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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-28377; Directorate Identifier 2007-NM-063-AD; Amendment 39-16257; AD 2010-08-02]

RIN 2120-AA64

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

Periodic operational check of the firewall hydraulic shutoff valves [FWSOV], made during routine maintenance, has revealed that the failure rate of that component is significantly higher than expected. Such a dormant failure, when combined with further possible failures, such as engine fire, may lead to an unacceptable reduction of safety margins.

The unsafe condition is failure of the firewall hydraulic shutoff valve, which, in combination with an engine fire, could result in the spread of an engine fire beyond the firewall. We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective May 19, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of May 19, 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 supplemental notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That supplemental NPRM was published in the Federal Register on June 26, 2008 (73 FR 36290). That supplemental NPRM proposed to correct an unsafe condition for the specified products.

Since that NPRM was issued, Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directives 2007-02-01R2, and 2007-02-02R2, both effective July 17, 2009. The revised MCAI references suitable hydraulic shutoff valves for replacement valves. (This change is explained further in a comment from EMBRAER, which is discussed below.) The MCAI states:

Periodic operational check of the firewall hydraulic shutoff valves [FWSOV], made during routine maintenance, has revealed that the failure rate of that component is significantly higher than expected. Such a dormant failure, when combined with further possible failures, such as engine fire, may lead to an unacceptable reduction of safety margins.

The unsafe condition is failure of the firewall hydraulic shutoff valve, which, in combination with an engine fire, could result in the spread of an engine fire beyond the firewall. The MCAI requires repetitive operational checks of the firewall hydraulic shutoff valve, and if necessary, replacement of the valve. 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 comments received.

Request To Revise Unsafe Condition Statement

EMBRAER requests that we revise the description of the unsafe condition. EMBRAER explains that loss of hydraulic pressure, as stated in the supplemental NPRM, is an expected result when the firewall hydraulic shutoff valves fail to close when commanded to close. The failure mode for the valve results in the valve not closing when commanded to close. When the valve does not close, then a fire can spread beyond the firewall.

We agree to revise the unsafe condition statement to remove the phrase "loss of hydraulic pressure," and have revised the statements in the preamble and paragraph (e) of the AD accordingly.

Request To Add an Optional Terminating Action

EMBRAER also requests that we add replacing an affected valve with a new valve, P/N 975287-7, as an optional terminating action for the 600-flight-hour-interval inspections required by paragraph (f) of the supplemental NPRM. EMBRAER adds that a service bulletin to install this new valve should be issued soon.

We agree to add the replacement discussed by the commenter as an optional terminating action. We received new service bulletins, EMBRAER Service Bulletin 190-29-0021 and 170-29-0024, both

dated December 22, 2008, that describe replacement instructions for the valves and explain that replacement with P/N 975287-7 returns the repetitive interval to the original 3,000 flight hours specified in the relevant maintenance review board report. We also received revised Brazilian ADs 2007-02-01R2 and 2007-02-02R2, both effective July 17, 2009, which provide for the use of other valves bearing a new part number in replacing faulty valves. We have added paragraph (f)(2) to this AD to provide an optional terminating action for the requirements of paragraph (f)(1) of this AD. We have also re-identified paragraph (f) of the supplemental NPRM as paragraph (f)(1) of this AD.

Revision to Paragraph (f)(1) of This AD

We have revised the language in paragraph (f)(1) of this AD from "If the valve does not operate properly, * * *" to "If the valve fails the operational test," as described in the applicable service bulletin listed in Table 1 of this AD. This change more closely aligns with the phrasing used in the MCAI referenced in this AD.

Explanation of Changes to Applicability

We have revised the applicability of the supplemental NPRM to clarify affected airplane categories and identify model designations as published in the most recent type certificate data sheet (TCDS) for the affected models. Since we issued the original NPRM, the Model ERJ 190-100 ECJ airplane was added to the U.S. TCDS. This model is also affected by the identified unsafe condition. There are no airplanes of this model currently registered in the United States.

Conclusion

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

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 supplemental 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 145 products of U.S. registry. We also estimate that it will 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 to the U.S. operators to be \$12,325, or \$85 per product, per inspection cycle.

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, 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:



2010-08-02 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-16257.
Docket No. FAA-2007-28377; Directorate Identifier 2007-NM-063-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective May 19, 2010.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes; and Model ERJ 190-100 STD, -100 LR, -100 IGW, -100 ECJ, -200 STD, -200 LR, and -200 IGW airplanes; certificated in any category; equipped with firewall hydraulic shutoff valves having part number (P/N) 975287-3 or P/N 975287-5.

Subject

- (d) Air Transport Association (ATA) of America Code 29: Hydraulic power.

Reason

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

Periodic operational check of the firewall hydraulic shutoff valves [FWSOV], made during routine maintenance, has revealed that the failure rate of that component is significantly higher than expected. Such a dormant failure, when combined with further possible failures, such as engine fire, may lead to an unacceptable reduction of safety margins.

The unsafe condition is failure of the firewall hydraulic shutoff valve, which, in combination with an engine fire, could result in the spread of an engine fire beyond the firewall. The MCAI requires repetitive operational checks of the firewall hydraulic shutoff valve, and if necessary, replacement of the valve.

Actions and Compliance

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

(1) Within the next 600 flight hours after the effective date of this AD, perform an operational test for proper operation of the firewall hydraulic shutoff valves P/N 975287-3 or P/N 975287-5, as applicable, in accordance with the applicable service bulletin listed in Table 1 of this AD. If the valve fails the operational test, as described in the applicable service bulletin listed in Table 1 of this AD,

before further flight, replace the faulty hydraulic shutoff valve with another one bearing P/N 975287-3 or P/N 975287-5. Repeat the test thereafter at intervals that do not exceed 600 flight hours.

Note 1: For the purpose of this AD, an operational test is: "A task to determine that an item is fulfilling its intended purpose. The test does not require quantitative tolerances. This is a failure finding task."

Table 1 - EMBRAER Service Information

EMBRAER Service Bulletin -	Revision -	Dated -
170-29-0013	Original	December 13, 2006
170-29-0013	01	July 24, 2007
190-29-0008	Original	December 13, 2006
190-29-0008	01	July 24, 2007

(2) Replacing a firewall hydraulic shutoff valve having P/N 975287-3 or P/N 975287-5 with a valve having P/N 975287-7, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-29-0021 or 170-29-0024, both dated December 22, 2008, as applicable, terminates the requirements of paragraph (f)(1) of this AD for that valve.

FAA AD Differences

Note 2: This AD differs from the MCAI and/or service information as follows: A final solution has been identified since the MCAI were issued and we are providing it as an optional terminating action in this AD. This difference has been coordinated with Agência Nacional de Aviação Civil (ANAC).

Other FAA AD Provisions

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

(1) Alternative Methods of Compliance (AMOCs): The Manager, ANM-116, International Branch, 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, FAA, Transport Airplane Directorate, 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 2007-02-01R2 and 2007-02-02R2, both effective July 17, 2009; and the service information listed in Table 2 of this AD; for related information.

Table 2 - EMBRAER Service Information

EMBRAER Service Bulletin -	Revision -	Dated -
170-29-0013	Original	December 13, 2006
170-29-0013	01	July 24, 2007
170-29-0024	Original	December 22, 2008
190-29-0008	Original	December 13, 2006
190-29-0008	01	July 24, 2007
190-29-0021	Original	December 22, 2008

Material Incorporated by Reference

(i) You must use the applicable service information specified in Table 3 of this AD to do the actions required by this AD, unless the AD specifies otherwise. If you accomplish the optional actions specified by this AD, you must use EMBRAER Service Bulletin 190-29-0021, dated December 22, 2008; or EMBRAER Service Bulletin 170-29-0024, dated December 22, 2008; as applicable; to perform those actions, unless the AD specifies otherwise.

Table 3 – Material Incorporated by Reference for actions required by this AD

EMBRAER Service Bulletin -	Revision -	Dated -
170-29-0013	Original	December 13, 2006
170-29-0013	01	July 24, 2007
190-29-0008	Original	December 13, 2006
190-29-0008	01	July 24, 2007

EMBRAER Service Bulletin 170-29-0013, Revision 01, contains the following effective pages:

Page number	Revision level shown on page	Date shown on page
1–5, 10	01	July 24, 2007.
6–9	Original	December 13, 2006.

EMBRAER Service Bulletin 190-29-0008, Revision 01, contains the following effective pages:

Page number	Revision level shown on page	Date shown on page
1–5, 10	01	July 24, 2007.
6–9	Original	December 13, 2006.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170–Putim–12227-901 São Jose dos Campos–SP–BRASIL; telephone: +55 12 3927-5852 or +55 12 3309-0732; fax: +55 12 3927-7546; e-mail: distrib@embraer.com.br; Internet: <http://www.flyembraer.com>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(4) You may also review copies of the 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on March 25, 2010.

Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.