



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1230; Directorate Identifier 2011-NM-107-AD; Amendment 39-17477; AD 2013-11-17]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. Airplanes

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

ACTION: Final rule.

SUMMARY: We are superseding airworthiness directive (AD) 2010-14-14 that applies to certain Embraer S.A. Model ERJ 170 and ERJ 190 airplanes. AD 2010-14-14 currently requires, for certain airplanes, repetitively replacing the low-stage check valve and associated seals of the right hand (RH) engine's engine bleed system with a new check valve and new seals, replacing the low pressure check valves (LPCVs), and revising the maintenance program. For certain other airplanes, AD 2010-14-14 requires replacing a certain low-stage check valve with an improved low-stage check valve. For certain airplanes, this new AD adds replacing certain LPCVs of the left hand (LH) and RH engines, which would be an option for other airplanes. This AD was prompted by reports of uncommanded engine shutdowns on both Model ERJ 170 and ERJ 190 airplanes due to excessive wear and failure of LPCVs having certain part numbers. We are issuing this AD to prevent the possibility of a dual engine in-flight shutdown due to LPCV failure.

DATES: This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain other publications listed in this AD as of August 26, 2010 (75 FR 42585, July 22, 2010).

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of September 13, 2007 (72 FR 44734, August 9, 2007).

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of November 29, 2005 (70 FR 69075, November 14, 2005).

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: Cindy Ashforth, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone (425) 227-2768; 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. The NPRM was published in the Federal Register on December 26, 2012 (77 FR 75911), and proposed to supersede AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). (AD 2010-14-14 superseded AD 2007-16-09, Amendment 39-15148 (72 FR 44734, August 9, 2007)). AD 2007-16-09 superseded AD 2005-23-14, Amendment 39-14372 (70 FR 69075, November 14, 2005). The NPRM proposed to correct an unsafe condition for the specified products. The Mandatory Continuing Airworthiness Information (MCAI) for Embraer S.A. Model ERJ 170 airplanes states:

It has been found the occurrence of an engine in-flight shutdown * * * caused by the LPCV failure P/N [part number] 1001447-3 with 3,900 Flight Hours (FH) installed on ERJ-170. This valve failed [to] open due [to] excessive wear. [I]t was found the occurrence of an engine shutdown on-ground, caused by the LPCV failure P/N 1001447-4 with 1,802 FH installed on ERJ-190 failed due [to] low cycle fatigue. Since the behavior of a valve P/N 1001447-4 removed from ERJ-190 is unknown on ERJ-170 and the P/N 1001447-4 is common between ERJ-170 and ERJ-190 airplane fleet, an action is necessary to prevent the installation, in ERJ-170 airplanes, of LPCVs P/N 1001447-4 previously installed in ERJ-190 airplanes.

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The MCAI for Embraer S.A. Model ERJ 190 airplanes states:

It has been found the occurrence of an engine in-flight shutdown * * * caused by the LPCV failure P/N 1001447-3 with 3,900 Flight Hours (FH) installed on ERJ-170. This valve failed [to] open due [to] excessive wear. [I]t was

found the occurrence of an engine shutdown on-ground, caused by the LPCV failure P/N 1001447-4 with 1,802 FH installed on ERJ-190 failed due [to] low cycle fatigue. Since the behavior of a valve P/N 1001447-4 removed from ERJ-170 is unknown on ERJ-190 and the P/N 1001447-4 is common between ERJ-170 and ERJ-190 airplane fleet, an action is necessary to prevent the installation, in ERJ-190 airplanes, of LPCVs P/N 1001447-4 previously installed in ERJ-170 airplanes.

* * * * *

The unsafe condition is the possibility of a dual engine in-flight shutdown due to LPCV failure. The required actions include the actions required by AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), and, for certain airplanes, replacing the LPCVs of the LH and RH engines, which would be an option for certain other airplanes. 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 have considered the comment received.

Request for Clarification of Approved Method

US Airways requested clarification of paragraph (l) of the NPRM (77 FR 75911, December 26, 2012), which requires installing a new LPCV using a method approved by either the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or Agência Nacional de Aviação Civil (ANAC) (or its delegated agent). The commenter requested clarification of the approved method so operators can understand acceptable and unacceptable methods of installation. The commenter also stated that the

approved method needs to be stated to avoid having to obtain approval of an alternative method of compliance (AMOC) allowing use of certain documents.

We agree to provide clarification. We have reviewed EMBRAER Service Bulletins 190-36-0014, Revision 01, dated January 14, 2009; 190-LIN-36-0004, dated December 23, 2009; and 170-36-0011, Revision 2, dated July 19, 2007. Those bulletins provide instructions for installing P/N 1001447-4; however, they may be used to install P/N 1001447-6. We have added paragraphs (l)(2) and (m)(2) to this AD to provide references for installing P/N 1001447-6. We have also added note 1 to paragraph (n) of this AD to provide guidance for an optional terminating action. Embraer has not published installation instructions specifically for the P/N 1001447-6 that can be incorporated by reference in this AD. We will consider approving any alternate installation instructions that operators propose.

Clarification of Calculation for Equivalent Flight Hours

We have revised paragraph (k)(4)(ii) of this AD to clarify the calculation for equivalent flight hours.

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 except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (77 FR 75911, December 26, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (77 FR 75911, December 26, 2012).

Costs of Compliance

We estimate that this AD will affect about 253 products of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Cost per product	Number of U.S. - registered airplanes	Cost on U.S. operators
Replacement of RH check valves on Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes (retained actions from AD 2010-14-14 (75 FR 42585, July 22, 2010))	3 work-hours X \$85 per hour = \$255 per replacement cycle	\$255 per replacement cycle	55	\$14,025 per replacement cycle

Action	Labor cost	Cost per product	Number of U.S. - registered airplanes	Cost on U.S. operators
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 (retained actions from AD 2010-14-14 (75 FR 42585, July 22, 2010))	3 work-hours X \$85 per hour = \$255 per replacement cycle	\$255 per replacement cycle	75	\$19,125 per replacement cycle
Replacement of LPCVs with P/N 1001447-6 (new action)	2 work-hours X \$85 per hour = \$170	\$170	253	\$43,010
Revision of maintenance program (new action)	1 work-hour X \$85 per hour = \$85	\$85	253	\$21,505

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 that 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);
3. Will not affect intrastate aviation in Alaska; and
4. 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 (77 FR 75911, December 26, 2012), 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.

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 airworthiness directive (AD) 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), and adding the following new AD:

2013-11-17 Embraer S.A.: Amendment 39-17477. Docket No. FAA-2012-1230; Directorate Identifier 2011-NM-107-AD.

(a) Effective Date

This airworthiness directive (AD) becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010).

(c) Applicability

This AD applies to Embraer S.A. Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; Model ERJ 170-200 LR, -200 SU, and -200 STD airplanes; Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes; certificated in any category; having Hamilton Sundstrand low pressure check valve (LPCV) part number (P/N) 1001447-3 or 1001447-4.

(d) Subject

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

(e) Reason

This AD was prompted by reports of uncommanded engine shutdowns on both Model ERJ 170 and ERJ 190 airplanes due to excessive wear and failure of LPCVs having certain part numbers. We are issuing this AD to prevent the possibility of a dual engine in-flight shutdown due to LPCV failure.

(f) Compliance

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

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

This paragraph restates the requirements of paragraph (f) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). For Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes equipped with LPCVs having P/N 1001447-3: Within 100 flight hours after November 29, 2005 (the effective date of AD 2005-23-14, Amendment 39-14372 (70 FR 69075, November 14, 2005)), 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 August 26, 2010 (the effective date of AD 2010-14-14), only use EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008, for the actions required by this paragraph. Repeat the replacement thereafter at intervals not to exceed 3,000 flight hours.

(h) Retained Provision for Removed Check Valves from RH Engine

This paragraph restates the provision specified in paragraph (g) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). 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.

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

This paragraph restates requirements of paragraph (h) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes equipped with LPCVs having P/N 1001447-3: Within 300 flight hours after September 13, 2007 (the effective date of AD 2007-16-09, Amendment 39-15148 (72 FR 44734, August 9, 2007)), 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 August 26, 2010 (the effective date of AD 2010-14-14), 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.

(j) Retained Provision for Removed Check Valves from LH Engine

This paragraph restates the provision specified in paragraph (i) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010). 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.

(k) Retained Actions and Compliance with Revised Service Information

This paragraph restates the requirements of paragraph (j) of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), with revised service information for paragraphs (k)(3), (k)(7), and (k)(8) of this AD. Unless already done, do the following actions.

(1) For Model ERJ 170-200 LR, -200 STD, -and -200 SU airplanes equipped with LPCVs having P/N 1001447-3: Within 100 flight hours after August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), 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 equipped with LPCVs having P/N 1001447-3: 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 (g), (i), and (k)(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 equipped with LPCVs having P/N 1001447-3, at the earlier of the times specified in paragraphs (k)(3)(i) and (k)(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; or Revision 7, dated November 11, 2010. Thereafter, except as provided by paragraph (q) of this AD, no alternative inspection intervals may be approved for the task.

(i) Within 180 days after accomplishing paragraph (k)(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 August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), whichever occurs later.

(4) For Model ERJ 170-100 LR, -100 STD, -100 SE, -100 SU, -200 LR, -200 STD, and -200 SU airplanes equipped with LPCVs having P/N 1001447-3: As of August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), no person may install any LPCV identified in paragraph (k)(4)(i) or (k)(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. For Model ERJ 170 airplanes: To install an LPCV having P/N 1001447-3 which was previously installed on a Model ERJ 190 airplane, calculate the equivalent number of flight hours by multiplying the flight hours accumulated on the Model ERJ 190 airplane 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 August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), replace all LPCVs having P/N 1001447-3 that have accumulated 1,500 total flight hours or more as of August 26, 2010 (the effective date of AD 2010-14-14), 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 August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), before the LPCV accumulates 1,500 total flight hours or within 100 flight hours after August 26, 2010 (the effective date of AD 2010-14-14), 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 August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), 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 (for Model ERJ 190-100 STD, -100 LR, and -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes); or EMBRAER Service Bulletin 190LIN-36-0004, dated December 23, 2009 (for Model 190-100 ECJ airplanes). 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 August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), 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 (for Model ERJ 190-100 STD, -100 LR, and -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes); or EMBRAER Service Bulletin 190LIN-36-0004, dated December 23, 2009 (for Model 190-100 ECJ airplanes). 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 August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), installation on the left and right engines with an 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 August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), 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 (k)(5) and (k)(6) of this AD.

(l) New Terminating Action

For Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes: Except as provided by paragraph (m) of this AD, within 10 months after the effective date of this AD, install a new LPCV having P/N 1001447-6, in accordance with paragraph (l)(1) or (l)(2) of this AD. Installation of P/N 1001447-6 terminates the requirement for installation and repetitive replacements of the LPCV P/N 1001447-3 or 1001447-4 required by paragraph (k) of this AD.

(1) Using a method approved by either the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or Agência Nacional de Aviação Civil (ANAC) (or its delegated agent).

(2) The Accomplishment Instructions of EMBRAER Service Bulletins 190-36-0014, Revision 01, dated January 14, 2009 (for Model ERJ 190-100 STD, -100 LR, and -100 IGW, -200 STD, -200 LR, and -200 IGW airplanes), and 190-LIN-36-0004, dated December 23, 2009 (for Model 190-100 ECJ airplanes). The service information has instructions to install P/N 1001447-4, but can also be used to install P/N 1001447-6.

(m) New Exception to Paragraph (l) of this AD

For Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes; on which an LPCV, P/N 1001447-4, has been installed before the compliance time specified in paragraph (l) of this AD: Prior to the accumulation of 2,000 flight hours on the part since new or overhauled, install a new LPCV having P/N 1001447-6, in accordance with paragraph (m)(1) or (m)(2) of this AD.

(1) Using a method approved by either the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or ANAC (or its delegated agent).

(2) The Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0011, Revision 2, dated July 19, 2007. The service information has instructions to install P/N 1001447-4, but can also be used to install P/N 1001447-6.

(n) New Optional Terminating Action

For Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; and Model ERJ 170-200 LR, -200 SU, and -200 STD airplanes: Installation of a new LPCV having P/N 1001447-6 terminates the requirement for installation and repetitive replacements of the LPCV, P/N 1001447-3 or 1001447-4, required by paragraph (k) of this AD.

Note 1 to paragraph (n) of this AD: Guidance for installing P/N 1001447-6 can be found in EMBRAER Service Bulletin 170-36-0011, Revision 2, dated July 19, 2007. The service information has instructions to install P/N 1001447-4, but can also be used to install P/N 1001447-6.

(o) Credit for Previous Actions

(1) This paragraph provides credit for the actions specified in paragraph (k)(2) of this AD, if those actions were performed before August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), using EMBRAER Service Bulletin 170-36-0011, dated January 9, 2007; or EMBRAER Service Bulletin 170-36-0011, Revision 01, dated May 28, 2007; which are not incorporated by reference in this AD.

(2) This paragraph provides credit for the actions specified in paragraphs (k)(5) and (k)(6) of this AD, if those actions were performed before August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), using EMBRAER Service Bulletin 190-36-0006, dated April 9, 2007, which is not incorporated by reference in this AD.

(3) This paragraph provides credit for the actions specified in paragraph (k)(1) of this AD, if those actions were performed before August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), using EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005, which is not incorporated by reference in this AD.

(4) This paragraph provides credit for the actions specified in paragraph (k)(3) of this AD, if those actions were done before August 26, 2010 (the effective date of AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010)), using 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, which is not incorporated by reference in this AD.

(p) New Parts Installation Limitations

(1) For Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; and Model ERJ 170-200 LR, -200 SU, and -200 STD airplanes: As of the effective date of this AD, no person may install on any airplane an LPCV having P/N 1001447-4 that was previously installed on any Model ERJ-190 airplane unless the valve has been overhauled.

(2) For Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes: As of the effective date of this AD, and until the effective date specified in paragraph (p)(3) of this AD, no person may install on any airplane an LPCV having P/N 1001447-4 that was previously installed on any Model ERJ-170 airplane unless the valve has been overhauled.

(3) For Model ERJ 190-100 STD, -100 LR, -100 ECJ, and -100 IGW airplanes; and Model ERJ 190-200 STD, -200 LR, and -200 IGW airplanes: As of 10 months after the effective date of this AD, no person may install any LPCV having P/N 1001447-4 on any airplane.

(q) Other FAA AD Provisions

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. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Cindy Ashforth, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone (425) 227-2768; fax (425) 227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding 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) AMOCs approved previously in accordance with AD 2010-14-14, Amendment 39-16359 (75 FR 42585, July 22, 2010), are not approved as AMOCs for this AD.

(r) Related Information

(1) Refer to MCAI Brazilian Airworthiness Directive 2005-09-03R3, effective May 30, 2011 (<http://www2.anac.gov.br/certificacao/da/Textos/1336amd.pdf>); Brazilian Airworthiness Directive 2006-11-01R6, effective May 30, 2011 (<http://www2.anac.gov.br/certificacao/DA/Textos/1337amd.pdf>); for related information.

(2) Service information identified in this AD that is not incorporated by reference in this AD may be obtained at the addresses specified in paragraphs (s)(7) and (s)(8) of this AD.

(s) Material Incorporated by Reference

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) EMBRAER Service Bulletin 190LIN-36-0004, dated December 23, 2009.

(ii) 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 7, dated November 11, 2010.

(4) The following service information was approved for IBR on August 26, 2010 (75 FR 42585, July 22, 2010).

(i) EMBRAER Service Bulletin 170-36-0004, Revision 01, dated March 10, 2008.

(ii) EMBRAER Service Bulletin 170-36-0011, Revision 02, dated July 19, 2007.

(iii) EMBRAER Service Bulletin 190-36-0006, Revision 01, dated July 19, 2007.

(iv) EMBRAER Service Bulletin 190-36-0014, Revision 01, dated January 14, 2009.

(v) Task 36-11-02-002 (Low Stage Bleed Check Valve) specified in Section 1 of the EMBRAER 170 MRBR MRB-1621, Revision 6, dated January 14, 2010.

(5) The following service information was approved for IBR on September 13, 2007 (72 FR 44734, August 9, 2007).

(i) EMBRAER Service Bulletin 170-36-0004, dated November 18, 2005.

(ii) Reserved.

(6) The following service information was approved for IBR on November 29, 2005 (70 FR 69075, November 14, 2005).

(i) EMBRAER Alert Service Bulletin 170-36-A004, dated September 28, 2005.

(ii) Reserved.

(7) For service information identified in this AD, contact Embraer S.A., 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; email distrib@embraer.com.br; Internet <http://www.flyembraer.com>.

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

(9) You may view this 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/cfr/ibr-locations.html>.

Issued in Renton, Washington, on May 29, 2013.

Jeffrey E. Duven,
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Transport Airplane Directorate,
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