



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2024-2551; Project Identifier MCAI-2024-00346-T;**

**Amendment 39-22906; AD 2024-25-04]**

**RIN 2120-AA64**

**Airworthiness Directives; Embraer S.A. (Type Certificate Previously Held by  
Yaborá Indústria Aeronáutica S.A.; Embraer S.A.) Airplanes**

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

**ACTION:** Final rule; request for comments.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 2023-23-10, which applied to all Embraer S.A. Model ERJ 190-300 airplanes. AD 2023-23-10 required repetitive inspections of the press-fitted bushings of the wing ailerons for migration and broken sealant, measurements of the distance between the aileron surfaces and hinge fittings, functional checks of the backlash of the wing aileron control system, and all applicable related investigative and corrective actions. Since the FAA issued AD 2023-23-10, it was determined that certain requirements needed to be clarified. This AD continues to require all actions of ANAC AD 2023-06-01 with revised compliance requirements, 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 15 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 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The FAA must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2024-2551; 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 street address for Docket Operations is listed above.

*Material Incorporated by Reference:*

- For ANAC material identified in this AD, contact ANAC, Aeronautical Products Certification Branch (GGCP), Rua Dr. 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; telephone 55 (12) 3203-6600; email

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, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at [regulations.gov](http://regulations.gov) under Docket No. FAA-2024-2551.

**FOR FURTHER INFORMATION CONTACT:** Krista Greer, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: 206-231-3221; email: [krista.greer@faa.gov](mailto:krista.greer@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Comments Invited**

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2024-2551; Project Identifier MCAI-2024-00346-T” at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to [regulations.gov](http://regulations.gov), including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

##### **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C.

552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Krista Greer, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: 206-231-3221; email: [krista.greer@faa.gov](mailto:krista.greer@faa.gov). Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

### **Background**

The FAA issued AD 2023-23-10, Amendment 39-22612 (88 FR 83817, December 1, 2023) (AD 2023-23-10), for all Embraer S.A. Model ERJ 190-300 airplanes. AD 2023-23-10 was prompted by an MCAI originated by ANAC, which is the aviation authority for Brazil. ANAC issued AD 2023-06-01, effective June 16, 2023 (ANAC AD 2023-06-01), to correct an unsafe condition.

AD 2023-23-10 required repetitive inspections of the press-fitted bushings of the wing ailerons for migration and broken sealant, measurements of the distance between the aileron surfaces and hinge fittings, functional checks of the backlash of the wing aileron control system, and all applicable related investigative and corrective actions, which is incorporated by reference. The FAA issued AD 2023-23-10 to address a limit cycle oscillation phenomenon, which could expose the surrounding structure and systems to unacceptable vibration levels and reduce the airplane controllability.

## **Actions Since AD 2023-23-10 Was Issued**

Since the FAA issued AD 2023-23-10, ANAC superseded ANAC AD 2023-06-01 and issued ANAC AD 2023-06-01R1, effective June 17, 2024 (ANAC AD 2023-06-01R1) (also referred to as the MCAI), to correct an unsafe condition for all Embraer S.A. Model ERJ 190-300 airplanes. The MCAI states that the compliance paragraph was changed. The changes clarify that discrepancies found during any inspection must be corrected immediately, without any additional intervening actions.

The FAA is issuing this AD to address wear on the wing hinge bearing assembly of the aileron surfaces that could lead to excessive backlash. If not addressed, this backlash could result in a limit cycle oscillation phenomenon exposing the surrounding structure and systems to unacceptable vibration levels and reducing the airplane controllability. You may examine the MCAI in the AD docket at regulations.gov under Docket No. FAA-2024-2551.

## **Explanation of Retained Requirements**

Although this AD does not explicitly restate the requirements of AD 2023-06-01, this AD retains all of the requirements of AD 2023-06-01. Those requirements are referenced in ANAC AD 2023-06-01R1, which, in turn, is referenced in paragraph (g) of this AD.

## **Material Incorporated by Reference Under 1 CFR Part 51**

ANAC AD 2023-06-01R1 specifies procedures for repetitive general visual inspections of the press-fitted bushings of the left-hand (LH) and right-hand (RH) wing ailerons for migration and broken sealant; repetitive detailed inspections to measure the distance between the LH and RH wing aileron surfaces and hinge fittings; repetitive functional checks of the backlash of the LH and RH wing aileron control system; and applicable related investigative and corrective actions. The related investigative actions include a detailed inspection of the torque values of the attachment parts on the LH and

RH wing aileron surfaces; a general visual inspection of the press-fitted bushings on the LH and RH aileron surfaces, as applicable, for damage (i.e., elongation, scratches, and nicks) and rotation or migration (i.e., gap between the bushing flange and lug, or broken sealant around the bushing); a general visual inspection of the sliding bushings of the LH and RH aileron surfaces, as applicable, for damage (i.e., scratches, steps, and dents) and migration of the press-fitted bushing pair; a detailed inspection to measure the outer diameter of the sliding bushings; a detailed inspection to check the inner diameter of the press-fitted bushings of certain aileron fittings; measurement of the outer diameters of the mating sliding bushing and bolt shank; and an operational check of the aileron control system, or a rigging procedure and deflection check, as applicable. The corrective actions include retorquing the nuts and installing cotter pins on the bolts and nuts of the attachment parts on the LH and RH wing aileron surfaces, and replacing the bearings and press-fitted and sliding bushings. 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 the ADDRESSES section.

### **FAA's Determination**

This product has been approved by the aviation authority of another country and is 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 is issuing this AD after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

### **Requirements of this AD**

This AD requires accomplishing the actions specified in ANAC AD 2023-06-01R1 described previously, except for any differences identified as exceptions in the regulatory text of this AD.

## **Explanation of Required Compliance Information**

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has been coordinating this process with manufacturers and CAAs. As a result, ANAC AD 2023-06-01R1 is incorporated by reference in this AD. This AD requires compliance with ANAC AD 2023-06-01R1 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this AD. Material required by ANAC AD 2023-06-01R1 for compliance will be available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2024-2551 after this AD is published.

## **FAA's Justification and Determination of the Effective Date**

Section 553(b) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for "good cause," finds that those procedures are "impracticable, unnecessary, or contrary to the public interest." Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

There are currently no domestic operators of these products. Accordingly, notice and opportunity for prior public comment are unnecessary, pursuant to 5 U.S.C. 553(b). In addition, for the foregoing reasons, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days.

## **Regulatory Flexibility Act (RFA)**

The requirements of the RFA do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because the

FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

### **Costs of Compliance**

Currently, there are no affected U.S.-registered airplanes. For any affected airplane that is imported and placed on the U.S. Register in the future, the FAA provides the following cost estimates to comply with this AD:

#### **Estimated costs for required actions**

| <b>Labor cost</b>                          | <b>Parts cost</b> | <b>Cost per product</b> |
|--|-------------------|-------------------------|
| Up to 8 work-hours X \$85 per hour = \$680 | \$0               | Up to \$680             |

The FAA estimates the following costs to do any necessary on-condition actions that would be required based on the results of any required actions. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

#### **Estimated costs of on-condition actions**

| <b>Labor cost</b>                             | <b>Parts cost</b> | <b>Cost per product</b> |
|---|-------------------|-------------------------|
| Up to 22 work-hours X \$85 per hour = \$1,870 | \$500             | Up to \$2,370           |

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

### **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:

- a. Removing Airworthiness Directive (AD) 2023-23-10, Amendment 39-22612 (88 FR 83817, December 1, 2023); and

- b. Adding the following new AD:

**2024-25-04 Embraer S.A. (Type Certificate Previously Held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.):** Amendment 39-22906; Docket No. FAA-2024-2551; Project Identifier MCAI-2024-00346-T.

**(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2023-23-10, Amendment 39–22612 (88 FR 83817, December 1, 2023) (AD 2023-23-10).

**(c) Applicability**

This AD applies to all Embraer S.A. (Type Certificate previously held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Model ERJ 190-300 airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight Controls.

**(e) Unsafe Condition**

This AD was prompted by a report of unexpected wear on the wing hinge bearing assembly of the aileron surfaces found during the functional test of the aileron control system backlash. The FAA is issuing this AD to address wear on the wing hinge bearing assembly of the aileron surfaces that could lead to excessive backlash. The unsafe condition, if not addressed, could result in a limit cycle oscillation phenomenon exposing the surrounding structure and systems to unacceptable vibration levels and reducing the airplane controllability.

**(f) Compliance**

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

**(g) Requirements**

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, Agência Nacional de Aviação Civil ANAC AD 2023-06-01R1, effective June 17, 2024 (ANAC AD 2023-06-01R1).

**(h) Exceptions to ANAC AD 2023-06-01R1**

(1) Where ANAC AD 2023-06-01R1 refers to “May 16, 2023, the effective date of the original issue of this AD,” this AD requires using January 25, 2024 (the effective date of AD 2023-23-10).

(2) Where paragraph (b)(1) of ANAC AD 2023-06-01R1 specifies to “carry out the inspections and the FNC of the airplane aileron control system backlash, as follows,” this AD requires replacing that text with “carry out the inspections and the FNC of the airplane aileron control system backlash specified in paragraphs (b)(2), (b)(3), and (b)(4) of this AD.”

(3) Where paragraph (b)(3) of ANAC AD 2023-06-01R1 specifies to “measure de distances,” this AD requires replacing that text with “measure the distances.”

(4) All applicable related investigative and corrective actions specified in paragraphs (b)(4)(iii) and (b)(4)(iii)(a) of ANAC AD 2023-06-01R1 must be done before the next flight after the functional check of the left-hand (LH) and right-hand (RH) wing aileron control system.

(5) All applicable related investigative actions and corrective actions specified in paragraphs (c)(4)(ii), (c)(4)(iii), and (c)(4)(iii)(a), and (c)(4)(iii)(b) of ANAC AD 2023-06-01R1 must be done before the next flight after the detailed inspection on the LH and RH removed aileron surface, as applicable.

(6) Where paragraph (d) of ANAC AD 2023-06-01R1 specifies to repeat the inspections “at each 5,500 FH,” this AD requires replacing that text with “at intervals not to exceed 5,500 FH.”

(7) Where ANAC AD 2023-06-01R1 refers to its effective date, this AD requires using the effective date of this AD.

(8) This AD does not adopt paragraph (f) of ANAC AD 2023-06-01R1.

(9) Although the service information specified in ANAC AD 2023-06-01R1 specifies returning certain parts to the manufacturer, this AD does not include that requirement.

**(i) No Reporting Requirement**

Although the material referenced in ANAC AD 2023-06-01R1 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

**(j) Additional AD Provisions**

The following provisions also apply to this AD:

(1) *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 responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (k) of this AD and email to: AMOC@faa.gov.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, International Validation Branch, FAA; or ANAC; or ANAC's authorized Designee. If approved by the ANAC Designee, the approval must include the Designee's authorized signature.

(3) *Required for Compliance (RC)*: Except as specified by paragraph (j)(2) of this AD: For material that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (j)(3)(i) and (ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An

AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

**(k) Additional Information**

For more information about this AD, contact Krista Greer, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: 206-231-3221; email: [krista.greer@faa.gov](mailto:krista.greer@faa.gov).

**(l) Material Incorporated by Reference**

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

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

(i) Agência Nacional de Aviação Civil (ANAC) AD 2023-06-01R1, effective June 17, 2024.

(ii) [Reserved]

(3) For ANAC material identified in this AD, contact ANAC, Aeronautical Products Certification Branch (GGCP), Rua Dr. 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; telephone 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).

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(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 January 6, 2025.

Suzanne Masterson,  
Deputy Director, Integrated Certificate Management Division,  
Aircraft Certification Service.

[FR Doc. 2025-00387 Filed: 1/13/2025 8:45 am; Publication Date: 1/14/2025]