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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-0338; Directorate Identifier 2007-NM-139-AD; Amendment 39-15396; AD 2008-05-02]

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.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD), which applies to all EMBRAER Model EMB-135BJ, -135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. That AD currently requires reviewing the airplane maintenance records for recent reports of vibration from the tail section or rudder pedals. The existing AD also currently 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 new AD requires the existing repetitive inspection to be done with new service information. This new AD also requires replacing the locking tab washers on the control rods of the rudder II and installing springs on the hinge assemblies of the rudder II, which would terminate the repetitive inspection requirements. 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 April 8, 2008.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of April 8, 2008.

On December 23, 2005 (70 FR 72902, December 8, 2005), the Director of the Federal Register approved the incorporation by reference of EMBRAER Alert Service Bulletin 145LEG-55-A010, dated August 26, 2005; and EMBRAER Alert Service Bulletin 145-55-A036, Revision 01, dated September 5, 2005.

ADDRESSES: For service information identified in this AD, contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343–CEP 12.225, Sao Jose dos Campos–SP, Brazil.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (telephone 800-647-5527) is the Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Dan Rodina, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2125; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that supersedes AD 2005-25-04, amendment 39-14397 (70 FR 72902, December 8, 2005). The existing AD applies to all EMBRAER Model EMB-135BJ, -135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. That NPRM was published in the Federal Register on December 17, 2007 (72 FR 71281). That NPRM proposed to continue to require reviewing the airplane maintenance records for recent reports of vibration from the tail section or rudder pedals. The NPRM also proposed to continue to require 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. In addition to the existing requirements, the NPRM proposed to require that the existing repetitive inspection be done with new service information. The NPRM also proposed to require replacing the locking tab washers on the control rods of the rudder II and installing springs on the hinge assemblies of the rudder II, which would terminate the repetitive inspection requirements.

Comments

We provided the public the opportunity to participate in the development of this AD. No comments have been received on the NPRM or on the determination of the cost to the public.

Conclusion

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

The following table provides the estimated costs for U.S. operators to comply with this AD.

Estimated Costs

Action	Work hours	Average labor rate per hour	Parts	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Records review (required by AD 2005-25-04)	1	\$80	None	\$80	463	\$37,040
Terminating action (new action)	5	\$80	\$644	\$1,044	463	\$483,372

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 this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under 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 removing amendment 39-14397 (70 FR 72902, December 8, 2005) and by adding the following new airworthiness directive (AD):



2008-05-02 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-15396.
Docket No. FAA-2007-0338; Directorate Identifier 2007-NM-139-AD.

Effective Date

- (a) This AD becomes effective April 8, 2008.

Affected ADs

- (b) This AD supersedes AD 2005-25-04.

Applicability

(c) This AD applies to all EMBRAER Model EMB-135BJ, -135ER, -135KE, -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.

REQUIREMENTS OF AD 2005-25-04

Records Review

(f) Within 5 days after December 23, 2005 (the effective date of AD 2005-25-04): 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 December 23, 2005.

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); except as provided by paragraph (l) of this AD. Do all related investigative/corrective actions before further flight by doing all applicable actions specified in the service bulletin; except as required by paragraphs (i) and (l) 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 December 23, 2005.

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 December 23, 2005, 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 Bulletins 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 December 23, 2005, 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.

NEW REQUIREMENTS OF THIS AD

New Revision to Service Bulletins

(l) As of the effective date of this AD, use only the Accomplishment Instructions of EMBRAER Alert Service Bulletin 145LEG-55-A010, Revision 02, dated May 16, 2006 (for Model EMB-135BJ airplanes); or 145-55-A036, Revision 03, dated May 16, 2006 (for all other airplanes); as applicable;

to do the actions required by paragraphs (g) and (h) of this AD, until the actions required by paragraph (m) of this AD are done.

Note 3: EMBRAER Alert Service Bulletin 145LEG-55-A010, Revision 02, dated May 16, 2006 (for Model EMB-135BJ airplanes) refers to EMBRAER Service Bulletins 145LEG-55-0008, Revision 02, dated May 26, 2006; and 145LEG-55-0009, Revision 01, dated November 23, 2005; as additional sources of service information for installing washers in the rudder II hinge fittings and control rod assembly.

Note 4: EMBRAER Alert Service Bulletin 145-55-A036, Revision 03, dated May 16, 2006 (for EMB-135ER, -135KE, -135KL, -135LR, -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes), refers to EMBRAER Service Bulletins 145-55-0034, Revision 02, dated May 25, 2006; and 145-55-0035, Revision 02, dated March 28, 2006; as additional sources of service information for installing washers in the rudder II hinge fittings and control rod assembly.

Terminating Action

(m) Within 5,500 flight hours or 36 months after the effective date of this AD, whichever occurs first, replace the locking tab washers on the control rods of the rudder II and install springs on the hinge assemblies of the rudder II, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 145LEG-55-0011, Revision 01, dated January 23, 2007 (for Model EMB-135BJ airplanes); or 145-55-0038, Revision 01, dated January 23, 2007 (for all other airplanes); as applicable. Accomplishment of the replacement and installation constitutes terminating action for the requirements of this AD.

Credit for Prior Accomplishment of Earlier Service Bulletins

(n) Actions done before the effective date of this AD in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 145LEG-55-0011, dated May 12, 2006 (for Model EMB-135BJ airplanes); or 145-55-0038, dated May 12, 2006 (for all other airplanes); as applicable; are acceptable for compliance with the requirements of paragraph (m) of this AD.

Alternative Methods of Compliance (AMOCs)

(o)(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) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(3) AMOCs approved previously in accordance with AD 2005-25-04 are approved as AMOCs for the corresponding provisions of this AD.

Related Information

(p) Brazilian airworthiness directive 2005-09-02R2, effective May 10, 2007, also addresses the subject of this AD.

Material Incorporated by Reference

(q) You must use the service information identified in Table 1 of this AD to perform the actions that are required by this AD, unless the AD specifies otherwise.

Table 1 – All Material Incorporated by Reference

EMBRAER Service Bulletin	Revision Level	Date
Alert Service Bulletin 145LEG-55-A010	¹	August 26, 2005
Alert Service Bulletin 145LEG-55-A010	02	May 16, 2006
Alert Service Bulletin 145-55-A036	01	September 5, 2005
Alert Service Bulletin 145-55-A036	03	May 16, 2006
Service Bulletin 145LEG-55-0011	01	January 23, 2007
Service Bulletin 145-55-0038	01	January 23, 2007

¹ Original.

(1) The Director of the Federal Register approved the incorporation by reference of the service information identified in Table 2 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

Table 2 – New Material Incorporated by Reference

EMBRAER Service Bulletin	Revision Level	Date
Alert Service Bulletin 145LEG-55-A010	02	May 16, 2006
Alert Service Bulletin 145-55-A036	03	May 16, 2006
Service Bulletin 145LEG-55-0011	01	January 23, 2007
Service Bulletin 145-55-0038	01	January 23, 2007

(2) On December 23, 2005 (70 FR 72902, December 8, 2005), the Director of the Federal Register approved the incorporation by reference of EMBRAER Alert Service Bulletin 145LEG-55-A010, dated August 26, 2005; and EMBRAER Alert Service Bulletin 145-55-A036, Revision 01, dated September 5, 2005.

(3) 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 FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or 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 February 20, 2008.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

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