dated June 21, 2004, and 145-55-0034, Revision 01, dated January 14, 2005, as additional sources of service information for installing washers in the rudder II hinge fittings and control rod assembly.

Exceptions to Service Bulletin Specifications

(i) Where EMBRAER Alert Service Bulletins 145LEG-55-A010 and 145-55-A036 specify to contact EMBRAER for repair instructions, operators must perform the repair before further flight using a method approved by either the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the Departamento de Aviacao Civil (or its delegated agent).

(j) Although EMBRAER Alert Service Bulletins 145LEG-55-A010 and 145-55-A036 recommend sending a report of the inspection results to the manufacturer, this AD does not require a report.

Credit for Prior Accomplishment of Earlier Service Bulletin

(k) For Model -135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes: Accomplishment of the inspection and applicable related investigative/corrective actions before the effective date of this AD, in accordance with EMBRAER Alert Service Bulletin 145-55-A036, dated August 20, 2005, is acceptable for compliance with the corresponding requirements of this AD.

Alternative Methods of Compliance (AMOCs)

(1)(1) The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) Before using any AMOC approved in accordance with § 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

Related Information

(m) Brazilian emergency airworthiness directive 2005-09-02R1, dated November 3, 2005, also addresses the subject of this AD.

Material Incorporated by Reference

(n) You must use EMBRAER Alert Service Bulletin 145LEG-55-A010, dated August 26, 2005; or EMBRAER Alert Service Bulletin 145-55-A036, Revision 01, dated September 5, 2005; as applicable, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of these documents in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343–CEP 12.225, Sao Jose dos Campos–SP, Brazil, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on November 2, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-23656 Filed 12-7-05; 8:45 am]

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