[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-2140; Project Identifier MCAI-2024-00242-T; Amendment 39-22942; AD 2025-02-09]

RIN 2120-AA64

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

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Embraer S.A. Model EMB-120, -120ER, -120FC, -120QC, and -120RT airplanes. This AD was prompted by a structural assessment, which found that the fuselage longitudinal skin splice and panel between certain frames are susceptible to cracking. This AD requires performing repetitive inspections of the fuselage center I longitudinal skin splice and applicable corrective actions, as specified in an Agência Nacional de Aviação Civil (ANAC) AD, which is incorporated by reference (IBR). 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-2024-2140; 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 ANAC material identified in this AD, contact National Civil Aviation Agency (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/. You may find this material on the ANAC website at 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 under Docket No. FAA-2024-2140.

FOR FURTHER INFORMATION CONTACT: Hassan Ibrahim, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: 206-231-3653; email: Hassan.M.Ibrahim@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 all Embraer S.A. Model EMB-120, -120ER, -120FC, -120QC, and -120RT airplanes. The NPRM published in the *Federal Register* on September 17, 2024 (89 FR 75977). The NPRM was prompted by AD 2024-04-02R01, effective May 31, 2024, issued by ANAC, which is the aviation authority for Brazil (ANAC AD 2024-04-02R01) (also referred to as the MCAI). The MCAI states that a structural assessment found that the fuselage center I longitudinal skin splice and panel between frames 22 and 23 are susceptible to cracking.

In the NPRM, the FAA proposed to require performing repetitive inspections of the fuselage center I longitudinal skin splice and applicable corrective actions, as specified in ANAC AD 2024-04-02R01. 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 under Docket No. FAA-2024-2140.

Discussion of Final Airworthiness Directive

Comments

The FAA received a comment from Embraer. The following presents the comment received on the NPRM and the FAA's response.

Request for Extension of Compliance Times

Embraer requested the FAA extend the compliance times of the proposed AD. The commenter stated analysis of data of the lower fuselage center I longitudinal skin splice and panel between frames 22 and 23 under operational conditions showed the probability of cracks is less than one percent at 60,000 flight cycles. The commenter stated inspections prior to the accumulation of 50,000 total flight cycles, or within 800

flight cycles after the effective date of this AD, whichever occurs later, as specified in the proposed AD, is overly conservative. The commenter suggested inspections prior to the accumulation of 60,000 total flight cycles, or within 2,000 flight cycles after the effective date of this AD, whichever occurs later, would meet the intent of this AD. Embraer added that the compliance times of this AD should be extended to avoid an unnecessary burden for operators.

The FAA disagrees with the request. Embraer did not provide data to support its request to extend the compliance times of the proposed AD. However, ANAC, the state of design authority, has advised the FAA that it defined the threshold, intervals, and grace period based on a methodology considering the findings in the full-scale fatigue test (FSFT) and conservative equivalent damage. The FAA concurs with ANAC's determination. The FAA has not changed this AD as a result of this comment.

Conclusion

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 reviewed the relevant data, considered the comment 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, 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

ANAC AD 2024-04-02R01 specifies initial and repetitive high-frequency eddy current inspections for discrepancies (including cracks, corrosion, scratches, and nicks) of the fuselage center I longitudinal skin splice and panel between frames 22 and 23, from the internal and external sides of the fuselage. ANAC AD 2024-04-02R01 further

specifies corrective actions including obtaining and implementing instructions for repair and reporting of the inspection results. 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 section.

Costs of Compliance

The FAA estimates this AD affects 51 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
4 work-hours X $85 per hour = $340 per inspection cycle	$0	$340 per inspection cycle	$17,340 per inspection cycle

The FAA has received no definitive data on which to base the cost estimates for the corrective actions specified in this AD.

Paperwork Reduction Act

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 currently 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 take approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Information Collection

Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

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:

2025-02-09 Embraer S.A. (Type Certificate Previously Held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.): Amendment 39-22942; Docket No. FAA-2024-2140; Project Identifier MCAI-2024-00242-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

None.

(c) Applicability

This AD applies to all Embraer S.A. (Type Certificate previously held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Model EMB-120, -120ER, -120FC, -120QC, and -120RT airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by a structural assessment that indicated the fuselage center I longitudinal skin splice and panel between frames 22 and 23 are susceptible to cracking. The FAA is issuing this AD to address undetected cracks in the fuselage center

I longitudinal skin splice and panel between frames 22 and 23. The unsafe condition, if not addressed, could result in undetected fuselage crack propagation, and reduced structural integrity of the airplane.

(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 2024-04-02R01, effective May 31, 2024 (ANAC AD 2024-04-02R01).

(h) Exceptions to ANAC AD 2024-04-02R01

(1) Where ANAC AD 2024-04-02R01 refers to its effective date, this AD requires using the effective date of this AD.

(2) Where paragraphs (b)(1) and (2) of ANAC AD 2024-04-02R01 specify the initial compliance time for the high-frequency eddy current inspection of the fuselage center I longitudinal skin splice – frames 22 and 23, from the internal and external side of the fuselage, for this AD, the initial compliance time for doing the high-frequency eddy current inspection is prior to the accumulation of 50,000 total flight cycles, or within 800 flight cycles after the effective date of this AD, whichever occurs later.

(3) Where paragraphs (d)(1) and (2) of ANAC AD 2024-04-02R01 specify the initial compliance time for the high-frequency eddy current inspection of the fuselage center I skin panel – frames 22 and 23, from the external side of the fuselage, for this AD, the initial compliance time for doing the high-frequency eddy current inspection is prior to the accumulation of 50,000 total flight cycles, or within 800 flight cycles after the effective date of this AD, whichever occurs later.

(4) Where paragraphs (b)(3) and (d)(3) of ANAC AD 2024-04-02R01 specify

corrective actions, for this AD, if any discrepancy including cracking is detected during any inspection required by this AD, the discrepancy must be repaired before further flight using a method approved by the Manager, International Validation Branch, FAA; or ANAC; or Embraer's ANAC Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(5) Paragraph (f) of ANAC AD 2024-04-02R01 specifies to report inspection results to ANAC and Embraer within a certain compliance time. For this AD, report inspection results at the applicable time specified in paragraph (h)(5)(i) or (ii) of this AD.

(i) If the inspection was done on or after the effective date of this AD: Submit the report within 30 days after the inspection.

(ii) If the inspection was done before the effective date of this AD: Submit the report within 30 days after the effective date of this AD.

(6) This AD does not adopt paragraph (g) of ANAC AD 2024-04-02R01.

(i) 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, mail it to the address identified in paragraph (j) of this AD. Information may be emailed to: AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(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.

(j) Additional Information

For more information about this AD, contact Hassan Ibrahim, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: 206-231-3653; email: Hassan.M.Ibrahim@faa.gov.

(k) 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 2024-04-02R01, effective May 31, 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; phone 55 (12) 3203-6600; email pac@anac.gov.br; website anac.gov.br/en/. You may find this ANAC AD on the ANAC website 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 Street, 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, or email

fr.inspection@nara.gov.

Issued on January 23, 2025.

Steven W. Thompson,
Acting Deputy Director, Compliance & Airworthiness Division,
Aircraft Certification Service.
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