

Issued on December 9, 2021.

**Lance T. Gant,**

*Director, Compliance & Airworthiness  
Division, Aircraft Certification Service.*

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**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2021-0692; Project Identifier MCAI-2020-01585-T; Amendment 39-21845; AD 2021-25-02]

RIN 2120-AA64

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

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 2014-16-16, which applied to all Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes; and AD 2018-19-28, which applied to certain Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. AD 2014-16-16 required, for certain airplanes, retorquing and replacing the pylon lower link fittings, and for all airplanes, repetitive retorquing of those fittings. AD 2018-19-28 required modification of the attaching parts of the pylon lower link fittings. This AD continues to require those actions, and also requires application of a lower torque value, inspection of certain shear pins and replacement if necessary, and revised compliance times for the modification; as specified in an Agência Nacional de Aviação Civil (ANAC) AD, which is incorporated by reference. This AD also prohibits the installation of affected parts. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective January 20, 2022.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of January 20, 2022.

The Director of the Federal Register approved the incorporation by reference of certain other publications listed in this AD as of September 2, 2014 (79 FR 48018, August 15, 2014).

**ADDRESSES:** For ANAC material incorporated by reference (IBR) 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); 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>. For Embraer service information identified in this final rule, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170—Putim—12227-901 São José dos Campos—SP—Brazil; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); internet <http://www.flyembraer.com>. For Embraer service information identified in this final rule that is applicable to Yaborã Indústria Aeronáutica S.A. Model ERJ 190-100 ECJ airplanes, contact Embraer S.A., Technical Publications Section (PC 560), Rodovia Presidente Dutra, km 134, 12247-004 Distrito Eugênio de Melo—São José dos Campos—SP—Brazil; telephone +55 12 3927-0386; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); internet <https://www.mytechcare.embraer.com>. 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 in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0692.

#### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0692; 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.

**FOR FURTHER INFORMATION CONTACT:** Krista Greer, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South 216th St., Des Moines, WA 98198;

telephone and fax 206-231-3221; email [krista.greer@faa.gov](mailto:krista.greer@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Background**

ANAC, which is the aviation authority for Brazil, has issued ANAC AD 2020-06-02R02, effective November 30, 2020 (ANAC AD 2020-06-02R02) (also referred to as the MCAI), to correct an unsafe condition for certain Yaborã Indústria Aeronáutica S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. Model 190-100 SR airplanes are not certificated 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.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2014-16-16, Amendment 39-17940 (79 FR 48018, August 15, 2014) (AD 2014-16-16); and AD 2018-19-28, Amendment 39-19429 (83 FR 48935, September 28, 2018) (AD 2018-19-28). AD 2014-16-16 applied to all Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. AD 2018-19-28 applied to certain Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. The NPRM published in the **Federal Register** on August 24, 2021 (86 FR 47252). The NPRM was prompted by reports of bushing migration, loss of nut torque on the engine pylon lower inboard and outboard link fittings, a loose lower link assembly, and damaged nuts. The existing torque values could cause damage to the nuts, which could lead to loss of the shear pins of the pylon outboard and inboard lower link fittings. In addition, the existing compliance time for the modification of the pylon lower link fitting attaching parts has been found to be inadequate to address the unsafe condition. The NPRM proposed to continue to require the requirements of ADs 2014-16-16 and 2018-19-28, as specified in ANAC AD 2020-06-02R02. The NPRM also proposed to require application of a lower torque value, inspection of certain shear pins and replacement if necessary, and revised compliance times for the modification, as specified in ANAC AD 2020-06-02R02. The NPRM also proposed to prohibit the installation of affected parts.

The FAA is issuing this AD to address loss of integrity of the engine pylon lower link fittings, which could lead to separation of the engine from the wing. See the MCAI for additional background information.

**Discussion of Final Airworthiness Directive**

**Comments**

The FAA received no comments on the NPRM or on the determination of the cost to the public.

**Conclusion**

The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. 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. Accordingly, the FAA is issuing this AD

to address the unsafe condition on these products.

**Related Service Information Under 1 CFR Part 51**

ANAC AD 2020-06-02R02 describes procedures for: Reduction of the torque to be applied to the castellated nuts of the external shear pins; inspection of the external shear pin; modification of the attaching parts of the left-hand (LH) and right-hand (RH) pylon lower link fittings, inboard and outboard positions; and repetitive retorquing of the pylon outboard and inboard lower link fittings.

This AD also requires Embraer Service Bulletin 190-54-0013, dated

November 27, 2012; and Embraer Service Bulletin 190LIN-54-0004, dated December 20, 2012; which the Director of the Federal Register approved for incorporation by reference as of September 2, 2014 (79 FR 48018, August 15, 2014).

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

**ESTIMATED COSTS FOR REQUIRED ACTIONS**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Retained actions from AD 2014-16-16.	6 work-hours × \$85 per hour = \$510	\$0 .....	\$510 .....	Up to \$43,350.
Retained actions from AD 2018-19-28.	Up to 270 work-hours × \$85 per hour = Up to \$22,950.	\$3,200 .....	Up to \$26,150 .....	Up to \$2,222,750.
New actions .....	Up to 274 work-hours × \$85 per hour = Up to \$23,290.	Up to \$3,180 ....	Up to \$26,470 .....	Up to \$2,249,950.

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

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators. The FAA does not control warranty coverage for affected operators. As a result, the FAA has included all known costs in the cost estimate.

**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) 2014-16-16, Amendment 39-17940 (79 FR 48018, August 15, 2014); and AD 2018-19-28, Amendment 39-19429 (83 FR 48935, September 28, 2018); and
  - b. Adding the following new AD:  
**2021-25-02 Yaborã Indústria Aeronáutica S.A. (Type Certificate Previously Held by Embraer S.A.):** Amendment 39-21845; Docket No. FAA-2021-0692; Project Identifier MCAI-2020-01585-T.

**(a) Effective Date**

This airworthiness directive (AD) is effective January 20, 2022.

**(b) Affected ADs**

- (1) This AD replaces AD 2014-16-16, Amendment 39-17940 (79 FR 48018, August 15, 2014) (AD 2014-16-16).
- (2) This AD also replaces AD 2018-19-28, Amendment 39-19429 (83 FR 48935, September 28, 2018) (AD 2018-19-28).

**(c) Applicability**

This AD applies to all Yaborã Indústria Aeronáutica S.A. (type certificate previously held by Embraer S.A.) Model ERJ 190-100 STD, -100 LR, -100 ECJ, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes, certificated in any category.

**(d) Subject**

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

**(e) Reason**

This AD was prompted by reports of bushing migration, loss of nut torque on the engine pylon lower inboard and outboard link fittings, a loose lower link assembly, and damaged nuts; and the need to shorten the compliance time for the modification of the pylon lower link fitting attaching parts. The FAA is issuing this AD to prevent loss of integrity of the lower link fittings of the engine pylon, which could lead to separation of the engine from the wing.

**(f) Compliance**

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

**(g) Requirements**

For airplanes identified in Agência Nacional de Aviação Civil (ANAC) AD 2020-06-02R02, effective November 30, 2020 (ANAC AD 2020-06-02R02): 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 2020-06-02R02.

**(h) Exceptions to ANAC AD 2020-06-02R02**

(1) Where ANAC AD 2020-06-02R02 refers to its effective date, this AD requires using the effective date of this AD.

(2) Where ANAC AD 2020-06-02R02 refers to July 3, 2014, this AD requires using September 2, 2014 (the effective date of AD 2014-16-16).

(3) Where ANAC AD 2020-06-02R02 refers to April 25, 2017, this AD requires using November 2, 2018 (the effective date of AD 2018-19-28).

(4) Paragraphs (y), "Alternative methods of compliance (AMOCs)," and (z), "Material incorporated by reference," of ANAC AD 2020-06-02R02 do not apply to this AD.

(5) Where ANAC AD 2020-06-02R02 specifies "replace immediately," this AD requires replacing "before further flight."

(6) Paragraph (w), "Parts installation prohibition," of ANAC AD 2020-06-02R02 does not apply to this AD, except as specified in paragraph (i) of this AD.

**(i) Parts Installation Prohibition**

As of September 2, 2014 (the effective date of AD 2014-16-16), no person may install a lock assembly identified in Embraer Service Bulletin 190-54-0013, dated November 27, 2012; or Embraer Service Bulletin 190LIN-54-0004, dated December 20, 2012; at the inboard or outboard lower link fitting on any airplane.

**(j) Additional AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, Large Aircraft Section, 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 Large Aircraft Section, International Validation Branch,

send it to the attention of the person identified in paragraph (k) of this AD. Information may be emailed to: 9-AVS-AIR-730-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, Large Aircraft Section, 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 (h) of this AD, for service information 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) Related Information**

For more information about this AD, contact Krista Greer, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 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 service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

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

(3) The following service information was approved for IBR on January 20, 2022.

(i) Agência Nacional de Aviação Civil (ANAC) AD 2020-06-02R02, effective November 30, 2020.

(ii) [Reserved]

(4) The following service information was approved for IBR on September 2, 2014 (79 FR 48018, August 15, 2014).

(i) Embraer Service Bulletin 190-54-0013, dated November 27, 2012.

(ii) Embraer Service Bulletin 190LIN-54-0004, dated December 20, 2012.

(5) For ANAC AD 2020-06-02R02, 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); internet [www.anac.gov.br/en/](http://www.anac.gov.br/en/). You may find this ANAC AD on the ANAC website at <https://sistemas.anac.gov.br/certificacao/DA/DAE.asp>.

(6) For Embraer service information identified in this AD, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170—Putim—12227-901 São José dos Campos—SP—Brazil; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); internet <http://www.flyembraer.com>. For Embraer service information that is applicable to Yaborã Indústria Aeronáutica S.A. Model ERJ 190-100 ECJ airplanes, contact Embraer S.A., Technical Publications Section (PC 560), Rodovia Presidente Dutra, km 134, 12247-004 Distrito Eugênio de Melo—São José dos Campos—SP—Brazil; telephone +55 12 3927-0386; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); internet <https://www.mytechcare.embraer.com>.

(7) 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.

(8) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on November 24, 2021.

**Lance T. Gant,**

*Director, Compliance & Airworthiness Division, Aircraft Certification Service.*

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**BILLING CODE 4910-13-P**

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 107**

**[Docket No. FAA-2021-1158; Notice No. 107-21-01-NOA]**

**Accepted Means of Compliance; Operations Over Human Beings, Category 2 and Category 3 Small Unmanned Aircraft**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notification of availability.

**SUMMARY:** This document announces the acceptance of a means of compliance (MOC) in accordance with a rule issued by the FAA on January 21, 2021, and went into effect on April 21, 2021. The Administrator finds the Virginia Tech