



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2023-1504; Project Identifier MCAI-2023-00473-A; Amendment 39-22595; AD 2023-22-11]

RIN 2120-AA64

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

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Embraer S.A. (Embraer) Model EMB-505 airplanes. This AD was prompted by an occurrence of corrosion on the clutch retaining bolt of the aileron autopilot servo mount. This AD requires repetitively replacing the clutch retaining bolt and washer of the aileron autopilot servo mount, as specified in an Agência Nacional de Aviação Civil (ANAC) AD, which is incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **ADDRESSES:**

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No.FAA-2023-1504; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the

mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

*Material Incorporated by Reference:*

- For service information identified in this final rule, contact ANAC, Continuing Airworthiness Technical Branch (GTAC), Rua Doutor Orlando Feirabend Filho, 230 – Centro Empresarial Aquarius – Torre B – Andares 14 a 18, Parque Residencial Aquarius, CEP 12.246-190 – São José dos Campos – SP, Brazil; phone: 55 (12) 3203-6600; email: [pac@anac.gov.br](mailto:pac@anac.gov.br); website: [anac.gov.br/en/](http://anac.gov.br/en/). You may find this material on the ANAC website at [sistemas.anac.gov.br/certificacao/DA/DAE.asp](http://sistemas.anac.gov.br/certificacao/DA/DAE.asp).

- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](http://regulations.gov) under Docket No. FAA-2023-1504.

**FOR FURTHER INFORMATION CONTACT:** Jim Rutherford, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (816) 329-4165; email: [jim.rutherford@faa.gov](mailto:jim.rutherford@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain serial-numbered Embraer Model EMB-505 airplanes. The NPRM published in the *Federal Register* on July 21, 2023 (88 FR 47092). The NPRM was prompted by AD 2023-02-01R1, effective March 14, 2023 (ANAC AD 2023-02-01R1) (also referred to as the MCAI), issued by ANAC, which is the aviation authority for Brazil. The MCAI states that an occurrence of corrosion was

found on the clutch retaining bolt of the aileron autopilot servo mount. This condition could result in failure of the clutch retaining bolt of the aileron autopilot servo mount, which could disengage the clutch from the drive pin and jam the aileron controls, resulting in reduced controllability of the airplane.

In the NPRM, the FAA proposed to require repetitively replacing the clutch retaining bolt and washer of the aileron autopilot servo mount, as specified in ANAC AD 2023-02-01R1. The FAA is issuing this AD to address the unsafe condition on these products.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-1504.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received comments from Embraer and NetJets. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Request to Revise Exceptions in Paragraph (h)(3)**

Embraer requested that paragraph (h)(3) of the proposed AD, "Exceptions to ANAC AD 2023-02-01R1", be revised to state ". . . this AD requires compliance with the most restrictive criteria for each applicability range (in months and flight hours) in Table 01 of ANAC AD 2023-02-01R1." The commenter explained that this change would clarify the language within this exception so that operators would know that not all affected aircraft would have to perform the task within the most restrictive criteria of within 3 months or 50 flight hours.

The FAA agrees with the commenter's request and revised paragraph (h)(3) of this AD accordingly.

## **Request to Add a Credit for Previous Actions Paragraph**

NetJets requested that a credit for previous actions paragraph be added to the proposed AD, similar to paragraph (c) of ANAC AD 2023-02-01R1. The commenter explained that this change would allow operators to sign off the compliance to the FAA AD using Embraer Service Bulletin SB505-22-0004, Revision 01, dated September 23, 2022 (Embraer SB505-22-0004, Revision 01); Revision 02, dated September 30, 2022 (Embraer SB505-22-0004, Revision 02); or Revision 03, dated October 10, 2022 (Embraer SB505-22-0004, Revision 03).

The FAA disagrees with the commenter's request. This AD already implicitly provides credit for certain actions completed prior to the effective date of this AD. Paragraph (g) of this AD requires operators to comply with all required actions and compliance times specified in ANAC AD 2023-02-01R1, except as specified in paragraphs (h) and (i) of this AD. Paragraph (h) of this AD is "Exceptions to ANAC AD 2023-02-01R1" and paragraph (i) of this AD is "No Reporting Requirement." Paragraph (h) of this AD does not include an exception to paragraph (c) of ANAC AD 2023-02-01R1, which is identified as "Credit for previous actions." Paragraph (c) of ANAC AD 2023-02-01R1 provides credit for replacement of the aileron autopilot servo mount clutch retaining bolt and washer using Embraer Service Bulletin SB505-22-0004, dated September 22, 2023; Embraer SB505-22-0004, Revision 01; Embraer SB505-22-0004, Revision 02; or Embraer SB505-22-0004, Revision 03. Because this AD does not include an exception to paragraph (c) of ANAC AD 2023-02-01R1, it allows operators to take credit for actions done prior to the effective date of this AD using revisions of Embraer SB505-22-0004 that are earlier than Revision 04, dated January 6, 2023, as provided by paragraph (c) of ANAC AD 2023-02-01R1; therefore, there is no need to revise this AD per the commenter's request.

The FAA has not changed this AD regarding this issue.

## Conclusion

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes and any changes described previously, this AD is adopted as proposed in the NPRM. None of the changes increase the economic burden on any operator.

## Related Service Information under 1 CFR Part 51

ANAC AD 2023-02-01R1 specifies procedures for replacing the clutch retaining bolt and washer of the aileron autopilot servo mount.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

## Costs of Compliance

The FAA estimates that this AD affects 505 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

### Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Replace bolt and washer	1 work-hour x \$85 per hour = \$85	\$50	\$135 per replacement interval	\$68,175 per replacement interval

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, all of the costs associated with the initial bolt and washer replacement may be covered under warranty.

## **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.

The FAA is 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**

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) Will not affect intrastate aviation in Alaska, 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.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **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 airworthiness directive:

**2023-22-11 Embraer S.A.:** Amendment 39-22595; Docket No. FAA-2023-1504; Project Identifier MCAI-2023-00473-A.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Embraer S.A. Model EMB-505 airplanes, as identified in Agência Nacional de Aviação Civil (ANAC) AD 2023-02-01R1, effective March 14, 2023 (ANAC AD 2023-02-01R1), certificated in any category.

#### **(d) Subject**

Joint Aircraft System Component (JASC) Code 2215, Autopilot Main Servo.

#### **(e) Unsafe Condition**

This AD was prompted by an occurrence of corrosion on the clutch retaining bolt of the aileron autopilot servo mount. The FAA is issuing this AD to address the corrosion in the clutch retaining bolt of the aileron autopilot servo mount. The unsafe condition, if not addressed, could result in failure of the clutch retaining bolt of the aileron autopilot

servo mount, which could disengage the clutch from the drive pin and jam the aileron controls, resulting in reduced controllability of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

Except as specified in paragraphs (h) and (i) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, ANAC AD 2023-02-01R1.

**(h) Exceptions to ANAC AD 2023-02-01R1**

(1) Where ANAC AD 2023-02-01R1 refers to February 6, 2023, the effective date of ANAC AD 2023-02-01, this AD requires using the effective date of this AD.

(2) Where ANAC AD 2023-02-01R1 requires replacing a part with a new part, for the purposes of this AD, “new” means zero flight hours.

(3) Where the “NOTE” to Table 01 in ANAC AD 2023-02-01R1 specifies “If the airplane operation age and/or the flight hours criteria change before the SB accomplishment, the most restrictive criteria must be obeyed,” this AD requires complying with the most restrictive criteria for each applicability range (in months and flight hours) in Table 01 of ANAC AD 2023-02-01R1.

(4) This AD does not adopt paragraph (d) of ANAC AD 2023-02-01R1.

**(i) No Reporting Requirement**

Although the service information referenced in ANAC AD 2023-02-01R1 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

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

The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In

accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, mail it to the address identified in paragraph (k) of this AD or email to: 9-AVS-AIR-730-AMOC@faa.gov. If mailing information, also submit information by email. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local Flight Standards District Office/certificate holding district office.

**(k) Additional Information**

For more information about this AD, contact Jim Rutherford, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (816) 329-4165; email: jim.rutherford@faa.gov.

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference 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) Agência Nacional de Aviação Civil (ANAC) AD 2023-02-01R1, effective March 14, 2023.

(ii) [Reserved]

(3) For ANAC AD 2023-02-01R1, contact ANAC, Continuing Airworthiness Technical Branch (GTAC), Rua Doutor Orlando Feirabend Filho, 230 – Centro Empresarial Aquarius – Torre B – Andares 14 a 18, Parque Residencial Aquarius, CEP 12.246-190 – São José dos Campos – SP, Brazil; phone: 55 (12) 3203-6600; email: pac@anac.gov.br; website: anac.gov.br/en/. You may find this material on the ANAC website at sistemas.anac.gov.br/certificacao/DA/DAE.asp.

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on October 30, 2023.

Victor Wicklund,  
Deputy Director, Compliance & Airworthiness Division,  
Aircraft Certification Service.

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