AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2006-11-01R6 **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. 2006-11-01R6 - EMBRAER / 39-1337.

APPLICABILITY:

This Airworthiness Directive applies to all Embraer model ERJ 190-100 STD, ERJ 190-100 LR, ERJ 190-100 IGW, ERJ 190-100 ECJ, ERJ 190-100 SR, ERJ 190-200 STD, ERJ 190-200 LR e ERJ 190-200 IGW, airplanes equipped with Hamilton Sundstrand Low Pressure Check Valve (LPCV) Part Numbers (P/N) 1001447-3 and/or 1001447-4.

CANCELLATION / REVISION:

This AD cancels and supersedes the AD No. 2006-11-01R5 – Amd 39-1300, dated 30 Jun. 2010, and is being issued to prohibit the installation, in ERJ-190 airplanes, of LPCV P/N 1001447-4 previously installed in ERJ-170 airplanes, unless the valve has been overhauled. This AD also defines the limit date after which the installation of LPCV P/N 1001447-4 is prohibited.

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 flight hours installed on ERJ-190 failed due 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 1011447-4 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.

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-190 airplanes, of LPCVs P/N 1001447-4 previously installed in ERJ-170 airplanes, unless the valve has been overhauled; and to define a limit date after which the installation of LPCV P/N 1001447-4 is prohibited.

COMPLIANCE:

Required as indicated below, unless already accomplished.

(a) Before next flight after 09 Apr. 2009, the effective date of revision 4 of this AD, replace all and any LPCV P/N1001447-3 having more than 1,500 FH with a new or serviceable LPCV P/N 1001447-4 having less than 2,000 FH since new or since overhaul;

(b) Before any LPCV P/N 1001447-3 accumulates more than 1,500 FH replace it with a new or serviceable LPCV P/N 1001447-4 having less than 2,000 FH since new or since overhaul;

(c) Within the next 200 FH after 25 Nov. 2008, the effective date of revision 3 of this AD, or before any LPCV P/N 1001447-4 installed on right engine reaches 2000 FH since new or since overhaul, whichever occurs later, replace the valve with a new or serviceable LPCV P/N 1001447-4 having less than 2,000 FH since new or since overhaul. Repeat the replacement on the right engine at the intervals not to exceed 2,000 component flight hours since new or last overhaul;

(d) Within the next 200 FH after 09 April 2009, the effective date of revision 4 of this AD, or before any LPCV P/N 1001447-4 installed on left engine reaches 2,000 FH since new or last overhaul, whichever occurs later, replace the valve with a new or serviceable LPCV P/N 1001447-4 having less than 2,000 FH since new or since overhaul. Repeat the replacement on the left engine at the intervals not to exceed 2,000 component flight hours since new or last overhaul;

(e) After the effective date of revision 06 of this AD, it is prohibited to install, in ERJ-190 airplanes, an LPCV P/N 1001447-4, previously installed in ERJ-170 airplanes, unless this valve has been overhauled;

(f) After 31 March 2012, no LPCV P/N 1001447-4 may be installed on Embraer models ERJ-190 airplanes;

(g) The installation of LPCV P/N 1001447-6 constitutes 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 No. 190-36-0006 original issue or 190-36-0014 Rev. 01 or 190LIN-36-0004 original issue, as applicable, or their 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)).

NOTE 1: After 09 April 2009, the effective date of revision 04 of this AD, the installation on the left and right engines of a LPCV 1001447-4 valve is only allowed if it has less than 2,000 FH since new or last overhaul prior to installation.

NOTE 2: After 09 April 2009, the effective date of revision 04 of this AD, installation of any LPCV P/N 1001447-3 is prohibited. Any LPCV P/N 1001447-3 already installed may remain in service until reaching the flight hour limit defined by paragraphs **(a)** and **(b)** of this AD.

NOTE 3: LPCV P/N 1001447-4 installed prior 31 March 2012 are allowed to keep installed until they reach 2,000FH.

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

CONTACT:

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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).