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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0614; Directorate Identifier 2009-NM-045-AD; Amendment 39-16286; AD 2010-10-07]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 170 and Model ERJ 190 Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from 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:

It has been found the occurrence of outboard slat skew sensor failure in open or closed position. The combination of an outboard slat skew sensor failed closed, an outboard slat actuator structural failure (rupture) and its adjacent actuator torque limiter failing high (allows higher loads to the panel structure) occurring in the same slat surface, under normal flight loads, may lead [the] slat surface to detach from the wing with the possibility of hitting and damaging the horizontal stabilizer and elevator, which may affect the airplane controllability.

* * * * *

We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective June 17, 2010.

ADDRESSES: You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Kenny Kaulia, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2848; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on July 22, 2009 (74 FR 36129). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

It has been found the occurrence of outboard slat skew sensor failure in open or closed position. The combination of an outboard slat skew sensor failed closed, an outboard slat actuator structural failure (rupture) and its adjacent actuator torque limiter failing high (allows higher loads to the panel structure) occurring in the same slat surface, under normal flight loads, may lead [the] slat surface to detach from the wing with the possibility of hitting and damaging the horizontal stabilizer and elevator, which may affect the airplane controllability.

* * * * *

Corrective actions include repetitive operational tests of the outboard slat skew sensor, and replacement with a serviceable outboard slat skew sensor if necessary.

You may obtain further information by examining the MCAI in the AD docket.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comment received.

Request To Remove Reference to the Revision Level of the Airplane Maintenance Manual (AMM) Task

Embraer requests that we remove reference to the specific revision of the AMM task specified in Note 1 of the NPRM. Embraer explains that since AMMs are often revised to improve task procedures, changes to other tasks might force the subsequent tasks to be "re-paged and re-dated." Embraer points out that changes made to improve task procedures do not change the intent of the tasks and that the specific task number will always refer to the specific task, regardless of revision level. Embraer notes that referring to a specific revision will cause operators to request alternative methods of compliance (AMOCs) for updated AMM tasks that might be identical.

Embraer suggests that if it is necessary to refer to a specific revision of the AMM, we should not refer to the AMM task, but instead include the text of the outboard slat skew sensor operational test directly in the text of the AD. Embraer also suggests that another alternative would be to mandate revision of the Airworthiness Limitations Section of the Instructions for Continued Airworthiness to incorporate Task 27-83-01-001 of the latest revision of the Maintenance Review Board Report, but with a reduced interval mandated by the AD.

We disagree with the request to remove reference to a specific revision of the AMM task and the alternative suggestions to either include the text of the outboard slat skew sensor operational test directly in the text of the AD, or to mandate the revision of the Airworthiness Limitations Section of the Instructions for Continued Airworthiness to incorporate Task 27-83-01-001 of the latest revision of the Maintenance Review Board Report.

As stated in the commenter's request, the AMM may be revised to improve the task procedures, which could include substantive changes. We assume that this is also true for Task Number 27-83-01-710-801-A, "Outboard Slat Skew Sensor-Operational Test." We have reviewed the task as it currently exists, which has a date of October 28, 2008, and acknowledge that this task addresses the unsafe condition. It is impossible for us to anticipate what changes might be made to a task in future revisions, and we might not agree that the revised task adequately addresses the unsafe condition.

Operators are not required to use this task to accomplish the requirements of this AD. We point out that the task referenced in Note 1 of this AD is provided merely for operators to use as a source of guidance. Regardless of the method used to comply with the requirements of this AD, operators are required to contact us or the Agência Nacional de Aviação Civil ANAC (or its delegated agent) for approval of all methods of compliance for this AD. We have not changed the AD in this regard.

Conclusion

We reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting the AD as proposed.

Differences Between This AD and the MCAI or Service Information

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are highlighted in a NOTE within the AD.

Explanation of Change to Costs of Compliance

Since issuance of the NPRM, we have increased the labor rate used in the Costs of Compliance from \$80 per work-hour to \$85 per work-hour. The Costs of Compliance information, below, reflects this increase in the specified hourly labor rate.

Costs of Compliance

We estimate that this AD will affect 223 products of U.S. registry. We also estimate that it will take about 2 work-hours 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 to the U.S. operators to be \$37,910, or \$170 per product.

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.

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); 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office 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 Operations 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, 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:



2010-10-07 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-16286.
Docket No. FAA-2009-0614; Directorate Identifier 2009-NM-045-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective June 17, 2010.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the airplanes certificated in any category, identified in paragraphs (c)(1) and (c)(2) of the AD.

(1) EMBRAER Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes, equipped with outboard slat skew sensor part number (P/N) 1702286A or 1702288A.

(2) EMBRAER Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes, equipped with outboard slat skew sensor P/N 1702286A or 1702288A.

Subject

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

Reason

(e) The mandatory continuing airworthiness information (MCAI) states:

"It has been found the occurrence of outboard slat skew sensor failure in open or closed position. The combination of an outboard slat skew sensor failed closed, an outboard slat actuator structural failure (rupture) and its adjacent actuator torque limiter failing high (allows higher loads to the panel structure) occurring in the same slat surface, under normal flight loads, may lead [the] slat surface to detach from the wing with the possibility of hitting and damaging the horizontal stabilizer and elevator, which may affect the airplane controllability."

* * * * *

Corrective actions include repetitive operational tests of the outboard slat skew sensor, and replacement with a serviceable outboard slat skew sensor if necessary.

Actions and Compliance

(f) Unless already done, do the following actions.

(1) At the applicable compliance time in paragraph (f)(1)(i) or (f)(1)(ii) of this AD: Perform an operational test (OPT) of any outboard slat skew sensor having P/N 1702286A or P/N 1702288A. If any outboard slat skew sensor fails the test, replace the sensor with a serviceable sensor before further flight. Do the actions using a method approved by either the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the Agência Nacional de Aviação Civil (ANAC) (or its delegated agent).

(i) For Model ERJ 170 airplanes: Within 1,320 flight hours after the effective date of this AD.

(ii) For Model ERJ 190 airplanes: Within 1,320 flight hours or 12 months after the effective date of this AD, whichever occurs first.

Note 1: Guidance on performing the OPT required by paragraph (f)(1) of this AD can be found in Task 27-83-01-710-801-A, "Outboard Slat Skew Sensor—Operational Test," dated October 28, 2008, of the Embraer 170/175 or 190 Aircraft Maintenance Manual (AMM).

Note 2: For the purpose of this AD, an OPT is "A task to determine if an item is fulfilling its intended purpose. Since it is a failure-finding task, it does not require quantitative tolerances."

Note 3: For the purpose of this AD, a serviceable sensor is one that has passed the OPT required by paragraph (f)(1) of this AD.

(2) Repeat the OPT required by paragraph (f)(1) of this AD thereafter at intervals not to exceed 1,320 flight hours.

FAA AD Differences

Note 4: This AD differs from the MCAI and/or service information as follows: No differences.

Other FAA AD Provisions

(g) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, 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: Kenny Kaulia, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2848; fax (425) 227-1149. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

Related Information

(h) Refer to MCAI Brazilian Airworthiness Directives 2009-02-02 and 2009-02-03, both effective February 16, 2009, for related information.

Material Incorporated by Reference

(i) None.

Issued in Renton, Washington, on April 28, 2010.
Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.