



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2025-0022; Project Identifier MCAI-2023-00910-T; Amendment  
39-23083; AD 2025-14-05]

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.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 2020-12-12, which applied to all Embraer S.A. Model ERJ 170 airplanes and Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. AD 2020-12-12 required repetitive detailed inspections for cracking of the engine inboard and outboard engine pylon lower link lugs, and repair if necessary. This AD continues to require the actions in AD 2020-12-12 with certain reduced compliance times. 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 under Docket No. FAA-2025-0022; 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 Agência Nacional de Aviação Civil (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). 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-2025-0022.

**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:**

**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2020-12-12, Amendment 39-19921 (85 FR 41175, July 9, 2020) (AD 2020-12-12). AD 2020-12-12 applied to all Embraer S.A. Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 SU, -200 STD, and -200 LL airplanes; and Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and

-200 IGW airplanes. AD 2020-12-12 required repetitive detailed inspections for cracking of the engine inboard and outboard engine pylon lower link lugs, and repair if necessary. The FAA issued AD 2020-12-12 to address cracking of the engine pylon lower link lugs.

The NPRM was published in the *Federal Register* on February 7, 2025 (90 FR 9129). The NPRM was prompted by AD 2020-01-02R3, effective October 17, 2024; corrected October 15, 2024 (ANAC AD 2020-01-02R3) (also referred to as the MCAI), issued by ANAC, which is the aviation authority for Brazil. The MCAI states that optional terminating actions to the repetitive inspections have been included. ANAC AD 2020-01-02R2, effective July 26, 2023, stated the compliance intervals were reduced.

In the NPRM, the FAA proposed to continue to require the actions in AD 2020-12-12, with revised compliance times, as specified in ANAC AD 2020-01-02R3. The FAA is issuing this AD to address cracks on the left-hand (LH) and right-hand (RH) sides of engine pylon inboard lower link lugs. The unsafe condition, if not addressed, could cause the loss of engine pylon integrity, which could result in engine separation from the wing, loss of airplane controllability, and possible injury to persons on ground.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-0022.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received comments from Air Line Pilots Association, International (ALPA), and an individual commenter who supported the NPRM without change.

The FAA received additional comments from two commenters, including Envoy Air and Horizon Air. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Request to Clarify Terminating Action**

Envoy Air requested clarification about whether the terminating action in paragraph (d) of ANAC AD 2020-01-02R3 applies to the initial inspection specified in paragraph (b) or just the repetitive inspections specified in paragraph (c), as stated in ANAC AD 2020-01-02R3. The commenter pointed out that the FAA approved an alternative method of compliance (AMOC) (510-24-00070, dated May 14, 2024) with the inspections in paragraph (g) of AD 2020-12-12, but the AMOC does not differentiate between initial or repetitive inspections.

The FAA agrees to clarify. This AD provides terminating action only for the repetitive inspections, as does ANAC AD 2020-01-02R3. ANAC AD 2020-01-02R3 contains an implementation plan for airplanes near or past the threshold of the initial inspection that might differ from the maintenance review board (MRB) tasks. Once the initial inspection is accomplished, the MRB task can be used for compliance to the repetitive inspection requirement. No change is necessary to this AD in this regard.

### **Request to Clarify Versions of ANAC AD**

Horizon Air requested that the FAA revise paragraphs (g) through (k) of the proposed AD to include the corrected date of ANAC AD 2020-01-02R3. Horizon Air noted that paragraphs (c) and (m) of the proposed AD include both the effective and corrected dates and asserted that repeating this information in the remaining paragraphs would improve clarity.

The FAA agrees with the intent to reference the corrected version of ANAC AD 2020-01-02R3 in this AD, as it is the only effective version available on the foreign civil aviation authority's (FCAA) website. However, the FAA does not agree with revising all instances of "ANAC AD 2020-01-02R3" to include its effective and correction dates.

Paragraph (c) of this AD establishes the legal definition, including effective and correction dates, to be ANAC AD 2020-01-02R3, effective October 17, 2024; corrected

October 15, 2024. Therefore, all subsequent references to ANAC AD 2020-01-02R3 throughout the regulatory text of this AD are understood to refer to the version identified in paragraph (c) of this AD. No change has been made in this regard.

#### **Additional Changes Made to this AD**

The FAA has revised paragraph (h)(2) of this AD to match the wording used in ANAC AD 2020-01-02R3 when referring to revision 1 of ANAC AD 2020-01-02. The FAA intended to match ANACs wording and has revised this AD for clarity.

#### **Conclusion**

These products have been approved by the civil 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, that authority has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered any 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 this product. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

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

The FAA reviewed ANAC AD 2020-01-02R3, which specifies procedures for repetitive detailed inspections, special detailed inspections, and repair, as applicable, of the LH and RH engine inboard and outboard pylon lower link lugs. ANAC AD 2020-01-02R3 also includes an optional terminating action for the repetitive inspections, which consists of revising the maintenance or inspection program, as applicable, to incorporate airworthiness limitations for pylon lower link fittings. 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.

## Costs of Compliance

The FAA estimates that this AD affects 659 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

### Estimated costs for required actions

	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	3 work-hour X \$85 per hour = \$255	\$0	\$255	\$168,045

The FAA has received no definitive data that would enable the agency to provide cost estimates for the on-condition repair specified in this AD.

For the optional terminating action, the FAA has determined that revising the existing maintenance or inspection program takes an average of 90 work-hours per operator, although the agency recognizes that this number may vary from operator to operator. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), the FAA has determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, if the optional terminating action is done, the agency estimates the average total cost per operator would be \$7,650 (90 work-hours x \$85 per work-hour).

### 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:
  - a. Removing Airworthiness Directive (AD) 2020-12-12, Amendment 39-19921 (85 FR 41175, July 9, 2020); and
  - b. Adding the following new AD:

**2025-14-05 Embraer S.A. (Type Certificate Previously Held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.):** Amendment 39-23083; Docket No. FAA-2025-0022; Project Identifier MCAI-2023-00910-T.

**(a) Effective Date**

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

**(b) Affected ADs**

This AD replaces AD 2020-12-12, Amendment 39-19921 (85 FR 41175, July 9, 2020) (AD 2020-12-12).

**(c) Applicability**

This AD applies to the Embraer S.A. (Type Certificate Previously Held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) airplanes, certificated in any category, identified in paragraphs (c)(1) and (2) of this AD, as identified in Agência Nacional de Aviação Civil (ANAC) AD 2020-01-02R3, effective October 17, 2024; corrected October 15, 2024 (ANAC AD 2020-01-02R3).

(1) Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 SU, -200 STD, and -200 LL airplanes.

(2) Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes.

**(d) Subject**

Air Transport Association (ATA) of America Code 54, Nacelles/Pylons.

**(e) Unsafe Condition**

This AD was prompted by reports of cracking on the left-hand (LH) and right-hand (RH) sides of engine pylon inboard lower link lugs, and by the determination that certain compliance times in AD 2020-12-12 must be reduced and the inboard lower link lugs must be replaced with new titanium lugs on certain airplanes. The FAA is issuing

this AD to address cracks on the LH and RH sides of engine pylon inboard lower link lugs. The unsafe condition, if not addressed, could cause the loss of engine pylon integrity, which could result in engine separation from the wing, loss of airplane controllability, and possible injury to persons on ground.

**(f) Compliance**

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

**(g) Requirements**

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 2020-01-02R3.

**(h) Exceptions to ANAC AD 2020-01-02R3**

(1) Where ANAC AD 2020-01-02R3 refers to “28 January 2020, the effective date of original revision of this AD,” this AD requires using August 13, 2020 (the effective date of AD 2020-12-12).

(2) Where ANAC AD 2020-01-02R3 refers to “July 18, 2023, the effective date of AD 2020-01-02R1,” this AD requires using the effective date of this AD.

(3) Where ANAC AD 2020-01-02R3 refers to its effective date, this AD requires using the effective date of this AD.

(4) Where the “Threshold” column of the tables in ANAC AD 2020-01-02R3 refer to “FC” and “FH,” for this AD, those flight cycles and flight hours are since the date of issuance of the original airworthiness certificate or the original export certificate of airworthiness, except for the compliance times that correspond to flagnote “[5]” of the table following paragraph (b)(1) of ANAC AD 2020-01-02R3 and flagnote “[3]” of the table following paragraph (b)(2) of ANAC AD 2020-01-02R3.

(5) Where the tables in ANAC AD 2020-01-02R3 refer to “ou”, this AD requires replacing that text with “or”.

(6) Where the last column of the table following paragraph (c)(2) of ANAC AD 2020-01-02R3 refers to “Interval”, this AD requires replacing that text with “Interval”.

(7) Where ANAC AD 2020-01-02R3 requires contacting “ANAC and Embraer ... to approve an adequate repair”, for this AD, before further flight obtain repair instructions using the procedures specified in paragraph (k)(2) of this AD and do the repair.

(8) This AD does not adopt paragraph (g)(3) of ANAC AD 2020-01-02R3.

**(i) No Reporting Requirement**

Although ANAC AD 2020-01-02R3 specifies to submit an inspection report after each inspection, this AD does not include that requirement.

**(j) Provisions for Alternative Actions, Critical Design Configuration Control Limitations (CDCCLs), and Intervals**

After the existing maintenance or inspection program has been revised as specified in paragraph (g) of this AD, no alternative actions (e.g., inspections), CDCCLs, and intervals are allowed unless they are approved as specified in paragraph (d) of ANAC AD 2020-01-02R3.

**(k) Additional AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, AIR-520, Continued Operational Safety 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 Continued Operational Safety Branch, mail it to the address identified in paragraph (l) of this AD. Information may be emailed to: [AMOC@faa.gov](mailto:AMOC@faa.gov).

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(ii) AMOCs approved previously for AD 2020-12-12 are approved as AMOCs for the corresponding provisions of ANAC AD 2020-01-02R3 that are required by paragraph (g) of this AD.

(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, AIR-520, Continued Operational Safety Branch, FAA; or ANAC; or ANAC's authorized Designee. If approved by the ANAC Designee, the approval must include the Designee's authorized signature.

**(l) 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).

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference 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 2020-01-02R3, effective October 17, 2024; corrected October 15, 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). 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 July 11, 2025.

Lona C. Saccomando,  
Acting Deputy Director, Integrated Certificate Management Division,  
Aircraft Certification Service.  
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