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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0701; Product Identifier 2019-NM-107-AD; Amendment 39-19853; AD 2020-04-16]

RIN 2120-AA64

Airworthiness Directives; Yaborã Ind[uacute]stria 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 adopting a new airworthiness directive (AD) for certain Yaborã Ind[uacute]stria Aeronáutica S.A. Model ERJ 190-100 STD, -100 LR, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. This AD was prompted by reports of structural cracks in the wing lower skin stringers on both half wings. This AD requires repetitive inspections for cracking and fuel leakage of the lower skin stringers on both half wings, and applicable related investigative and corrective actions, as specified in an Agência Nacional de Aviação Civil National Civil Aviation Agency (ANAC) Brazilian AD, which is incorporated by reference. This AD also provides optional terminating action for the repetitive inspections. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective May 7, 2020.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of May 7, 2020.

ADDRESSES: For the ANAC material incorporated by reference (IBR) in this AD, contact National Civil Aviation Agency, Aeronautical Products Certification Branch (GGCP), Rua Laurent Martins, no209, Jardim Esplanada, CEP 12242-431–São José dos Campos–SP, Brazil; telephone 55 (12) 3203-6600; email pac@anac.gov.br; internet 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 the Embraer material incorporated by reference in this AD, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170–Putim–12227-901 São Jose dos Campos–SP–Brazil; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email distrib@embraer.com.br; internet http://www.flyembraer.com.

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-2019-0701.

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-2019-0701; 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 regulatory evaluation, 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, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3221; email krista.greer@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The ANAC, which is the aviation authority for Brazil, has issued Brazilian AD 2019-06-01, effective June 17, 2019 ("Brazilian AD 2019-06-01") (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 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.)

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Embraer S.A. Model ERJ 190-100 STD, -100 LR, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes. The NPRM published in the Federal Register on September 30, 2019 (84 FR 51469). The NPRM was prompted by reports of structural cracks in the wing lower skin stringers on both half wings. The NPRM proposed to require repetitive inspections for cracking and fuel leakage of the lower skin stringers on both half wings, and applicable related investigative and corrective actions.

The FAA is issuing this AD to address structural cracks in the wing lower skin, which could result in fuel leakage and reduced structural integrity of the wing. See the MCAI for additional background information.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Revise Applicability

American Airlines (AA) stated that Brazilian AD 2019-06-01 failed to explain why airplane serial numbers (S/Ns) 19000040 through 19000077 are affected and asked that the FAA explain why the proposed AD would affect those airplanes. AA stated that according to Brazilian AD 2019-06-01, the damaged stringers were modified in accordance with related Brazilian AD 2008-01-02, effective February 25, 2008 (which corresponds to FAA AD 2009-06-11, Amendment 39-15847 (74 FR

12233, March 24, 2009) ("AD 2009-06-11")), Brazilian AD 2008-01-02 and FAA AD 2009-06-11 mandate Embraer Service Bulletin SB190-57-0005, Revision 01, dated October 27, 2006. AA added that that service information did not apply to AA airplanes, which were modified with an equivalent modification in production.

The FAA does not agree to revise the applicability but provide the following clarification. FAA AD 2009-06-11 applies to airplanes having S/Ns 19000004, 19000006 through 19000028, and 19000030 through 19000039, and requires doing the action specified in Embraer Service Bulletin SB190-57-0005, dated October 10, 2006. The FAA has determined that those actions do not adequately address the unsafe condition identified in this AD. Airplanes having S/Ns 19000029, and 19000040 through 19000077, had a similar factory-installed modification that also does not adequately address the unsafe condition. This modification was installed on new airplanes until a redesigned lower wing skin panel was installed on airplanes having S/N 19000078 and subsequent. The airplanes identified in this AD have been modified by Embraer Service Bulletin SB190-57-0005 or the equivalent production modification. The AD has not been changed in regard to this issue.

Request To Clarify Instructions for Access for Inspection

AA and JetBlue Airways asked for clarification of whether the access panels must be removed and the exposed area inspected. AA also asked that a panel number and a figure be identified to denote the exact areas to be inspected. JetBlue stated that removal of just the pylon fairings will not provide adequate access to the area requiring inspection, especially if the intent is to identify cracking before significant growth past the pylon attachment fitting. JetBlue asked whether the pylon itself must be dropped for access to the inspection area. The commenters are concerned that there is not enough information for mechanics to effectively do the inspection specified in the proposed AD.

The FAA agrees that clarification is necessary. The area required to be inspected is accessible only if the engine pylon fairings are removed. The area between spar 1 and spar 2, and from rib 7 to rib 10, is both inside and outside of the engine pylon fairing. Figure 1 of Embraer Service Bulletin SB190-57-0005, dated October 10, 2006, shows the area affected. The pylon does not have to be removed for the inspection of the area; while the cracking typically originates at the wing stringer runout underneath the pylon lower link, a crack in that area would be identified by fuel leakage. The AD has not been changed in regard to this issue.

Request To Approve Terminating Action for the Repetitive Inspections

AA, JetBlue, and Embraer asked for approval of a permanent repair as terminating action for the repetitive inspections specified in the proposed AD when one becomes available. AA asked that a permanent repair be developed or identified to allow for proper preparation for that repair by the operator if there are findings. AA stated that the estimated permanent repair downtime is almost 900 hours, and would significantly impact revenue if the repair is done at a non-maintenance station. AA added that if a permanent repair is developed, it would be reasonable to complete the repair, depending on the remaining lifecycle of the airplane. JetBlue referenced an Embraer Relevant Event Communication describing later service information that will include terminating action for the repetitive inspections. Embraer asked if the FAA would accept the repair identified in FAA AMOC letter AIR-676-18-280 (FAA AD 2009-06-11), as terminating action for the repetitive inspections. Embraer also stated that it has issued Service Bulletin SB190-57-0056, dated December 5, 2019, which provides a terminating action for the repetitive inspections by specifying the installation of doublers to reinforce the forward and rear lower skin panels of the wing. The commenters are concerned with the operational impact of performing repetitive inspections and repairing damage.

The FAA agrees with the requests to approve the terminating action specified in Embraer Service Bulletin SB190-57-0056, dated December 5, 2019. The FAA has revised the SUMMARY to include optional terminating action for the repetitive inspections, explained this as a difference between this

AD and Brazilian AD 2019-06-01 in the SUPPLEMENTARY INFORMATION, and included an optional terminating action in paragraph (h) of this AD.

The FAA does not agree to reference the repair identified in AMOC AIR-676-18-280 as terminating action for the repetitive inspections in this AD. However, under the provisions of paragraph (j)(1) of this AD, the FAA will consider requests for approval of a repair which provides an acceptable level of safety. The AD has not been changed in this regard.

Request To Allow Ferry Flight

JetBlue asked whether conducting an MX (maintenance) ferry flight of the airplane to a facility capable of accomplishing the repair is allowed if cracks are found in the inspection area and the crack damage must be repaired before further flight per the requirements in the proposed AD. JetBlue also asked what provisions Embraer, ANAC, and the FAA are prepared to provide if cracking is found during inspection at a facility capable of accomplishing the repair. JetBlue recommended that the proposed AD be revised to specify that corrective action must be done before the next “revenue flight” in lieu of before the next flight as specified in paragraphs (a)(1)(i) and (ii) of Brazilian AD 2019-06-01, effective June 17, 2019, and as required by the proposed AD.

We acknowledge the commenter's concern; however, this AD does not prohibit ferry flights because the ferry flight provisions of 14 CFR 39.23 are implicitly included in the NPRM. Therefore, this AD has not been changed in regard to this issue.

Explanation of Change to Manufacturer's Name Specified in This Final Rule

The FAA has revised references to the manufacturer's name specified throughout this final rule to identify the manufacturer name as published in the most recent type certificate data sheet for the affected models.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

The FAA also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

Related IBR Material Under 1 CFR Part 51

Brazilian AD 2019-06-01 describes procedures for repetitive detailed inspections of the lower skin stringers on both half wings for cracking or fuel leakage, and applicable related investigative and corrective actions. Related investigative actions include a high frequency eddy current (HFEC) inspection of any area with crack indications to confirm the damage extension. Corrective actions include repairs.

Embraer issued Service Bulletin SB190-57-0056, dated December 5, 2019, which describes procedures for installing doublers reinforcement on the wing forward and rear lower skin panel, which would eliminate the need for the repetitive inspections.

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.

Difference Between This AD and the MCAI

Brazilian AD 2019-06-01 does not include a terminating action for the repetitive inspections of the lower skin stringers on both half wings for cracking or fuel leakage; however, Embraer Service Bulletin SB190-57-0056, dated December 5, 2019 (which was issued after Brazilian AD 2019-06-01 was issued), does include a terminating action that the FAA considers will adequately address the unsafe condition. This difference has been coordinated with ANAC.

Costs of Compliance

The FAA estimates that this AD affects 29 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
12 work-hours × $85 per hour = $1,020	$0	$1,020	$29,580

The FAA estimates the following costs to do any necessary on-condition actions 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 these on-condition actions:

Estimated Costs of On-Condition Actions

Labor cost	Parts cost	Cost per product
Up to 898 work-hours × $85 per hour = Up to $76,330	Negligible	Up to $76,330.

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.

Adoption of 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 (AD):

2020-04-16 Yaborã Ind[uacute]stria Aeronáutica S.A. (Type Certificate Previously Held by Embraer S.A.): Amendment 39-19853; Docket No. FAA-2019-0701; Product Identifier 2019-NM-107-AD.

(a) Effective Date

This AD is effective May 7, 2020.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Yaborã Ind[uacute]stria Aeronáutica S.A. (Type Certificate Previously Held by Embraer S.A.) Model ERJ 190-100 STD, -100 LR, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes, certificated in any category, as identified in Agência Nacional de Aviação Civil (ANAC) Brazilian AD 2019-06-01, effective June 17, 2019 ("Brazilian AD 2019-06-01").

(d) Subject

Air Transport Association (ATA) of America Code 57, Wings.

(e) Reason

This AD was prompted by reports of structural cracks in the wing lower skin stringers on both half wings. The FAA is issuing this AD to address such cracking, which could result in fuel leakage and reduced structural integrity of the wing.

(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, Brazilian AD 2019-06-01.

(h) Optional Terminating Action

Accomplishing the installation of doublers reinforcement on the wing forward and rear lower skin panel, in accordance with the Accomplishment Instructions of Embraer Service Bulletin SB190-57-0056, dated December 5, 2019, terminates the repetitive inspections required by this AD, as specified in Brazilian AD 2019-06-01.

(i) Exceptions to Brazilian AD 2019-06-01

For purposes of determining compliance with the requirements of this AD:

(1) Where Brazilian AD 2019-06-01 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 2019-06-01 does not apply to this AD.

(3) Where paragraph (a)(1) of Brazilian AD 2019-06-01 specifies an initial inspection time, this AD requires an initial inspection at the applicable time specified in paragraph (i)(3)(i) or (ii) of this AD, whichever occurs later.

(i) Before the accumulation of 17,000 total flight cycles or 27,000 total flight hours, whichever occurs first.

(ii) Within 680 flight cycles or 900 flight hours after the effective date of this AD, whichever occurs first.

(4) Where paragraph (a)(1)(ii) of Brazilian AD 2019-06-01 specifies to do a special detailed inspection (SDI) in case of any "signal" of cracks, this AD requires doing an SDI before further flight after the detection of any "sign" of structural cracks in the inspected area.

(j) 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 (k) 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.

(k) Related Information

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; email 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.

(i) Agência Nacional de Aviação Civil National Civil Aviation Agency (ANAC) Brazilian AD 2019-06-01, effective June 17, 2019.

(ii) Embraer Service Bulletin SB190-57-0056, dated December 5, 2019.

(3) For information about Brazilian AD 2019-06-01, contact National Civil Aviation Agency, Aeronautical Products Certification Branch (GGCP), Rua Laurent Martins, n° 209, Jardim Esplanada, CEP 12242-431–São José dos Campos–SP, Brazil; telephone 55 (12) 3203-6600; email pac@anac.gov.br; internet 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 information about Embraer service information, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170–Putim–12227-901 São Jose dos Campos–SP–Brazil; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email distrib@embraer.com.br; internet http://www.flyembraer.com.

(4) 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-2019-0701.

(5) 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 fedreg.legal@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on February 25, 2020.

Lance T. Gant,

Director, Compliance & Airworthiness Division, Aircraft Certification Service.

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