



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2025-0476; Project Identifier MCAI-2024-00482-T]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all Embraer S.A. Model EMB-545 and EMB-550 airplanes. This proposed AD was prompted by a jamming failure of the main door lock sensor. This proposed AD would require repetitive main door sensor operational tests, repetitive lubrication of the main door sensor mechanism, and on-condition actions, as specified in an Agência Nacional de Aviação Civil (ANAC) AD. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed 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-2025-0476; 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 NPRM, 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 material identified in this proposed 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. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-0476.

- 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.

FOR FURTHER INFORMATION CONTACT: Hassan Ibrahim, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3653; email: hassan.m.ibrahim@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section.

Include “Docket No. FAA-2025-0476; Project Identifier MCAI-2024-00482-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, 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 proposal 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](https://www.regulations.gov), including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

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 NPRM 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 NPRM, 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 NPRM. Submissions containing CBI should be sent to Hassan Ibrahim, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3653; email: hassan.m.ibrahim@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

ANAC, which is the aviation authority for Brazil, has issued ANAC AD 2024-08-02, effective August 23, 2024 (ANAC AD 2024-08-02) (also referred to as the MCAI), to correct an unsafe condition for all Embraer S.A. Model EMB-545 and EMB-550 airplanes. The MCAI states there is a possibility of a jamming failure of the main door lock sensor.

The FAA is proposing this AD to address a false indication of a locked door, even when it is only latched, resulting in a dormant system failure and lack of cockpit indication of the door not locked condition. The unsafe condition, if not addressed, could result in an in-flight door opening due to an operational failure.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-0476.

Material Incorporated by Reference Under 1 CFR Part 51

ANAC AD 2024-08-02, effective August 23, 2024, specifies procedures for conducting repetitive main door sensor operational tests, repetitive lubrication of the main door sensor mechanism, and applicable on-condition actions. (The effective date of ANAC AD 2024-08-02 did not get translated to English. The effective date is August 23, 2024.) On-condition actions include adjusting or replacing the sensor or main door locked sensor support, and contacting Embraer for repair instructions.

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 NPRM after determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements in this NPRM

This proposed AD would require accomplishing the actions specified in ANAC AD 2024-08-02 described previously, except for any differences identified as exceptions in the regulatory text of this proposed 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, the FAA proposes to incorporate ANAC AD 2024-08-02 by reference in the FAA final rule. This proposed AD would, therefore, require compliance with ANAC AD 2024-08-02 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Material required by ANAC AD 2024-08-02 for compliance will be available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-0476 after the FAA final rule is published.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 296 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Up to 4 work-hours X \$85 per hour = \$340	\$0	Up to \$340	Up to \$100,640

The FAA estimates the following costs to do any necessary on-condition action 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 this on-condition action:

Estimated costs of on-condition actions

Labor cost	Parts cost	Cost per product
Up to 7 work-hours X \$85 per hour = \$595	Up to \$19,845.27	Up to \$20,440.27

The FAA has received no definitive data on which to base the cost estimates for the on-condition repairs specified in this proposed AD.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

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

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would 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 Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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:

Embraer S.A.: Docket No. FAA-2025-0476; Project Identifier MCAI-2024-00482-T.

(a) Comments Due Date

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

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Embraer S.A. Model EMB-545 and EMB-550 airplanes,
certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 52, Doors.

(e) Unsafe Condition

This AD was prompted by a jamming failure of the main door lock sensor. This
jamming could result in a false indication of a locked door, even when it is only latched,
resulting in a dormant system failure and lack of cockpit indication of the door not locked
condition. The unsafe condition, if not addressed, could result in a door opening in flight
due to an operational failure.

(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 2024-08-02, effective August 23, 2024 (ANAC AD 2024-08-02).

(h) Exceptions to ANAC AD 2024-08-02

(1) Where ANAC AD 2024-08-02 refers to its effective date, this AD requires
using the effective date of this AD.

(2) Where ANAC AD 2024-08-02 specifies on-condition actions, this AD requires performing the applicable on-condition actions before further flight.

(3) Where ANAC AD 2024-08-02 specifies to discard parts, this AD does not require that action.

(4) Where paragraph (c) of ANAC AD 2024-08-02 specifies to repeat the operational test “each 12 months,” this AD requires replacing that text with “at intervals not to exceed 12 months.”

(5) Where paragraph (e) of ANAC AD 2024-08-02 specifies to repeat the lubrication “each 24 months” this AD requires replacing that text with “at intervals not to exceed 24 months.”

(6) This AD does not adopt paragraph (f) of ANAC AD 2024-08-02.

(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, send it to the attention of the person identified in paragraph (j) of this AD and email 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, 2200 South 216th St., Des Moines, WA 98198; 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 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 2024-08-02, effective August 23, 2024.

Note 1 to paragraph (k)(2)(i): The effective date of ANAC AD 2024-08-02 did not get translated to English. The effective date is August 23, 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; 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, 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 or email fr.inspection@nara.gov.

Issued on March 19, 2025.

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