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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2006-26462; Directorate Identifier 2006-NM-221-AD; Amendment 39-14952; AD 2007-04-20]**

**RIN 2120-AA64**

**Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU Airplanes and Model ERJ 190 Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain EMBRAER Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes and Model ERJ 190 airplanes. This AD requires inspecting to determine the part number and serial number of the deployment actuator of the ram air turbine (RAT) and related investigative and corrective actions if necessary. This AD results from reports that the RAT may not fully deploy due to galling between the piston rod and gland housing of the RAT deployment actuator. We are issuing this AD to prevent the RAT from failing to deploy, which could result in loss of control of the airplane during in-flight emergencies.

**DATES:** This AD becomes effective April 3, 2007.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of April 3, 2007.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC.

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:** Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149.

## SUPPLEMENTARY INFORMATION:

### Examining the Docket

You may examine the airworthiness directive (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 street address stated in the ADDRESSES section.

### Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to certain EMBRAER Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes and Model ERJ 190 airplanes. That NPRM was published in the Federal Register on December 8, 2006 (71 FR 71096). That NPRM proposed to require inspecting to determine the part number and serial number of the deployment actuator of the ram air turbine (RAT) and related investigative and corrective actions if necessary.

### Comments

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

### Clarification of Service Bulletin Reference Paragraph

We have added to paragraph (f)(1) of this AD three airplane models that were unintentionally left out of that paragraph.

### Conclusion

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD with the change described previously. We have determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

### Costs of Compliance

The following table provides the estimated costs for U.S. operators to comply with this AD, at an average labor rate of \$80 per hour.

**Estimated Costs**

<b>Action</b>	<b>Work hours</b>	<b>Cost per airplane</b>	<b>Number of U.S.-registered airplanes</b>	<b>Fleet Cost</b>
Inspection to determine part and serial numbers	1	\$80	76	\$6,080
Inspection of piston rod	1	\$80, per inspection cycle	Up to 76	Up to \$6,080, per inspection cycle

<b>Action</b>	<b>Work hours</b>	<b>Cost per airplane</b>	<b>Number of U.S.-registered airplanes</b>	<b>Fleet Cost</b>
Replacement of RAT deployment actuator	4	\$320	Up to 76	Up to \$24,320

### **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 adding the following new airworthiness directive (AD):



**2007-04-20 Empresa Brasileira de Aeronautica S.A. (EMBRAER):** Amendment 39-14952.  
Docket No. FAA-2006-26462; Directorate Identifier 2006-NM-221-AD.

**Effective Date**

- (a) This AD becomes effective April 3, 2007.

**Affected ADs**

- (b) None.

**Applicability**

(c) This AD applies to EMBRAER Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes, as identified in EMBRAER Service Bulletin 170-24-0026, dated December 22, 2005; and Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes, as identified in EMBRAER Service Bulletin 190-24-0003, dated December 22, 2005; certificated in any category.

**Unsafe Condition**

(d) This AD results from reports that the ram air turbine (RAT) may not fully deploy due to galling between the piston rod and gland housing of the RAT deployment actuator. We are issuing this AD to prevent the RAT from failing to deploy, which could result in loss of control of the airplane during in-flight emergencies.

**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.

**Service Bulletin Reference**

(f) The term “service bulletin,” as used in this AD, means the Accomplishment Instructions of the service bulletins identified in paragraphs (f)(1) and (f)(2) of this AD. Where these service bulletins specify returning affected parts to Hamilton Sundstrand, this AD does not require that action.

(1) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes: EMBRAER Service Bulletin 170-24-0026, dated December 22, 2005.

(2) For Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes: EMBRAER Service Bulletin 190-24-0003, dated December 22, 2005.

Note 1: The EMBRAER service bulletins refer to Hamilton Sundstrand Service Bulletin ERPS37A-24-1, dated December 6, 2005, as an additional source of service information for inspecting for galling of the piston rod of the RAT deployment actuator and re-identifying the actuator. The Hamilton Sundstrand service bulletin is included as Appendix 1 of the EMBRAER service bulletins.

### **Inspection To Determine Part Number (P/N) and Serial Number (S/N)**

(g) Within 600 flight hours or 3 months after the effective date of this AD, whichever occurs first: Inspect to determine the part number and serial number of the RAT deployment actuator, in accordance with the applicable service bulletin. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number and serial number of the RAT deployment actuator can be conclusively determined from that review.

(1) If the part number of the actuator is not P/N 1703785: No further action is required by this AD, except as provided by paragraph (i) of this AD.

(2) If the part number of the actuator is P/N 1703785 and the serial number is S/N 0004, 0005, or 0101 through 0190 inclusive, or the part number or serial number cannot be conclusively determined: Within 600 flight hours or 3 months after the effective date of this AD, whichever occurs first, deploy the RAT, and do the actions specified in paragraph (g)(2)(i) or (g)(2)(ii) of this AD, as applicable, in accordance with the applicable service bulletin.

(i) If the RAT does not fully deploy or if it deploys with hesitation: Before further flight, replace the RAT deployment actuator with a modified and reidentified or new, improved actuator, having P/N 1703785A.

(ii) If the RAT fully deploys without hesitation: Before further flight, perform a general visual inspection for galling of the piston rod of the RAT deployment actuator. If no evidence of galling is detected, repeat the inspection for galling at intervals not to exceed 1,200 flight hours or 5 months, whichever occurs first, and before further flight after each deployment of the RAT. If any evidence of galling is found, before further flight, replace the RAT deployment actuator with a modified and reidentified or new, improved RAT deployment actuator having P/N 1703785A. Replacing the RAT deployment actuator terminates the repetitive inspections required by this paragraph for that RAT deployment actuator only.

Note 2: For the purposes of this AD, a general visual inspection is: “A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made from within touching distance unless otherwise specified. A mirror may be necessary to ensure visual access to all surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or droplight and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked.”

(3) If the part number of the RAT deployment actuator is P/N 1703785, and the serial number is S/N 0191 through 0242 inclusive: Within 3,000 flight hours or 12 months after the effective date of this AD, whichever occurs first, reidentify the RAT deployment actuator with new P/N 1703785A in accordance with the applicable service bulletin.

### **Terminating Action for Repetitive Inspections**

(h) Within 3,000 flight hours or 12 months after the effective date of this AD, whichever occurs first: Replace all RAT deployment actuators having P/N 1703785 and having S/N 0004, 0005, or 0101 through 0190 inclusive, with modified and reidentified or new, improved actuators having P/N 1703785A, in accordance with the applicable service bulletin. Replacing all of the RAT deployment actuators terminates the repetitive inspections required by paragraph (g)(2)(ii) of this AD.

## **Parts Installation**

(i) As of the effective date of this AD, no person may install a RAT deployment actuator having P/N 1703785 on any airplane.

## **Alternative Methods of Compliance (AMOCs)**

(j)(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**

(k) Brazilian airworthiness directives 2006-05-06, effective June 14, 2006, and 2006-05-09, effective June 19, 2006, also address the subject of this AD.

## **Material Incorporated by Reference**

(l) You must use EMBRAER Service Bulletin 170-24-0026, dated December 22, 2005; or EMBRAER Service Bulletin 190-24-0003, dated December 22, 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 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 12, 2007.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

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