AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2014-04-01 **Effective Date: 16 Apr. 2014**

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. 2014-04-01 – EMBRAER S.A. / 39-1381.

APPLICABILITY:

This Airworthiness Directive (AD) applies to Embraer S.A. Model EMB-505 airplanes, all serial numbers.

CANCELLATION / REVISION:

This AD supersedes Emergency Airworthiness Directive (EAD) 2013-09-01, 39-1373.

REASON:

This AD was prompted by reports that identified additional locations where inspections and corrective actions on the Left Hand (LH) and Right Hand (RH) brake assemblies are needed. We are issuing this AD to detect cracks beyond acceptable limit in the carbon discs of the brake assembly, which may result in reduced brake capability and loss of brake parts in the runway.

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 without prior notice.

REQUIRED ACTION:

Inspection of the carbon discs of the Left Hand (LH) and Right Hand (RH) brake assembly for cracks.

COMPLIANCE:

Comply with this AD within the compliance times specified, unless already done.

(a) Retained Part Identification of the Left Hand (LH) and Right Hand (RH) Brake Assembly, With Revised Service Instructions.

This paragraph restates the part identification required by EAD 2013-09-01, 39-1373. Before next flight after September 26, 2013 (the effective date of EAD 2013-09-01) inspect the LH and RH brake assemblies to determine whether Part Number (P/N) DAP00097-01 or P/N DAP00097-02 is installed. Instead of inspecting the brake assemblies, a review of airplane maintenance records is acceptable if the part number of the brake assemblies can be positively determined from that review.

(b) Retained Inspection for Cracks on the Pressure Stator of the LH and RH Brake Assembly, With Revised Service Instructions.

This paragraph restates the inspections for cracks in the stator pressure plate of the LH and RH brake assemblies required by paragraphs (a), (b) and (c) of EAD 2013-09-01, 39-1373. If P/N DAP00097-01 or P/N DAP00097-02 is found installed during the review or inspection required by paragraph (a) of this AD, do a general visual inspection (GVI) for cracks in the stator pressure plate on both the LH and RH

brake assemblies following Part I of the Accomplishment Instructions in Embraer Service Bulletin (SB) 505-32-0011, dated February 11, 2014. Use the compliance times in paragraph (b)(1) and (b)(2):

(1) For brake assemblies with 300 flight cycles or less since new or since the last overhaul, on September 26, 2013 (the effective date of EAD 2013-09-01): Before or upon accumulating 150 flight cycles or within the next 30 flight cycles or the next tire change, whichever occurs first, after September 26, 2013 (the effective date of EAD 2013-09-01), and repetitively thereafter at intervals not to exceed 60 flight cycles or the next tire change, whichever occurs first.

(2) For brake assemblies with more than 300 flight cycles since new or since the last overhaul, on September 26, 2013 (the effective date of EAD 2013-09-01): Within 10 flight cycles after September 26, 2013 (the effective date of EAD 2013-09-01), and repetitively thereafter at intervals not to exceed 60 flight cycles or the next tire change, whichever occurs first.

(3) If no cracks are found during the inspections required in paragraph (b) of this AD, continue the repetitive inspection intervals required in paragraph (b)(1) and (b)(2) of this AD.

(4) If during any of the inspections required in paragraph (b) of this AD, including all subparagraphs, any crack is found in the stator pressure plate, before further flight, do a detailed visual inspection (DET) for cracks beyond the acceptable limits in the pressure stator following Part I of the Accomplishment Instructions in Embraer Service Bulletin (SB) 505-32-0011, dated February 11, 2014.

(5) If no cracks beyond the acceptable limits are found during the DET required in paragraph (b)(4) of this AD, continue the repetitive inspection intervals required in paragraph (b)(1) and (b)(2) of this AD.

(6) If cracks that exceed the acceptable limits are found during the DET required in paragraph (b)(4) of this AD, before further flight, repair the brake assembly following Appendix 2 of Embraer SB 505-32-0011, dated February 11, 2014; or replace the brake assembly with a brake assembly that has been inspected and found free of cracks that exceed the acceptable limits following the Accomplishment Instructions of Embraer SB 505-32-0011, dated February 11, 2014. After repair or replacement of the brake assembly, the brake assembly P/N DAP00097-01 or P/N DAP00097-02 is subject to the inspections required in paragraphs (b), including all subparagraphs, of this AD.

(c) New Inspections to Be Performed on the Thrust Stator, Double Stator and Rotors of the LH and RH Brake Assembly.

If P/N DAP00097-01 or P/N DAP00097-02 is found installed during the review or inspection required by paragraph (a) of this AD, at the next tire change, or other maintenance action which requires wheel removal, whichever occurs first after the effective date of this AD, do a DET for cracks on the external visible surface of the thrust stator, double stator and rotors following Part II of the Accomplishment Instructions in Embraer SB 505-32-0011, original issue, dated February 11, 2014

(1) If no crack is detected or if any crack within the acceptable limit shown in Figure 4 Detail G of Embraer SB 505-32-0011 is detected, repeat the inspection required by this paragraph at each tire change, or at each maintenance action that requires wheel removal, whichever occurs first.

(2) If any crack within the acceptable limit shown in Figure 4 Detail H of Embraer SB 505-32-0011 is detected, the affected brake assembly must be replaced within 40 flight cycles.

(3) If any crack beyond the acceptable limit shown in Figure 4 Detail H of Embraer SB 505-32-0011 is detected, the affected brake assembly must be replaced before the next flight.

(4) After repair or replacement of the brake assembly, the brake assembly P/N DAP00097-01 or P/N DAP00097-02 is subject to the inspections required in paragraphs (b) and (c), including all subparagraphs, of this AD.

(d) Part Installation

After the effective date of this AD, do not install on any airplane a brake assembly P/N DAP00097-01 or P/N DAP00097-02 unless it is inspected per the requirements of this AD and continues to be crack free or the cracks do not exceed the acceptable limits.

(e) Credit for previous actions

This paragraph provides credit for the actions specified in paragraphs (a) and (b) of this AD, if those actions were performed before the effective date of this AD, using Embraer Alert Service Bulletin (ASB)

505-32-A011, original issue, dated September 13, 2013; or revision 01, dated November 01, 2013; or revision 02, dated December 19, 2013.

(f) Other Provisions of this AD

(1) For the purpose of this AD, a general visual inspection (GVI) is a visual examination of an interior or exterior area, installation or assembly to detect obvious damage, failure or irregularity. This level of inspection is made from within touching distance, unless otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight or drop-light, and may require removal or opening of access panels or doors. Stands, ladders or platforms may be required to gain proximity to the area being checked.

(2) For the purposes of this AD, a detailed visual inspection (DET) is an intensive examination of a specific item, installation or assembly, to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate access procedures may be required.

(3) For the purposes of this AD, if the number of flight cycles is unknown, calculate the compliance times in this AD by using hours time-in-service (TIS) (Time Since New or Time Since Overhaul or Time Since Repair). Multiply the number of hours TIS on the brake assembly by 0.71 to find the number of flight cycles; for example: 12 hours equates to 9 flight cycles.

(4) Alternative methods of compliance (AMOCs): A different method or a different compliance time, with the requirements of this AD, may be used if requested using the procedures found in RBAC 39.19 and approved by the General Manager of the Aeronautical Product Certification Branch (Gerência-Geral de Certificação de Produtos Aeronáuticos – GGCP).

(g) Material Incorporated by Reference

You must use Embraer SB 505-32-0011, original issue, dated February 11, 2014, or further revisions approved by ANAC, to do the actions required by this AD, unless this AD specifies otherwise.

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

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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).