

[Federal Register: March 26, 2009 (Volume 74, Number 57)]  
[Rules and Regulations]  
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From the Federal Register Online via GPO Access [wais.access.gpo.gov]  
[DOCID:fr26mr09-10]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2008-0831; Directorate Identifier 2008-NM-051-AD; Amendment 39-15853; AD 2009-06-16]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 170 Airplanes and Model ERJ 190 Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

It has been found the occurrence of failed bearings of the RAT [ram air turbine] generator, which may lead to a RAT generator failure. The RAT generator was designed to provide emergency electrical power to essential systems in case of loss of all other sources of aircraft AC electrical power.

\* \* \* \* \*

Loss of emergency electrical power could result in reduced controllability of the airplane during in-flight emergencies. We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective April 30, 2009.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of April 30, 2009.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Kenny Kaulia, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2848; fax (425) 227-1149.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR Part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on August 4, 2008 (73 FR 45178). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

It has been found the occurrence of failed bearings of the RAT [ram air turbine] generator, which may lead to a RAT generator failure. The RAT generator was designed to provide emergency electrical power to essential systems in case of loss of all other sources of aircraft AC electrical power.

Loss of emergency electrical power could result in reduced controllability of the airplane during in-flight emergencies. The corrective actions include determining the part number and serial number of the RAT, and re-identifying or replacing the RAT if necessary. You may obtain further information by examining the MCAI in the AD docket.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received from a single commenter.

### **Request To Change Applicability**

Embraer suggests restricting the applicability specified in paragraph (c) of the NPRM to the affected airplanes "equipped with a RAT having part number (P/N) 1703781." Embraer did not provide a reason for the request.

We do not agree to restrict the applicability as suggested by Embraer. The applicability specified in this AD includes all EMBRAER Model ERJ 170 and ERJ 190 airplanes, because the first action is to determine the part number and serial number of the RAT. Therefore, it is not necessary to restrict the applicability by identifying the part number of the RAT. We have made no change to the AD in this regard.

### **Request To Clarify RAT Part Number**

Embraer asks that we change the replacement part specification in paragraph (f)(1)(ii) of the NPRM from "a RAT having P/N 1703781A" to "a RAT not having P/N 1703781." Embraer states that not restricting P/N 1703781A as the only allowable replacement part number will avoid issuing alternative methods of compliance if a new RAT part number is approved in the future.

We agree with the intent of the request to change the replacement part number specification in paragraph (f)(1)(ii) of this AD. We have determined that the replacement part should not be restricted to P/N 1703781A only; therefore, we have removed that part number and specified replacing the affected RAT with a serviceable RAT. We have changed paragraph (f)(1)(ii) of this AD accordingly.

## **Request To Add Spares Paragraph**

Embraer suggests a new paragraph be added to the AD to cover possible spare RATs in stock. Embraer states that, as currently written, airplanes that do not have the affected part installed would be in compliance with the AD. However, the affected part could be installed during performance of airplane maintenance.

We do not agree that a spares paragraph should be added to the AD. In this AD we require that affected parts be replaced with serviceable parts having a new part number. This new part number is also specified in the Aircraft Illustrated Parts Catalog as replacing the old part number; therefore a spares paragraph is not necessary. We have made no change to the AD in this regard.

## **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the change described previously. We also determined that this change will not increase the economic burden on any operator or increase the scope of the AD.

## **Differences Between This AD and the MCAI or Service Information**

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are highlighted in a Note within the AD.

## **Costs of Compliance**

We estimate that this AD will affect 124 products of U.S. registry. We also estimate that it will take about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$80 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$9,920, or \$80 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 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 this AD:

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.

### **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 the NPRM, 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.

### **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 FAA amends § 39.13 by adding the following new AD:



**2009-06-16 Empresa Brasileira de Aeronautica S.A. (Embraer):** Amendment 39-15853. Docket No. FAA-2008-0831; Directorate Identifier 2008-NM-051-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective April 30, 2009.

**Affected ADs**

- (b) None.

**Applicability**

(c) This AD applies to all EMBRAER Model ERJ 170-100 LR, -100 SE, -100 STD, -100 SU, -200 LR, -200 STD, and -200 SU airplanes; and Model ERJ 190-100 IGW, -100 LR, -100 STD, -100 ECJ, -200 IGW, -200 LR, and -200 STD airplanes; certificated in any category.

**Subject**

- (d) Air Transport Association (ATA) of America Code 24: Electrical power.

**Reason**

- (e) The mandatory continuing airworthiness information (MCAI) states:

It has been found the occurrence of failed bearings of the RAT [ram air turbine] generator, which may lead to a RAT generator failure. The RAT generator was designed to provide emergency electrical power to essential systems in case of loss of all other sources of aircraft AC electrical power.

Loss of emergency electrical power could result in reduced controllability of the airplane during in-flight emergencies. The corrective actions include determining the part number (P/N) and serial number (S/N) of the RAT, and re-identifying or replacing the RAT if necessary.

**Actions and Compliance**

- (f) Unless already done, do the following actions.

(1) Within 1,300 flight hours or 6 months after the effective date of this AD, whichever occurs first, determine the P/N and S/N of the RAT. For airplanes on which a RAT having P/N 1703781 is installed, do the actions specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this AD, as applicable, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 170-24-0041, Revision 01, dated August 28, 2007; or 190-24-0012, Revision 01, dated August 21, 2007; as applicable.

(i) For airplanes on which the S/N on the RAT is 0110, 0150, 0255, or 0354 through 0419: Before further flight, re-identify RAT P/N 1703781 to P/N 1703781A.

(ii) For airplanes on which the S/N on the RAT is 0005, 0101 through 0109, 0111 through 0149, 0151 through 0254, or 0256 through 0353: Within 6,000 flight hours or 26 months after the effective date of this AD, whichever occurs first, replace the affected RAT with a serviceable RAT.

(2) Previous accomplishment of the re-identification or replacement of the RAT before the effective date of this AD in accordance with EMBRAER Service Bulletin 170-24-0041 or 190-24-0012, both dated May 4, 2007, meets the requirements of (f)(1)(i) and (f)(1)(ii) of this AD, as applicable.

## **FAA AD Differences**

Note: This AD differs from the MCAI and/or service information as follows: No difference.

## **Other FAA AD Provisions**

(g) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Kenny Kaulia, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2848; fax (425) 227-1149. 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.

(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.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act, the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

## **Related Information**

(h) Refer to MCAI Brazilian Airworthiness Directives 2007-12-01 and 2007-12-02, both effective January 24, 2008, and EMBRAER Service Bulletins 170-24-0041, Revision 01, dated August 28, 2007; and 190-24-0012, Revision 01, dated August 21, 2007; for related information.

## **Material Incorporated by Reference**

(i) You must use EMBRAER Service Bulletin 170-24-0041, Revision 01, dated August 28, 2007; or EMBRAER Service Bulletin 190-24-0012, Revision 01, dated August 21, 2007; as applicable; to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170–Putim–12227-901 Sao 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](mailto:distrib@embraer.com.br); Internet: <http://www.flyembraer.com>.

(3) You may review copies of the 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 or 425-227-1152.

(4) You may also review copies of the service information that is incorporated by reference 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/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on March 10, 2009.  
Ali Bahrami,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.