

[Federal Register: July 22, 2010 (Volume 75, Number 140)]
[Rules and Regulations]
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[DOCID:fr22jy10-4]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0174; Directorate Identifier 2009-NM-186-AD; Amendment 39-16359; AD 2010-14-14]

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 superseding an existing 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 for EMBRAER Model ERJ 170 airplanes describes the unsafe condition as:

It has been found the occurrence of an engine in-flight shutdown caused by the LPCV [low pressure check valves] failing to close due to excessive wear, which leads to the concern that such fault may be present in both engines of a given aircraft.

* * * * *

The MCAI for EMBRAER Model ERJ 190 airplanes describes the unsafe condition as:

An occurrence of an uncommanded engine in-flight shutdown (IFSD) was reported * * *, which was caused by an ERJ 170 defective LPCV * * *. The valve failed to close due to excessive wear. Despite there were no IFSD related to LPCV * * * failure, some ERJ 190 valves * * * were inspected and presented cracks due to low cycle fatigue. Since this failure mode also might lead to an engine in-flight shutdown and since both engines of the airplane have the same valves, there is a possibility of an occurrence of a dual engine IFSD due to LPCV failure.

* * * * *

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

DATES: This AD becomes effective August 26, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 26, 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 March 4, 2010 (75 FR 9816), and proposed to supersede AD 2007-16-09, Amendment 39-15148 (72 FR 44734, August 9, 2007). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI for EMBRAER Model ERJ 170 airplanes states:

It has been found the occurrence of an engine in-flight shutdown caused by the LPCV [low pressure check valves] failing to close due to excessive wear, which leads to the concern that such fault may be present in both engines of a given aircraft.

* * * * *

The MCAI for EMBRAER Model ERJ 190 airplanes states:

An occurrence of an uncommanded engine in-flight shutdown (IFSD) was reported on 20 Sep. 2005, which was caused by an ERJ 170 defective LPCV [part number] P/N 1001447-3 logging 3900 Flight Hours (FH). The valve failed to close due to excessive wear. Despite there were no IFSD related to LPCV P/N 1001447-4 failure, some ERJ 190 valves P/N 1001447-4 logging around 2472 FH were inspected and presented cracks due to low cycle fatigue. Since this failure mode also might lead to an engine in-flight shutdown and since both engines of the airplane have the same valves, there is a possibility of an occurrence of a dual engine IFSD due to LPCV failure.

* * * * *

The required actions include repetitive replacements of the low-stage check valves and associated seals of the left-hand and right-hand engine bleed system with new or serviceable valves, depending on the model. For certain airplanes, this AD also includes an optional terminating action for the repetitive replacements. This AD also requires, if the terminating action is done, revising the approved maintenance plan to include repetitive functional tests of the low-stage check valve. For certain other airplanes, this AD requires replacing a certain low-stage check valve with an improved low-stage check 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 comment received. The Air Line Pilots Association, International (ALPA), supports the NPRM.

Explanation of Change Made to This AD

Since we issued the NPRM, we have received Revision 6, of EMBRAER 170 Maintenance Review Board Report (MRBR), MRB-1621, dated January 14, 2010. We have updated the final rule to reference EMBRAER 170 Maintenance Review Board Report (MRBR), MRB-1621, Revision 6, dated January 14, 2010. We have added paragraph (j)(14) to this final rule to give credit for revising the maintenance program to include maintenance Task 36-11-02-002 (Low Stage Bleed Check Valve) specified in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR), MRB-1621, Revision 5, dated November 5, 2008.

We also revised paragraph (j)(13) of this AD to clarify that doing a replacement before the effective date of this AD is acceptable for compliance with a replacement specified in paragraph (j)(1) of this AD.

Conclusion

We reviewed the available data, including the comment received, 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 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 about 231 products of U.S. registry.

The actions that are required by AD 2007-16-09 and retained in this AD, which are provided in the following table, provide the estimated costs, at an average labor rate of \$85 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.

Action	Estimated Costs			
	Work hours	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Replacement of right-hand check valves on Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes	3	\$255 per replacement cycle	55	\$14,025 per replacement cycle
Replacement of left-hand check valves on Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes	3	\$255 per replacement cycle	75	\$19,125 per replacement cycle

We estimate that it will take about 6 work-hours per product to comply with the new basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$4,219 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these costs. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$1,092,399, or \$4,729 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 removing Amendment 39-15148 (72 FR 44734, August 9, 2007) and adding the following new AD:



2010-14-14 Empresa Brasileira de Aeronautica S.A. (EMBRAER): Amendment 39-16359.
Docket No. FAA-2010-0174; Directorate Identifier 2009-NM-186-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective August 26, 2010.

Affected ADs

(b) This AD supersedes AD 2007-16-09, Amendment 39-15148.

Applicability

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

(1) Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; and Model ERJ 170-200 LR, -200 STD, and -200 SU airplanes; equipped with Hamilton Sundstrand low pressure check valve (LPCV) having part number (P/N) 1001447-3.

(2) Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes; equipped with Hamilton Sundstrand LPCV having P/N 1001447-3 or 1001447-4.

Subject

(d) Air Transport Association (ATA) of America Code 36: Pneumatic.

Reason

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

It has been found the occurrence of an engine in-flight shutdown caused by the LPCV [low pressure check valves] failing to close due to excessive wear, which leads to the concern that such fault may be present in both engines of a given aircraft.

* * * * *

The MCAI for EMBRAER Model ERJ 190 airplanes states:

An occurrence of an uncommanded engine in-flight shutdown (IFSD) was reported on 20 Sep. 2005, which was caused by an ERJ 170 defective LPCV P/N 1001447-3 logging 3,900 Flight Hours (FH). The valve failed to close due to excessive wear. Despite there were no IFSD related to LPCV P/N 1001447-4 failure, some ERJ 190 valves P/N 1001447-4 logging around 2472 FH were inspected and presented cracks due to low cycle fatigue. Since this failure mode also might lead to an engine in-flight

shutdown and since both engines of the airplane have the same valves, there is a possibility of an occurrence of a dual engine IFSD due to LPCV failure.

* * * * *

The required actions include repetitive replacements of the low-stage check valves and associated seals of the left-hand and right-hand engine bleed system with new or serviceable valves, depending on the model. For certain airplanes, this AD also includes an optional terminating action for the repetitive replacements. This AD also requires, if the terminating action is done, revising the approved maintenance plan to include repetitive functional tests of the low-stage check valve. For certain other airplanes, this AD requires replacing a certain low-stage check valve with an improved low-stage check valve.

Restatement of Requirements of AD 2005-23-14, With Revised Service Information:

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

(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, which was superseded by AD 2007-16-09), 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, or Revision 01, dated March 10, 2008. As of the effective date of this AD, only use EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

Removed Check Valves

(g) 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.

Restatement of Certain Requirements of AD 2007-16-09, With Revised Service Information:

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

(h) 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 September 13, 2007 (the effective date of AD 2007-16-09) 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; or Revision 01, dated March 10, 2008. As of the effective date of this AD, only use EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

Removed Check Valves in Accordance With New Service Bulletin

(i) Although EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005, specifies to send removed check valves to the manufacturer, this AD does not include that requirement.

New Requirements of This AD:

Actions and Compliance

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

(1) For Model ERJ 170-200 LR, -200 STD, and -200 SU airplanes: Within 100 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 RH engine's engine bleed system with a new check valve and new seals, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

(2) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes: Replacing the LPCV having P/N 1001447-3 with a new one having P/N 1001447-4 in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0011, Revision 02, dated July 19, 2007, terminates the repetitive replacements required by paragraphs (f), (h), and (j)(1) of this AD.

(3) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes, at the earlier of the times specified in paragraphs (j)(3)(i) and (j)(3)(ii) of this AD, revise the maintenance program to include maintenance Task 36-11-02-002 (Low Stage Bleed Check Valve), specified in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR), MRB-1621, Revision 6, dated January 14, 2010. Thereafter, except as provided by paragraph (k) of this AD, no alternative inspection intervals may be approved for the task.

(i) Within 180 days after accomplishing paragraph (j)(2) of this AD.

(ii) Before any LPCV having P/N 1001447-4 accumulates 3,000 total flight hours, or within 300 flight hours after the effective date of this AD, whichever occurs later.

(4) 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 person may install any LPCV identified in paragraph (j)(4)(i) or (j)(4)(ii) of this AD on any airplane.

(i) Any LPCV having P/N 1001447-3, installed on Model ERJ-170 airplanes, that has accumulated more than 3,000 total flight hours.

(ii) Any LPCV having P/N 1001447-3, installed on Model ERJ-170 and ERJ-190 airplanes, that has accumulated 3,000 or more total flight hours. To calculate the equivalent number of flight hours for a LPCV having P/N 1001447-3 that was installed on Model ERJ-190 airplane to be installed on a Model ERJ-170 airplane, the flight hours accumulated in operation on ERJ-190 models must be multiplied by a factor of 2 (100 percent).

(5) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Within 100 flight hours after the effective date of this AD, replace all LPCVs having P/N 1001447-3 that have accumulated 1,500 total flight hours or more as of the effective date of this AD, with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0006, Revision 01, dated July 19, 2007.

(6) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Replace all LPCVs having P/N 1001447-3 that have accumulated less than 1,500 total flight hours as of the effective date of this AD, before the LPCV accumulates 1,500 total flight hours or within 100 flight hours after the effective date of this AD, whichever occurs later. Replace that LPCV with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0006, Revision 01, dated July 19, 2007.

(7) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Within 200 flight hours after the effective date of this AD, or before any LPCV having P/N 1001447-4 installed on the right engine accumulates 2,000 total flight hours since new or

since overhaul, whichever occurs later, replace the valve with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0014, Revision 01, dated January 14, 2009. Repeat the replacement on the right engine at intervals not to exceed 2,000 total flight hours on the LPCV since new or last overhaul.

(8) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: Within 200 flight hours after the effective date of this AD, or before any LPCV having P/N 1001447-4 installed on the left engine accumulates 2,000 total flight hours since new or last overhaul, whichever occurs later, replace the valve with a new or serviceable LPCV having P/N 1001447-4 that has accumulated less than 2,000 total flight hours since new or since overhaul, in accordance with the Accomplishment Instructions of EMBRAER Service Bulletin 190-36-0014, Revision 01, dated January 14, 2009. Repeat the replacement on the left engine at intervals not to exceed 2,000 total flight hours on the LPCV since new or last overhaul.

(9) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: As of the effective date of this AD, installation on the left and right engines with a LPCV having P/N 1001447-4 is allowed only if the valve has accumulated less than 2,000 total flight hours since new or last overhaul prior to installation.

(10) For Model ERJ 190-100 ECJ, -100 LR, -100 IGW, -100 STD, -200 STD, -200 LR, and -200 IGW airplanes: As of the effective date of this AD, no LPCV having P/N 1001447-3 may be installed on any airplane. Any LPCV having P/N 1001447-3 already installed on an airplane may remain in service until reaching the flight-hour limit defined in paragraphs (j)(5) and (j)(6) of this AD.

(11) Replacing the LPCV is also acceptable for compliance with the requirements of paragraph (j)(2) of this AD if done before the effective date of this AD in accordance with EMBRAER Service Bulletin 170-36-0011, dated January 9, 2007; or EMBRAER Service Bulletin 170-36-0011, Revision 01, dated May 28, 2007.

(12) Replacing the LPCV is also acceptable for compliance with the requirements of paragraphs (j)(5) and (j)(6) of this AD if done before the effective date of this AD in accordance with EMBRAER Service Bulletin 190-36-0006, dated April 9, 2007.

(13) Replacing the LPCV is also acceptable for compliance with the corresponding replacement in paragraph (j)(1) of this AD if done before the effective date of this AD in accordance with EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005.

(14) Revising the maintenance program to include maintenance Task 36-11-02-002 (Low Stage Bleed Check Valve) specified in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR), MRB-1621, Revision 5, dated November 5, 2008, is acceptable for compliance with the requirements of paragraph (j)(3) of this AD if done before the effective date of this AD.

Note 1: The actions in paragraphs (j)(5), (j)(6), (j)(7), (j)(8), (j)(9), and (j)(10) of this AD are considered interim action until a final action is identified, at which time we might consider issuing further rulemaking.

FAA AD Differences

Note 2: This AD differs from the MCAI and/or service information as follows: No differences.

Other FAA AD Provisions

(k) 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 paragraph (j) of 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.

AMOCs approved previously in accordance with AD 2007-16-09, Amendment 39-15148, are approved as AMOCs for the corresponding provisions of paragraph (j) of 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

(1) Refer to MCAI Brazilian Airworthiness Directives 2005-09-03R2, effective February 25, 2008, and 2006-11-01R4, effective April 9, 2009; and the service information listed in Table 1 of this AD; for related information.

Table 1 – Related Service Information

Document	Revision	Date
EMBRAER Service Bulletin 170-36-0004	01	March 10, 2008
EMBRAER Service Bulletin 170-36-0011	02	July 19, 2007
EMBRAER Service Bulletin 190-36-0006	01	July 19, 2007
EMBRAER Service Bulletin 190-36-0014	01	January 14, 2009
Task 36-11-02-002 (Low Stage Bleed Check Valve) specified in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR) MRB-1621	6	January 14, 2010

Material Incorporated by Reference

(m) You must use the service information contained in Table 2 of this AD, and the specified task in Section 1 of the EMBRAER 170 Maintenance Review Board Report (MRBR) MRB-1621, Revision 6, dated January 14, 2010, as applicable, to do the actions required by this AD, unless the AD specifies otherwise.

Table 2 – All Material Incorporated by Reference

Document	Revision	Date
EMBRAER Service Bulletin 170-36-0004	01	March 10, 2008
EMBRAER Service Bulletin 170-36-0011	02	July 19, 2007
EMBRAER Service Bulletin 190-36-0006	01	July 19, 2007
EMBRAER Service Bulletin 190-36-0014	01	January 14, 2009

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

EMBRAER 170 MRBR MRB-1621, Revision 6, dated January 14, 2010, contains the following effective pages:

List of Effective Pages

Page title/ description	Page Nos.	Revision No.	Date shown on page(s)
MRBR Title Page	None shown	6	January 14, 2010.
MRBR List of Effective Pages	A-P	None shown*	January 14, 2010.
MRBR Table of Contents	1	None shown*	November 5, 2008.
	2-3	None shown*	January 14, 2010.
	4	None shown*	May 31, 2007.
Section 1	1-1, 1-2, 1-8	None shown*	May 31, 2007.
	1-3 through 1-7, 1-9, 1-13 through 1-86.	None shown*	January 14, 2010.
	1-10	None shown*	November 5, 2008.
	1-11, 1-12	None shown*	June 29, 2006.

* Only the title page of EMBRAER 170 MRBR MRB-1621, Revision 6, contains the revision level of this document.

(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 June 23, 2010.

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