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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-27785; Directorate Identifier 2006-NM-267-AD; Amendment 39-15649; AD 2008-17-11]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 170 Airplanes 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 that some "caution" messages issued by the Flight Guidance Control System (FGCS) are not displayed on aircraft equipped with [certain] EPIC software load[s] * * *. Therefore, following a possible failure on one FGCS channel during a given flight, such a failure condition will remain undetected * * *. If another failure occurs on the second FGCS channel, the result may be a hardover command by the autopilot.

An unexpected hardover command may cause a sudden roll, pitch, or yaw movement, which could result in reduced controllability of the airplane. We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective October 2, 2008.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of October 2, 2008.

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: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; 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 April 11, 2008 (73 FR 19770). That supplemental NPRM proposed to correct an unsafe condition for the specified products. The mandatory continuing airworthiness information (MCAI) for Model ERJ 170 airplanes states:

It has been found that some "caution" messages issued by the Flight Guidance Control System (FGCS) are not displayed on aircraft equipped with EPIC software load versions 17.3, 17.4, 17.5, 17.6, or 17.7. Therefore, following a possible failure on one FGCS channel during a given flight, such a failure condition will remain undetected or latent in subsequent flights. If another failure occurs on the second FGCS channel, the result may be a hardover command by the autopilot.

The MCAI for Model ERJ 190 airplanes states:

It has been found that some "caution" messages issued by the Flight Guidance Control System (FGCS) are not displayed on aircraft equipped with EPIC software load versions 4.3, 4.4, 4.5, 4.6, or 4.7. Therefore, following a possible failure on one FGCS channel during a given flight, such a failure condition will remain undetected or latent in subsequent flights. If another failure occurs on the second FGCS channel, the result may be a hardover command by the autopilot.

An unexpected hardover command may cause a sudden roll, pitch, or yaw movement, which could result in reduced controllability of the airplane. Corrective actions include a functional check of the FGCS channels engagement, installation of an upgrade to the Primus EPIC Field-Loadable Software, and replacement of the actuator input-output processor 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 comments received.

Request To Extend Compliance Time

EMBRAER and Air Transport Association (ATA), on behalf of one of its members, US Airways, request that we extend the compliance time for installing Primus EPIC Field-Loadable Software Version 19.3 or higher specified in paragraph (f)(2) of the supplemental NPRM from "within 8 months after the effective date" to a specific later date. ATA requests the compliance time be extended until April 2009; EMBRAER suggests "no later than April 30, 2009." US Airways states that a future upgrade, EPIC 21.4, is expected in August 2008. US Airways also states that airlines would prefer to wait to install EPIC 21.4 due to problems with EPIC Loads 19.3 and 19.4. EMBRAER states that the Agencia Nacional de Aviacao Civil (ANAC) will issue new revisions to Brazilian Airworthiness Directives 2006-11-02 and 2006-11-03 to extend the compliance time to April 30, 2009, for installation of EPIC Load 19.3 or 19.4.

We agree to revise the compliance time. ANAC has issued Brazilian Airworthiness Directives 2006-11-02R3 and 2006-11-03R3, both effective June 13, 2008, which revise the compliance time of the previous airworthiness directives. The latest Brazilian airworthiness directives specify a compliance time of no later than April 30, 2009, to install the software. Based on the nature of the software issues and potential for certain caution messages to not be displayed in the event of certain other failures, we have determined that a two-month extension of the compliance time will not have a significant effect on the overall safety risk. We have revised the compliance time for installing the software specified in paragraph (f)(2) of this AD to "within 10 months after the effective date of the AD." The 10-month compliance time is based on the calendar date specified in the Brazilian airworthiness directives and approximates the elapsed time between the issuance of this AD and April 30, 2009.

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 change 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.

Costs of Compliance

We estimate that this AD will affect 98 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 $80 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be $15,680, or $160 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, 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:

2008-17-11 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-15649. Docket No. FAA-2007-27785; Directorate Identifier 2006-NM-267-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective October 2, 2008.

Affected ADs

(b) None.

Applicability

(c) This AD applies to EMBRAER Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes, certificated in any category, equipped with Primus EPIC software load version 17.3, 17.4, 17.5, 17.6, or 17.7; and Model ERJ 190-100 STD, -100 LR, -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes, certificated in any category, equipped with Primus EPIC software load version 4.3, 4.4, 4.5, 4.6, or 4.7.

Subject

(d) Air Transport Association (ATA) of America Code 22: Auto Flight.

Reason

(e) The mandatory continuing airworthiness information (MCAI) for Model ERJ 170 airplanes states:

It has been found that some "caution" messages issued by the Flight Guidance Control System (FGCS) are not displayed on aircraft equipped with EPIC software load versions 17.3, 17.4, 17.5, 17.6, or 17.7. Therefore, following a possible failure on one FGCS channel during a given flight, such a failure condition will remain undetected or latent in subsequent flights. If another failure occurs on the second FGCS channel, the result may be a hardover command by the autopilot.

The MCAI for Model ERJ 190 airplanes states:

It has been found that some "caution" messages issued by the Flight Guidance Control System (FGCS) are not displayed on aircraft equipped with EPIC software load versions 4.3, 4.4, 4.5, 4.6, or 4.7. Therefore, following a possible failure on one FGCS channel during a given flight, such a failure condition will remain undetected or latent in subsequent flights. If another failure occurs on the second FGCS channel, the result may be a hardover command by the autopilot.

An unexpected hardover command may cause a sudden roll, pitch, or yaw movement, which could result in reduced controllability of the airplane. Corrective actions include a functional check of the FGCS channels engagement, installation of an upgrade to the Primus EPIC Field-Loadable Software, and replacement of the actuator input-output processor if necessary.

Actions and Compliance

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

(1) Within 300 flight hours after the effective date of this AD, do a functional check of the FGCS channels engagement, in accordance with EMBRAER Service Bulletin 170-22-0003 or Service Bulletin 190-22-0002, both Revision 01, both dated November 5, 2007, as applicable. Repeat the functional check thereafter at intervals not to exceed 600 flight hours, until the terminating action described by paragraph (f)(2) of this AD has been done. If any malfunction of the FGCS is discovered during any functional check required by this paragraph, before further flight, do all applicable replacements of the actuator input-output processor in accordance with the applicable service bulletin.

Note 1: For the purpose of this AD, a functional check is: "A quantitative check to determine if one or more functions of an item perform within specified limits."

(2) Within 10 months after the effective date of this AD, install Primus EPIC Field-Loadable Software Version 19.3 or higher, in accordance with EMBRAER Service Bulletin 170-31-0019, Revision 01, dated June 25, 2007; or Service Bulletin 190-31-0009, Revision 02, dated June 29, 2007; as applicable. Doing this installation ends the repetitive functional checks required by paragraph (f)(1) of this AD.

(3) Any functional check done before the effective date of this AD in accordance with EMBRAER Service Bulletin 170-22-0003 or 190-22-0002, both dated November 9, 2006, as applicable, is considered acceptable for compliance with the requirements of paragraph (f)(1) of this AD.

FAA AD Differences

Note 2: 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: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149. 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) 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, 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 2006-11-02R3 and 2006-11-03R3, both effective June 13, 2008; EMBRAER Service Bulletins 170-22-0003 and 190-22-0002, both Revision

01, both dated November 5, 2007; EMBRAER Service Bulletin 170-31-0019, Revision 01, dated June 25, 2007; and EMBRAER Service Bulletin 190-31-0009, Revision 02, dated June 29, 2007; for related information.

Material Incorporated by Reference

(i) You must use the applicable service information specified in Table 1 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

(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), P.O. Box 343–CEP 12.225, Sao Jose dos Campos–SP, Brazil.

(3) You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or 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.

Table 1–Material Incorporated by Reference

EMBRAER Service Bulletin -	Revision -	Dated -
170-22-0003	01	November 5, 2007
170-31-0019	01	June 25, 2007
190-22-0002	01	November 5, 2007
190-31-0009	02	June 29, 2007

Issued in Renton, Washington, on August 6, 2008.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E8-19143 Filed 8-27-08; 8:45 am]