



[4910-13-P]

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2019-0976; Product Identifier 2019-NM-177-AD]

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 certain Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. This proposed AD was prompted by a report of erroneous indications of certain engine parameters and reports of “pitch up” and “pitch down” uncommanded attitudes with autopilot engaged in cruise flight. This proposed AD would require installing updated PRIMUS EPIC LOAD software, as specified in an Agência Nacional de Aviação Civil (ANAC) Brazilian AD, which will be incorporated by reference. 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 <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.

For the material identified in this proposed AD that will be incorporated by reference (IBR), contact National Civil Aviation Agency, Aeronautical Products Certification Branch (GGCP), Rua Laurent Martins, nº 209, Jardim Esplanada, CEP 12242-431 – São José dos Campos - SP, Brazil; telephone 55 (12) 3203-6600; email [pac@anac.gov.br](mailto:pac@anac.gov.br); Internet [www.anac.gov.br/en/](http://www.anac.gov.br/en/). You may find this IBR material on the ANAC website at <https://sistemas.anac.gov.br/certificacao/DA/DAE.asp>. You may view this IBR material at the FAA, Transport Standards 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 in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0976.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0976; 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 regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above.

Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Krista Greer, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3221.

**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-2019-0976; Product Identifier 2019-NM-177-AD” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM based on those comments.

The FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this NPRM.

**Discussion**

The ANAC, which is the aviation authority for Brazil, has issued Brazilian AD 2019-10-01, effective October 21, 2019 (“Brazilian AD 2019-10-01”) (also referred to as

the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -100 SR, -200 STD, -200 LR, and -200 IGW airplanes. Model ERJ 190-100 SR airplanes are not certified by the FAA and are not included on the U.S. type certificate data sheet; this AD therefore does not include those airplanes in the applicability.

This AD was prompted by a report of erroneous indications of the engine parameters N1, N2, and ITT from both engines due to the design of data communication of the full authority digital engine control (FADEC) 1 and 2 with the engine indicating and crew alerting system (EICAS) display, which could result in interference with decisions that must be taken by the flight crew during takeoff. This AD was also prompted by reports of “pitch up” and “pitch down” uncommanded attitudes with autopilot engaged in cruise flight, which could occur in “Autoland” mode during landing. The FAA is proposing this AD to address these conditions, which could interfere with the decisions taken by the flight crew during takeoff and landing and possibly result in reduced controllability of the airplane. See the MCAI for additional background information.

#### **Related IBR Material Under 1 CFR Part 51**

Brazilian AD 2019-10-01 describes procedures for installing updated PRIMUS EPIC LOAD software. 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 and Requirements of this Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to a bilateral agreement with the State of Design Authority, the agency has been notified of the unsafe condition described in the MCAI referenced above. The FAA is proposing this AD because the agency evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **Proposed AD Requirements**

This proposed AD would require accomplishing the actions specified in Brazilian AD 2019-10-01 described previously, as incorporated by reference, 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 initially worked with Airbus and EASA to develop a process to use certain EASA ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has since coordinated with other manufacturers and civil aviation authorities (CAAs) to use this process. As a result, Brazilian AD 2019-10-01 will be incorporated by reference in the FAA final rule. This proposed AD would, therefore, require compliance with Brazilian AD 2019-10-01 in its entirety, through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Service information specified in Brazilian AD 2019-10-01 that is required for compliance with Brazilian AD 2019-10-01 will be

available on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0976 after the FAA final rule is published.

### **Costs of Compliance**

The FAA estimates that this proposed AD affects 107 airplanes of U.S. registry.

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

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

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
9 work-hours X \$85 per hour = \$765	\$0	\$765	\$81,855

### **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.

This proposed AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

### **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) 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 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

(AD):

**Embraer S.A.:** Docket No. FAA-2019-0976; Product Identifier 2019-NM-177-AD.

#### **(a) Comments Due Date**

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

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

None.

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

This AD applies to Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes, as identified in Agência Nacional de Aviação Civil (ANAC) Brazilian AD 2019-10-01, effective October 21, 2019 (“Brazilian AD 2019-10-01”).

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

Air Transport Association (ATA) of America Code 31, Indicating/recording systems.

**(e) Reason**

This AD was prompted by a case of erroneous indications of the engine parameters N1, N2, and ITT from both engines due to the design of data communication of the full authority digital engine control (FADEC) 1 and 2 with the engine indicating and crew alerting system (EICAS) display, which could result in interference with decisions that must be taken by the flight crew during takeoff. This AD was also prompted by reports of “pitch up” and “pitch down” uncommanded attitudes with autopilot engaged in cruise flight, which could occur in “Autoland” mode during landing. The FAA is proposing this AD to address these conditions, which could interfere with the decisions taken by the flight crew during takeoff and landing and possibly result in reduced controllability 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, Brazilian AD 2019-10-01.

**(h) Exceptions to Brazilian AD 2019-10-01**

(1) Where Brazilian AD 2019-10-01 refers to its effective date, this AD requires using the effective date of this AD.

(2) The “Alternative method of compliance (AMOC)” section of Brazilian AD 2019-10-01 does not apply to this AD.

(3) Where paragraph (d) of Brazilian AD 2019-10-01 specifies you must use certain service information for software installation, this AD specifies to use that service information as applicable, except as provided in paragraphs (a)(1) through (6) of Brazilian AD 2019-10-01.

**(i) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, International Section, Transport Standards 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 International Section, send it to the attention of the person identified in paragraph (j)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. 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.

(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 Section, Transport Standards 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) Related Information**

(1) Brazilian AD 2019-10-01, contact National Civil Aviation Agency, Aeronautical Products Certification Branch (GGCP), Rua Laurent Martins, nº 209, Jardim Esplanada, CEP 12242-431 – São José dos Campos - SP, Brazil; telephone 55 (12) 3203-6600; email [pac@anac.gov.br](mailto:pac@anac.gov.br); Internet [www.anac.gov.br/en/](http://www.anac.gov.br/en/). You may find this IBR material on the ANAC website at <https://sistemas.anac.gov.br/certificacao/DA/DAE.asp>. You may view this material at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. This material may be found in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0976.

(2) For more information about this AD, contact Krista Greer, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3221.

Issued in Des Moines, Washington, on December 6, 2019.

Michael Kaszycki,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.

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