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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-1119; Product Identifier 2017-CE-037-AD; Amendment 39-19241; AD 2018-07-10]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for Embraer S.A. Models EMB-500 and EMB-505 airplanes. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as improperly tied castle nuts on the aileron, rudder, and elevator trim tab (or autotab) attachment bolts. We are issuing this AD to require actions to address the unsafe condition on these products.

DATES: This AD is effective May 15, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of May 15, 2018.

ADDRESSES: You may examine the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1119; or in person at Docket Operations, 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 service information identified in this AD, contact Embraer S.A., Phenom Maintenance Support, Avenida Brigadeiro Faria Lima, 2170, São José dos Campos-SP-12227-901, P.O. Box 36/2, Brasil; phone: +55 12 3927 1000; fax: +55 12 3927-2619; email: phenom.reliability@embraer.com.br; internet: <http://www.embraer.com.br/en-US/Pages/home.aspx>. You may view this referenced service information at the FAA, Policy and Innovation Division, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the internet at <http://www.regulations.gov> by searching for Docket No. FAA-2017-1119.

FOR FURTHER INFORMATION CONTACT: Jim Rutherford, Aerospace Engineer, FAA, Small Airplane Standards Branch, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4165; fax: (816) 329-4090; email: jim.rutherford@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to Embraer S.A. Models EMB-500 and EMB-505 airplanes. The NPRM was published in the Federal Register on December 4, 2017 (82 FR 57172). The NPRM proposed to correct an unsafe condition for the specified products and was based on mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country. The MCAI states:

This [ANAC] AD results of a report of one airplane having improperly tied castle nut on the aileron, rudder and elevator trim tab (or autotab) attachment bolts. A disconnected surface may cause an increase in dynamic loads and probable flutter, which may cause structural failure and possible loss of control of the airplane.

Since this condition may occur in other airplanes of the same type and affects flight safety, a corrective action is required. Thus, sufficient reason exists to request compliance with this [ANAC] AD in the indicated time limit without prior notice.

The MCAI can be found in the AD docket on the internet at:
<https://www.regulations.gov/document?D=FAA-2017-1119-0002>.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and the FAA's response to each comment.

Request To Withdraw NPRM

Eduardo Cerdeira and Ricardo Hollerbach, both from Embraer S.A., commented that all of the affected airplanes have been inspected with no faults found; therefore, there is no need for the proposed AD. They state that, since the issuance of the original versions of the service information for the two affected fleets, Embraer S.A. has been in direct contact with all the applicable operators in the world to encourage them to accomplish the required inspections as soon as possible. Since the start of the inspections, the commenters state that the completion status has been provided to the FAA, as well as the aviation authorities of Europe (EASA), and Brazil (ANAC). As of December 6, 2017, they stated that all affected airplanes, as defined in the current service information, have been inspected with no faults found. Finally, the commenters provided tables showing each of the affected airplane serial numbers and the date on which the applicable service information was accomplished.

We don't agree with this comment. The FAA contacted Embraer S.A. to obtain records to show that all airplanes were in compliance with the actions in this AD. Embraer S.A. informed the FAA that they were unable to provide such information. While the FAA appreciates the effort that the commenters went to in order to assure that the unsafe condition was addressed on the affected airplanes, our policy of not accepting assurance from a design approval holder that all products are in compliance as a reason to not issue an AD action requires us to move forward with the issuance of the final rule AD. Please note that the Action and Compliance paragraph within the FAA AD begins with the phrase "unless already done", which may apply in this case.

Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting the AD as proposed except for minor editorial changes. We have determined that these minor changes:

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

Related Service Information Under 1 CFR Part 51

Embraer S.A. has issued PHENOM by Embraer Alert Service Bulletin 500-27-A026, Revision 1, dated October 6, 2017; and PHENOM by Embraer Alert Service Bulletin 505-27-A028, Revision 2, dated October 6, 2017. For the applicable models, the service information describes procedures for inspection of the aileron trim tab, rudder trim tab, and elevator trim tab, and, if required, application of torque and installation of a cotter pin. This service information 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 of this AD.

Costs of Compliance

We estimate that this AD will affect 114 products of U.S. registry. We also estimate that it would take about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour.

Based on these figures, we estimate the cost of this AD on U.S. operators to be \$9,690, or \$85 per product.

In addition, we estimate that any necessary follow-on actions would take about 3 work-hours and require parts costing \$50, for a cost of \$305 per product. We have no way of determining the number of products that may need these actions.

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.

We are 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 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 small airplanes, gliders, balloons, airships, domestic business jet transport airplanes, and associated appliances to the Director of the Policy and Innovation Division.

Regulatory Findings

We determined that 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 this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

Examining the AD Docket

You may examine the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1119; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

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 AD:



FAA
Aviation Safety

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2018-07-10 Embraer S.A.: Amendment 39-19241; Docket No. FAA-2017-1119; Product Identifier 2017-CE-037-AD.

(a) Effective Date

This airworthiness directive (AD) becomes effective May 15, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Embraer S.A. Models EMB-500 and EMB-505 airplanes, serial numbers 50000246, 50000267, 50000286, 50000289, 50000291, 50000299, 50000304, 50000305, 50000306, 50000310, 50000348, 50000359, 50000368, 50000370, 50000372, 50000376, 50000377, 50000378, 50000379, 50000380, 50500118, 50500122, 50500148, 50500151, 50500167, 50500176, 50500179, 50500185, 50500188, 50500191, 50500197, 50500203, 50500207, 50500209, 50500212, 50500214, 50500215, 50500219, 50500225, 50500226, 50500231, 50500242, 50500244, 50500246, 50500248, 50500250, 50500256, 50500260, 50500266, 50500273, 50500275, 50500277, 50500280, 50500282, 50500285, 50500287, 50500288, 50500289, 50500292, 50500293, 50500294, 50500296, 50500297, 50500298, 50500300, 50500302, 50500304, 50500306, 50500309, 50500311, 50500317, 50500318, 50500323, 50500328, 50500331, 50500333, 50500335, 50500338, 50500340, 50500344, 50500345, 50500348, 50500351, 50500357, 50500361, 50500362, 50500363, 50500364, 50500365, 50500367, 50500368, 50500371, 50500372, 50500379, 50500381, 50500382, 50500385, 50500386, 50500390, 50500391, 50500394, 50500395, 50500397, 50500398, 50500399, 50500400, 50500402, 50500403, 50500404, 50500407, 50500410, 50500415, 50500418, and 50500424, certificated in any category.

(d) Subject

Air Transport Association of America (ATA) Code 27: Flight Controls.

(e) Reason

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as improperly tied castle nuts on the aileron, rudder and elevator trim tab (or autotab) attachment bolts. We are issuing this AD to inspect the aileron trim tab, rudder trim tab and elevator trim tab (or autotab), and correct any discrepancy, which if not corrected, may cause an increase in dynamic loads and possible flutter, leading to structural failure and loss of control.

(f) Actions and Compliance

Unless already done, do the following actions in paragraphs (f)(1) and (2) of this AD following the Accomplishment Instructions in PHENOM by Embraer Alert Service Bulletin (SB) No.: 500-27-A026, Revision 1, dated October 6, 2017; or PHENOM by Embraer Alert SB No.: 505-27-A028, Revision 2, dated October 6, 2017, as applicable:

(1) Within the next 25 hours time in service (TIS) after May 15, 2018 (the effective date of this AD) or within the next 12 months after May 15, 2018 (the effective date of this AD), whichever occurs first, inspect the aileron trim tab, rudder trim tab, and elevator trim tab attachment points to make sure the cotter pin is installed on the castle nut of the attaching bolts.

(2) If any discrepancy is found during the inspection required in paragraph (f)(1) of this AD, before further flight, correct the discrepancy.

(g) Credit for Actions Accomplished in Accordance With Previous Service Information

This AD allows credit for the actions required in paragraph (f) of this AD if done before the effective date of this AD following PHENOM by Embraer Alert SB No. 500-27-A026, original issue, dated September 29, 2017; PHENOM by Embraer Alert SB No. 505-27-A028, original issue, dated September 28, 2017; or PHENOM by Embraer Alert SB 505-27-A028, Revision 01, dated September 29, 2017; as applicable.

(h) No Reporting Requirement

Although PHENOM by Embraer Alert SB No.: 500-27-A026, Revision 1, dated October 6, 2017; and PHENOM by Embraer Alert SB No.: 505-27-A028, Revision 2, dated October 6, 2017; specify to submit certain information to the manufacturer, this AD does not require that action.

(i) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, Small Airplane Standards Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Jim Rutherford, Aerospace Engineer, FAA, Small Airplane Standards Branch, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4165; fax: (816) 329-4090; email: jim.rutherford@faa.gov. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, Small Airplane Standards Branch, FAA; or Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil.

(j) Related Information

Refer to MCAI Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, AD No.: 2017-11-01, dated November 10, 2017. You may examine the MCAI on the internet at: <https://www.regulations.gov/document?D=FAA-2017-1119-0002>.

(k) 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 the AD specifies otherwise.

(i) PHENOM by Embraer Alert Service Bulletin No.: 500-27-A026, Revision 1, dated October 6, 2017.

(ii) PHENOM by Embraer Alert Service Bulletin No.: 505-27-A028, Revision 2, dated October 6, 2017.

(3) For Embraer S.A. service information identified in this AD, contact Embraer S.A., Phenom Maintenance Support, Avenida Brigadeiro Faria Lima, 2170, São José dos Campos-SP-12227-901, P.O. Box 36/2, Brasil; phone: +55 12 3927 1000; fax: +55 12 3927-2619; email: phenom.reliability@embraer.com.br; internet: <http://www.embraer.com.br/en-US/Pages/home.aspx>.

(4) You may view this service information at the FAA, Policy and Innovation Division, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. In addition, you can access this service information on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1119.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on March 28, 2018.

William Schinstock,
Acting Deputy Director, Policy & Innovation Division,
Aircraft Certification Service.