AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2015-02-02 **Effective Date: 06 Mar. 2015**

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. 2015-02-02–EMBRAER S.A./ 39-1391.

APPLICABILITY:

This Airworthiness Directive (AD) applies to Embraer S.A. model ERJ 190-100 STD, ERJ 190-100 LR, ERJ 190-100 IGW, ERJ 190-100 SR, ERJ 190-200 STD, ERJ 190-200 LR and ERJ 190-200 IGW airplanes; all serial numbers.

CANCELLATION / REVISION:

This AD cancels AD 2015-02-01, Amendment 39-1390, effective in February 20, 2015, and supersedes AD 2014-02-01, Amendment 39-1380, effective in February 24, 2014.

REASON:

This AD was prompted by reports of cracks in some engine low-stage bleed check valves having part number (PN) 1001447-6. Further analysis has determined that if a new (zero hour) low-stage bleed check valve P/N 1001447-6 is installed in an airplane already equipped with the Air Management System (AMS) controller processor boards containing the AMS Controller Operational Program version Black Label 13, or a later version, premature cracking on the petals of the low-stage bleed check valve is not expected to occur. We are issuing this AD to prevent the possibility of an in-flight shutdown of the engine due to low-stage bleed check valve failure.

REQUIRED ACTION:

To replace the Low-stage Bleed Check Valve and the Controller Operational Program of the Air Management System (AMS).

COMPLIANCE:

Do the actions required by this AD within the compliance times specified, unless already done.

(a) Retained replacement of Left-Hand (LH) Low-Stage Bleed Check Valve with new service information

This paragraph restates the requirement of paragraph (a) of AD 2014-02-01, Amendment 39-1380. For airplanes equipped with Hamilton Sundstrand Low-stage Bleed Check Valve having P/N 1001447-6: Within airplane 200 flight hours after February 24, 2014 (the effective date of AD 2014-02-01), or before the Low-stage Bleed Check Valve accumulates 6000 total flight hours since new, whichever occurs later, replace the Low-stage Bleed Check Valve and associated seals of the LH engine's bleed system with a new check valve and new associated seals, in accordance with the Accomplishment Instructions of Embraer Service Bulletin 190-36-0023, revision 01, dated September 03, 2013; or Embraer Service Bulletin 190-36-0023, revision 03, dated September 24, 2014. As of the effective date of this AD, use only Embraer Service Bulletin 190-36-0023, revision 03, dated September 24, 2014 to

accomplish the requirements of this paragraph. Repeat the replacement thereafter at intervals not to exceed 6000 flight hours.

(b) Retained replacement of Right-Hand (RH) Low-Stage Bleed Check Valve with new service information

This paragraph restates the requirement of paragraph (b) of AD 2014-02-01, Amendment 39-1380. For airplanes equipped with Hamilton Sundstrand Low-stage Bleed Check Valve having P/N 1001447-6: Within airplane 200 flight hours after the effective date of this AD or before the Low-stage Bleed Check Valve accumulates 6000 total flight hours since new, whichever occurs later, replace the Low-stage Bleed Check Valve and associated seals of the RH engine's bleed system with a new check valve and new associated seals, in accordance with the Accomplishment Instructions of Embraer Service Bulletin 190-36-0023, revision 01, dated September 03, 2013; or Embraer Service Bulletin 190-36-0023, revision 03, dated September 24, 2014. As of the effective date of this AD, use only Embraer Service Bulletin 190-36-0023, revision 03, dated September 24, 2014 to accomplish the requirements of this paragraph. Repeat the replacement thereafter at intervals not to exceed 6000 flight hours.

(c) New requirements of this AD

Within 3 months after the effective date of this AD: Replace the Hamilton Sundstrand Air Management System (AMS) Controller Operational Program of the AMS controller processor boards with a new improved one in accordance with the Accomplishment Instructions of Embraer Service Bulletin190-21-0041, revision 02, dated July 30, 2013, or with a version of the Hamilton Sundstrand AMS Controller Operation Program approved after August 31, 2012, the issuance date of the original version of Embraer SB 190-21-0041.

(d) Terminating action

Installation of the AMS Controller Operational Program version Black Label 13, or a version of the AMS Controller Operational Program approved after August 31, 2012, the issuance date of the original version of Embraer SB 190-21-0041, as required in paragraph (c) of this AD, terminates the requirements of paragraphs (a) and (b) of this AD, provided that the conditions specified in paragraphs (d)(1), (d)(2), and (d)(3) of this AD are met.

(1) The Low-stage Bleed Check Valves PN 1001447-6, and it associated seals, are replaced with a new ones (zero-hour) in an airplane already equipped with the AMS Controller Operational Program version Black Label 13, or a later version. Low-stage Bleed Check Valves PN 1001447-6 that can be demonstrated logged hours only on ERJ-170 aircraft and/or on ERJ-190 aircraft equipped with the AMS Controller Operational Program version Black Label 13, or a later version, can be used instead of new ones (zero-hour).

(2) The version of the AMS Controller Operational Program must be approved by the ANAC.

(3) The installation of the AMS Controller Operational Program must be done in accordance with a method approved by the ANAC.

(e) Alternative Method of Compliance (AMOC)

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

(2) AMOCs approved for paragraphs (a) and (b) of AD 2014-02-01, Amendment 39-1380, before the effective date of this AD, are approved for the corresponding requirements of paragraphs (a) and (b) of this AD.

(f) Credit for PreviousActions

This paragraph provides credit for the actions specified in paragraphs (a), (b), (c) and (d) of this AD, if those actions were performed before the effective date of this AD, using EMBRAER Service Bulletin 190-36-0023, original issue, dated July 22, 2013, or EMBRAER Service Bulletin 190-36-0023, revision 01, dated September 3, 2013, or EMBRAER Service Bulletin 190-36-0023, revision 02, dated April 30, 2014, or EMBRAER Service Bulletin 190-21-0041, original issue, dated September 27, 2012, or EMBRAER Service Bulletin 190-21-0041, revision 01, dated December 20, 2012; as applicable.

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

CONTACT:

For additional technical information, 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).