AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2005-09-03R3 **Effective Date: 30 May 2011**

The following Brazilian Airworthiness Directive (AD), issued by the Agência Nacional de Aviação Civil (ANAC) in accordance with provisions of Chapter IV, Title III of Código Brasileiro de Aeronáutica - Law No. 7,565 dated 19 December 1986 - and Regulamento Brasileiro da Aviação Civil (RBAC) 39, applies to all aircraft registered in the Registro Aeronáutico Brasileiro. No person may operate an aircraft to which this AD applies, unless it has previously complied with the requirements established herein.

AD No. 2005-09-03R3 - EMBRAER / 39-1336.

APPLICABILITY:

This Airworthiness Directive (AD) applies to Embraer Models ERJ 170-100 LR, ERJ 170-100 SE, ERJ 170-100 STD, ERJ 170-100 SU, ERJ 170-200 LR, ERJ 170-200 STD and ERJ 170-200 SU airplanes equipped with low pressure check valves (LPCV) Hamilton Sundstrand part number (P/N) 1001447-3 and/or 1001447-4.

CANCELLATION / REVISION:

This AD cancels and supersedes the AD No. 2005-09-03R2 – Amd 39-1208, dated 25 February 2008, and is being issued to prohibit the installation, in ERJ-170 airplanes, of LPCVs P/N 1001447-4 previously installed in ERJ-190 airplanes, unless the valve has been overhauled.

REASON:

It has been found the occurrence of an engine in-flight shutdown at 20 September 2005, caused by the LPCV failure P/N 1001447-3 with 3,900 Flight Hours (FH) installed on ERJ-170. This valve failed open due excessive wear. At 23 Sep. 2010, it 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 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 1011447-4 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.

Since this condition may occur in other airplanes of the same type and affects flight safety, a corrective action is required. Thus, sufficient reason exists to request compliance with this AD in the indicated time limit.

REQUIRED ACTION:

Replacement of LPCVs of right (RH) and left (LH) engines; and revision of the approved maintenance plan; and to prohibit the installation, in ERJ-170 airplanes, of LPCVs P/N 1001447-4 previously installed in ERJ-190 airplanes, unless the valve has been overhauled.

COMPLIANCE:

Required as indicated below, unless already accomplished.

(a) Within the next 100 Flight Hours (FH) after 29 Sep. 2005, the effective date of the original issue of this AD, on aircraft logging 3,000 FH or above, replace the RH LPCV of P/N 1001447-3 by a new one of same P/N. Repeat this replacement at intervals that do not exceed 3,000 FH;

(b) Within the next 300 FH after 23 May 2006, the effective date of this revision 1 of AD, on aircraft logging 3,000 FH or above, replace the LH LPCV P/N 1001447-3 by a new one of same P/N. Repeat this replacement at intervals that do not exceed 3,000 FH;

(c) Replacement of LPCV P/N 1001447-3 by a new one bearing P/N 1001447-4 is considered a terminating action for the repetitive replacements required by items (a) and (b) above;

(d) Within the next 180 days after the accomplishment of item (c) above, or before any LPCV P/N 1001447-4 installed reaches 3,000 FH, whichever occurs first, revise the approved maintenance plan to include the maintenance task No. 36-11-02-002 (Functional Check - Low Stage Bleed Check Valve, Category 8), according to the Maintenance Review Board Report (MRBR) Revision 4 dated 31 May 2007, with the intervals established in that document, or its further revisions approved by ANAC;

(e) After 25 February 2008, the effective date of revision 2 of this AD, any LPCV P/N 1001447-3 that has accumulated more than 3,000 FH on models ERJ-170, or that has accumulated a total of FH equivalent to 3,000 FH considering its utilization on models ERJ-170 and ERJ-190, cannot be reinstalled;

NOTE: To calculate the equivalent number of FH for a LPCV P/N 1001447-3 to be installed on aircraft models ERJ-170, the FH accumulated in operation on aircraft models ERJ-190 must be multiplied by a factor of 2 (100%).

(f) After the effective date of revision 03 of this AD, it is prohibited to install, in ERJ-170 airplanes, an LPCV P/N 1001447-4 previously installed in ERJ-190 airplanes, unless this valve has been overhauled;

(g) The installation of LPCV P/N 1001447-6 constitute a terminating action to the installation and repetitive replacement of LPCV P/N 1001447-3 and 1001447-4, requirements of this AD;

(h) The detailed instructions and procedures to accomplish this AD are described in the Embraer Service Bulletins Nos. 170-36-0004 original issue, or 170-36-0011 original issue, as applicable, or respective further revisions approved by the ANAC; and

(i) A different method or a different compliance time, with requirements of this AD, may be used if approved by the General Manager of the Aeronautical Product Certification Branch (Gerência-Geral de Certificação de Produtos Aeronáuticos (GGCP)).

Record compliance with this AD in the applicable maintenance log book.

CONTACT:

For additional technical information, contact:

National Civil Aviation Agency (ANAC)
Aeronautical Products Certification Branch (GGCP)
Av. Cassiano Ricardo, 521, Bloco B, 2º andar, Parque Residencial Aquarius
Fax: 55 (12) 3797-2330
12246-870 – São José dos Campos - SP, BRAZIL.
E-mail: pac@anac.gov.br

APPROVAL:

HÉLIO TARQUÍNIO JÚNIOR
General Manager
GGCP

DINO ISHIKURA
Airworthiness Superintendent
ANAC

NOTE: Original in Portuguese language signed and available in the files of the Aeronautical Products Certification Branch (GGCP) of the National Civil Aviation Agency (ANAC).