

[Federal Register: August 9, 2007 (Volume 72, Number 153)]
[Rules and Regulations]
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[DOCID:fr09au07-4]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-28094; Directorate Identifier 2006-NM-258-AD; Amendment 39-15148; AD 2007-16-09]

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: The FAA is superseding an existing airworthiness directive (AD), which applies to all EMBRAER Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes. That AD currently requires repetitively replacing the low-stage check valve and associated seals of the right-hand engine bleed system. This new AD adds new airplanes to that existing requirement. For all airplanes, this AD also requires repetitively replacing the low-stage check valve and associated seals of the left-hand engine bleed system with a new check valve and new seals. This AD results from a report that an engine shut down during flight due to the failure of the low-stage check valve to close. We are issuing this AD to prevent failure of the low-stage check valve, which could result in an engine shutting down during flight.

DATES: This AD becomes effective September 13, 2007.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of September 13, 2007.

On November 29, 2005 (70 FR 69075, November 14, 2005), the Director of the Federal Register approved the incorporation by reference of a certain service bulletin.

ADDRESSES: You may examine the AD docket on the Internet at <http://dms.dot.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.

Contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343-CEP 12.225, Sao Jose dos Campos-SP, Brazil, for service information identified in this AD.

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:

Examining the Docket

You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Operations office (telephone (800) 647-5527) is located on the ground floor of the West Building at the DOT street address stated in the ADDRESSES section.

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that supersedes AD 2005-23-14, amendment 39-14372 (70 FR 69075, November 14, 2005). The existing AD applies to all EMBRAER Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes. That NPRM was published in the Federal Register on May 8, 2007 (72 FR 26008). That NPRM proposed to continue to require repetitively replacing the low-stage check valve and associated seals of the right-hand (RH) engine bleed system. That NPRM also proposed to add new airplanes to that existing requirement. For all airplanes, that NPRM also proposed to require repetitively replacing the low-stage check valve and associated seals of the left-hand (LH) engine bleed system with a new check valve and new seals.

Comments

We provided the public the opportunity to participate in the development of this AD. No comments have been received on the NPRM or on the determination of the cost to the public.

Changes to This AD

We have reviewed Revision 01 of EMBRAER Service Bulletin 190-36-0004, dated November 14, 2006, and have determined that the accomplishment instructions of Revision 01 are the same as those in the original issue of the service bulletin. In the NPRM, we referred to the original issue of EMBRAER Service Bulletin 190-36-0004, dated October 18, 2006, as the appropriate source of service information for replacing the low-stage check valves and associated seals of the RH and LH engine bleed system, on Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes. Therefore, we have revised paragraphs (j) and (k) of this AD to also refer to Revision 01 of EMBRAER Service Bulletin 190-36-0004, dated November 14, 2006, as an appropriate source of service information. We have also revised paragraph (n) of this AD to specify that this AD does not require sending to the manufacturer any check valve removed in accordance with Revision 01 of EMBRAER Service Bulletin 190-36-0004.

Conclusion

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Interim Action

This AD is considered to be interim action. The manufacturer has advised that it currently is developing a modification that will address the unsafe condition addressed by this AD. Once this modification is approved we might consider additional rulemaking.

Costs of Compliance

The following table provides the estimated costs, at an average labor rate of \$80 per work hour, for U.S. operators to comply with this AD. The parts manufacturer states that it will supply required parts to operators at no cost.

Estimated Costs				
Action	Work hours	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Replacement of RH check valves on Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes (required by AD 2005-23-14)	3	\$240, per replacement cycle	55	\$13,200, per replacement cycle
Replacement of LH check valves on Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes (new action)	3	\$240, per replacement cycle	75	\$18,000, per replacement cycle
Replacement of RH check valves on Model ERJ 190 airplanes (new action)	3	\$240, per replacement cycle	23	\$5,520, per replacement cycle
Replacement of LH check valves on Model ERJ 190 airplanes (new action)	3	\$240, per replacement cycle	23	\$5,520, per replacement 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 have 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 that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866;

(2) Is not a "significant rule" under 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. See the ADDRESSES section for a location to examine the regulatory evaluation.

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 Federal Aviation Administration (FAA) amends § 39.13 by removing amendment 39-14372 (70 FR 69075, November 14, 2005) and by adding the following new airworthiness directive (AD):



2007-16-09 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-15148.
Docket No. FAA-2007-28094; Directorate Identifier 2006-NM-258-AD.

Effective Date

- (a) This AD becomes effective September 13, 2007.

Affected ADs

- (b) This AD supersedes AD 2005-23-14.

Applicability

(c) This AD applies to all 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, and -100 IGW airplanes; certificated in any category.

Unsafe Condition

(d) This AD results from a report that an engine shut down during flight due to the failure of the low-stage check valve to close. We are issuing this AD to prevent failure of the low-stage check valve, which could result in an engine shutting down during flight.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Restatement of Requirements of AD 2005-23-14

Replacement for Right-Hand (RH) Engine on Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU Airplanes With New Service Bulletin

(f) For Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes: Within 100 flight hours after November 29, 2005 (the effective date of AD 2005-23-14), or prior to the accumulation of 3,000 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the RH engine's engine bleed system with a new check valve and new seals, in accordance with the Accomplishment Instructions of EMBRAER Alert Service Bulletin 170-36-A004, dated September 28, 2005; or paragraph 3.C. of the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

Parts Installation for RH Engine on Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU Airplanes

(g) For Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes: As of November 29, 2005, no engine may be installed in the RH position unless the low-stage check valve has been replaced in accordance with the actions required by paragraph (f) of this AD.

Removed Check Valves

(h) Although EMBRAER Alert Service Bulletin 170-36-A004, dated September 28, 2005, specifies to send removed check valves to the manufacturer, this AD does not include that requirement.

New Requirements of This AD

Replacement for Left-Hand (LH) Engine on All Model ERJ 170 Airplanes

(i) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes: Within 300 flight hours after the effective date of this AD or prior to the accumulation of 3,000 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the LH engine's engine bleed system with a new check valve and new seals, in accordance with paragraph 3.B. of the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

Replacement for RH Engine on Model ERJ 190 Airplanes

(j) For Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes: Within 100 flight hours after the effective date of this AD or prior to the accumulation of 1,500 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the RH engine's engine bleed system with a new check valve and new seals, in accordance with paragraph 3.C. of the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0004, dated October 18, 2006; or Revision 01, dated November 14, 2006. Repeat the replacement thereafter at intervals not to exceed 1,500 flight hours.

Replacement for LH Engine on Model ERJ 190 Airplanes

(k) For Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes: Within 600 flight hours after the effective date of this AD or prior to the accumulation of 1,500 total flight hours, whichever occurs later, replace the low-stage check valve and associated seals of the LH engine's engine bleed system with a new check valve and new seals, in accordance with paragraph 3.B. of the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0004, dated October 18, 2006; or Revision 01, dated November 14, 2006. Repeat the replacement thereafter at intervals not to exceed 1,500 flight hours.

Parts Installation for LH Engine on Model ERJ 170 Airplanes

(l) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes: As of the effective date of this AD, no engine may be installed in the LH position unless the low-stage check valve has been replaced in accordance with the actions required by paragraph (i) of this AD.

Parts Installation for RH and LH Engine on Model ERJ 190 Airplanes

(m) For Model ERJ 190-100 STD, -100 LR, and -100 IGW airplanes: As of the effective date of this AD; no engine may be installed in the RH position unless the low-stage check valve has been replaced in accordance with the actions required by paragraph (j) of this AD; and no engine may be installed in the LH position unless the low-stage check valve has been replaced in accordance with the actions required by paragraph (k) of this AD.

Removed Check Valves in Accordance With New Service Bulletins

(n) Although EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005; EMBRAER Service Bulletin 190-36-0004, dated October 18, 2006; and EMBRAER Service Bulletin 190-36-0004, Revision 01, dated November 14, 2006; specify to send removed check valves to the manufacturer, this AD does not include that requirement.

Alternative Methods of Compliance (AMOCs)

(o)(1) The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. 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.

Related Information

(p) Brazilian airworthiness directive 2005-09-03R1, effective May 23, 2006; and Brazilian airworthiness directive 2006-11-01R1, effective March 21, 2007; also address the subject of this AD.

Material Incorporated by Reference

(q) You must use the service information identified in Table 1 of this AD, as applicable, to perform the actions that are required by this AD, unless the AD specifies otherwise.

Table 1 – All Material Incorporated by Reference

Service Bulletin	Revision Level	Date
EMBRAER Alert Service Bulletin 170-36-A004	Original	September 28, 2005
EMBRAER Service Bulletin 170-36-0004	Original	November 18, 2005
EMBRAER Service Bulletin 190-36-0004	Original	October 18, 2006
EMBRAER Service Bulletin 190-36-0004	01	November 14, 2006

(1) The Director of the Federal Register approved the incorporation by reference of the documents identified in Table 2 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

Table 2 – New Material Incorporated by Reference

Service Bulletin	Revision Level	Date
EMBRAER Service Bulletin 170-36-0004	Original	November 18, 2005
EMBRAER Service Bulletin 190-36-0004	Original	October 18, 2006
EMBRAER Service Bulletin 190-36-0004	01	November 14, 2006

(2) On November 29, 2005 (70 FR 69075, November 14, 2005), the Director of the Federal Register approved the incorporation by reference of EMBRAER Alert Service Bulletin 170-36-A004, dated September 28, 2005.

(3) Contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343–CEP 12.225, Sao Jose dos Campos–SP, Brazil, for a copy of this service information. 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>.

Issued in Renton, Washington, on July 30, 2007.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7-15412 Filed 8-8-07; 8:45 am]