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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2014-0390; Directorate Identifier 2014-CE-013-AD; Amendment 39-17969; AD 2014-19-01]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Embraer S.A. Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding an airworthiness directive (AD) 2013-22-20 for Embraer S.A. Model EMB-505 airplanes. This AD results from mandatory continuing airworthiness information (MCAI) issued 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 cracks beyond acceptable limits in the carbon discs of the left hand (LH) and right hand (RH) brake assemblies. We are issuing this AD to require actions to address the unsafe condition on these products.

**DATES:** This AD is effective October 22, 2014.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of October 22, 2014.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0390; or in person at the Docket 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 service information identified in this AD, contact EMBRAER S.A., Phenom Maintenance Support, Avenida Brigadeiro Faria Lima, 2170, São José dos Campos-SP, CEP: 12227-901-PO Box: 36/2, Brasil; telephone: (+55 12) 3927-1000; fax: (+55 12) 3927-6600, ext. 1448; email: [phenom.reliability@embraer.com.br](mailto:phenom.reliability@embraer.com.br); Internet: <http://www.embraerexecutivejets.com/en-US/customer-support/Pages/Service-Center-Network.aspx>. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

**FOR FURTHER INFORMATION CONTACT:** Jim Rutherford, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4165; fax: (816) 329-4090; email: jim.rutherford@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to add an AD that would apply to Embraer S.A. Model EMB-505 airplanes. The NPRM was published in the Federal Register on June 19, 2014 (79 FR 35099), and proposed to supersede AD 2013-22-20, Amendment 39-17652 (78 FR 67018, November 8, 2013).

The NPRM proposed to correct an unsafe condition for the specified products and was based on mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country. The MCAI states that:

This AD was prompted by reports that identified additional locations where inspections and corrective actions on the Left Hand (LH) and Right Hand (RH) brake assemblies are needed. We are issuing this AD to detect cracks beyond acceptable limit in the carbon discs of the brake assembly, which may result in reduced brake capability and loss of brake parts in the runway.

Since this condition may occur in other airplanes of the same type and affects flight safety, a corrective action is required. Thus, sufficient reason exists to request compliance with this AD in the indicated time limit without prior notice.

The MCAI requires an inspection to determine if the airplane has the affected part number brake assembly installed and an inspection for cracks of the affected brake assembly with repair or replacement as necessary. The MCAI can be found in the AD docket on the Internet at: <http://www.regulations.gov/#!documentDetail;D=FAA-0;2014-0390-0001>.

### **Comments**

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

### **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting the AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 35099, June 19, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

### **Costs of Compliance**

We estimate that this AD will affect 117 products of U.S. registry. We also estimate that it would take about 2 work-hours per product to comply with Part 1 of the inspection and 3 work-hours per product to comply with Part 2 of the inspection requirements of this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$19,890, or \$170 per product for Part 1 of the inspection, and \$29,835, or \$255 per product for Part 2 of the inspection.

In addition, we estimate that any necessary follow-on actions would take 1.5 work-hours and require parts costing \$2,405, for a cost of \$2,532.50 per product per side for repair or 3 work-hours and require parts costing \$26,177, for a cost of \$26,432 per product per side for replacement.

We have no way of determining the number of products that may need these actions.

According to the manufacturer, all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

### **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),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0390; 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 the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket 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 removing Amendment 39-17652 (78 FR 67018; November 8, 2013) and adding the following new AD:



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**2014-19-01 Embraer S.A.:** Amendment 39-17969; Docket No. FAA-2014-0390; Directorate Identifier 2014-CE-013-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective October 22, 2014.

**(b) Affected ADs**

This AD supersedes AD 2013-22-20, Amendment 39-17652 (78 FR 67018, November 8, 2013).

**(c) Applicability**

This AD applies to Embraer S.A. Models EMB-505 airplanes, all serial numbers, that are:

- (1) Equipped with a part number (P/N) DAP00097-01 or P/N DAP00097-02 brake assembly;
- and
- (2) certificated in any category.

**(d) Subject**

Air Transport Association of America (ATA) Code 32: Landing Gear.

**(e) Reason**

This AD was prompted by 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 cracks beyond acceptable limits in the carbon discs of the left hand (LH) and right hand (RH) brake assemblies. We are issuing this AD to detect and correct cracking of the stator pressure plate and possible loss of brake parts on the runway, which could result in reduced brake capability and a possible runway excursion.

**(f) Actions and Compliance**

Unless already done, do the following actions in paragraphs (f)(1) through (f)(14) of this AD, including all subparagraphs.

(1) If the number of flight cycles is unknown, calculate the compliance times for flight cycles in this AD by multiplying the number of hours time-in-service (TIS) on the brake assembly by .71 to come up with the number of cycles. For the purposes of this AD, some examples are below:

- (i) 500 hours TIS equates to 355 flight cycles; and
- (ii) 12 hours equates to 9 flight cycles.

(2) Do a general visual inspection (GVI) for cracks in the stator pressure plate on both the LH and RH brake assemblies following Part 1 of the Accomplishment Instructions in Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014. Use the compliance times in paragraphs (f)(2)(i) and (f)(2)(ii) of this AD:

(i) For brake assemblies with 300 flight cycles or less since new or since the last overhaul: Before or upon accumulating 150 flight cycles after October 22, 2014 (the effective date of this AD) or within the next 30 flight cycles after October 22, 2014 (the effective date of this AD), whichever occurs later, and repetitively thereafter at intervals not to exceed 60 flight cycles or the next tire change, whichever occurs first.

(ii) For brake assemblies with more than 300 flight cycles since new or since the last overhaul: Within the next 10 flight cycles after October 22, 2014 (the effective date of this AD), and repetitively thereafter at intervals not to exceed 60 flight cycles or the next tire change, whichever occurs first.

(3) If no cracks are found during any of the inspections required in paragraph (f)(2) of this AD, continue the repetitive inspection intervals required in paragraph (f)(2) of this AD, including all subparagraphs.

(4) If any crack is found in the stator pressure plate during any of the inspections required in paragraph (f)(2) of this AD, before further flight, do a detailed inspection (DET) following Part 1 of the Accomplishment Instructions in Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014.

(5) If no cracks beyond the acceptable limits are found during the DET required in paragraph (f)(4) of this AD, continue the repetitive inspection intervals required in paragraph (f)(2) of this AD, including all subparagraphs.

(6) If cracks that exceed the acceptable limits are found during the DET required in paragraph (f)(4) of this AD, before further flight, repair the brake assembly following Appendix 2 of Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014; or replace the brake assembly with a brake assembly that has been inspected and found free of cracks that exceed the acceptable limits following the Accomplishment Instructions of Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014.

Note 1 to paragraph (f)(6) of this AD: Appendix 2 of Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014, consists of Meggitt Aircraft Braking System Service Bulletin No. SB-32-1625, Revision A, dated October 17, 2013. This service bulletin is incorporated as pages 27 through 40 of Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014.

(7) At the next tire change or 30 days after October 22, 2014 (the effective date of this AD), whichever occurs later, do a DET for cracks on the external visible surface of the thrust stator, double stator, and rotors following Part 2 of the Accomplishment Instructions in Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014.

(8) If no crack is detected or if any crack within the acceptable limits shown in Figure 4 Detail G of Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014, is detected in the inspection required in paragraph (f)(7) of this AD, repeat the inspection required by paragraph (f)(7) of this AD at each tire change or at each maintenance action that requires wheel removal, whichever occurs first.

(9) If any crack within the acceptable limits shown in Figure 4 Detail H of Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014, is detected in the inspection required in paragraph (f)(7) of this AD, the affected brake assembly must be replaced within 40 flight cycles.

(10) If any crack beyond the acceptable limits shown in Figure 4 Detail H of Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014, is detected, the affected brake assembly must be replaced before the next flight.

(11) After any repair or replacement of the brake assembly, the brake assembly P/N DAP00097-01 or P/N DAP00097-02 is subject to the inspections required in paragraphs (f)(2) through (f)(10), including all subparagraphs as applicable, of this AD.

(12) For the purposes of this AD, a GVI 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 enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or drop-light. It 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.

(13) For the purposes of this AD, a DET 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 mirrors, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate access procedures may be required.

(14) As of November 8, 2013 (the effective the date of AD 2013-22-20) and to October 22, 2014 (the effective date of this AD), do not install on any airplane a brake assembly P/N DAP00097-01 or P/N DAP00097-02 unless it is inspected per the requirements of AD 2013-22-20 and continues to be crack free or the cracks do not exceed the allowable limits; and as of October 22, 2014 (the effective date of this AD), do not install on any airplane a brake assembly P/N DAP00097-01 or P/N DAP00097-02 unless it is inspected per the requirements of this AD and continues to be crack free or the cracks do not exceed the allowable limits.

#### **(g) Credit for Actions Done Following Previous Service Information**

This AD provides credit for the inspections required in paragraphs (f)(2) and (f)(6) of this AD, if those actions were performed before October 22, 2014 (the effective date of this AD), using Embraer Alert Service Bulletin (ASB) 505-32-A011, original issue, dated September 13, 2013; Embraer Alert Service Bulletin (ASB) 505-32-A011, Revision 01, dated November 01, 2013; Embraer Alert Service Bulletin (ASB) 505-32-A011, Revision 02, dated December 19, 2013; or Embraer Phenom Service Bulletin No. 505-32-0011, original issue, dated February 11, 2014.

#### **(h) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, Standards Office, 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: Jim Rutherford, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4165; fax: (816) 329-4090; email: jim.rutherford@faa.gov. 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, a federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this

burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW., Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

**(i) Related Information**

Refer to MCAI Agência Nacional De Aviação Civil (ANAC) AD No.: 2014-04-01, dated April 16, 2014, for related information. The MCAI can be found in the AD docket on the Internet at: <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0390-0001>.

**(j) Material Incorporated by Reference**

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Embraer Phenom Service Bulletin No. 505-32-0011, Revision 01, dated March 31, 2014.

(ii) Reserved.

(3) For Embraer S.A. service information identified in this AD, contact EMBRAER S.A., Phenom Maintenance Support, Avenida Brigadeiro Faria Lima, 2170, São José dos Campos-SP, CEP: 12227-901-PO Box: 36/2, Brasil; telephone: (+55 12) 3927-1000; fax: (+55 12) 3927-6600, ext. 1448; email: [phenom.reliability@embraer.com.br](mailto:phenom.reliability@embraer.com.br); Internet: <http://www.embraerexecutivejets.com/en-US/customer-support/Pages/Service-Center-Network.aspx>.

(4) You may view this service information at FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(5) You may view this 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/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on September 8, 2014.

Earl Lawrence,  
Manager, Small Airplane Directorate,  
Aircraft Certification Service.