AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2019-11-06 **Effective Date: 08 Nov. 2019**

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. 2019-11-06 - EMBRAER / 39-1450.

APPLICABILITY:

This Airworthiness Directive is applicable to Embraer model EMB-505 airplanes, as identified in Embraer Service Bulletin Nº 505-55-A004, revision 2, dated November 06, 2019.

CANCELLATION / REVISION:

Not applicable.

REASON:

It has been found the occurrence of corrosion in the mass-balance weights of the control surfaces. The corrosion may lead to loss of mass or the detachment of the mass-balance weights, resulting in an unbalanced control surface, which, in conjunction with certain flight conditions, could lead to flutter and possible loss of airplane control.

Since this condition may occur in other aircraft 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:

Inspection of the mass-balance weights of the elevators, ailerons and rudder, and their attachment parts, and replacement as necessary.

COMPLIANCE:

Required as indicated below, unless already accomplished.

Within 60 calendar days or 100 FH, whichever occurs first, after the effective date of this AD, carry out the actions in paragraphs (a) to (f) of this AD.

(a) Elevator adjustable mass-balance and attachments inspection and replacement

(1) Inspect the elevator adjustable mass-balance weight and attachment parts for integrity and corrosion.

(2) If no signs of corrosion or material fragmentation are found on the elevator adjustable mass-balance, before further flight, replace the attachment parts and apply primer on the mass-balance and reinstall the same mass-balance in accordance with the procedures established in Embraer Service Bulletin (SB) Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

(3) If any sign of corrosion or material fragmentation is found on the elevator adjustable mass-balance, before further flight, replace the attachment parts and the mass-balance in accordance with the procedures established in Embraer Service Bulletin (SB) Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

(b) Elevator Horn mass-balance and attachments inspection and replacement

(1) Inspect the Elevator Horn mass-balance weight and attachment parts for integrity and corrosion.

(2) If no signs of corrosion or material fragmentation are found on the Elevator Horn mass-balance, before further flight, replace the attachment parts and apply primer on the mass-balance, and reinstall the same mass-balance in accordance with the procedures established in Embraer Service Bulletin (SB) Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

(3) If any sign of corrosion or material fragmentation is found on the Elevator Horn mass-balance, replace the attachment parts and replace or install the same mass-balance in accordance with the criteria and procedures established in Embraer SB Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

(c) Elevator internal mass-balance and attachments inspection and replacement

(1) Perform a videoscope inspection in the elevator internal mass-balance and attachments for integrity, in accordance with the procedures established in Embraer Service Bulletin (SB) Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

(2) If any sign of material fragmentation is found on the elevator internal mass-balance, before further flight, replace the mass-balance and attachment parts in accordance with the procedures established in Embraer Service Bulletin (SB) Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

NOTE: if no signs of material fragmentation are found, no action is required.

(d) Aileron mass-balance and attachments inspection and replacement

(1) Perform a videoscope inspection in the aileron mass-balance and attachments for integrity, in accordance with the procedures established in Embraer Service Bulletin (SB) Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

(2) If any sign of material fragmentation is found on the aileron mass-balance, before further flight, replace the attachment parts and replace or install the same mass-balance in accordance with the criteria and procedures established in Embraer SB Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

NOTE: if no signs of material fragmentation are found, no action is required.

(e) Rudder mass-balance and attachments inspection and replacement

(1) Inspect the rudder mass-balance weight and attachment parts for integrity and corrosion.

NOTE: This inspection doesn't include the rudder internal mass-balance, which is to be inspected as per paragraph (f) of this AD.

(2) If no signs of corrosion or material fragmentation are found on the rudder mass-balance, before further flight, replace the attachment parts and apply primer on the mass-balance, and reinstall the same mass-balance in accordance with the procedures established in Embraer Service Bulletin (SB) Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

(3) If any sign of corrosion or material fragmentation is found on the rudder mass-balance, before further flight, replace the attachment parts and the mass-balance in accordance with the procedures established in Embraer Service Bulletin (SB) Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

(f) Rudder internal mass-balance and attachments inspection and replacement

(1) Perform a videoscope inspection in the rudder internal mass-balance and attachments for integrity, in accordance with the procedures established in Embraer Service Bulletin (SB) Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

(2) If any sign of material fragmentation is found on the elevator internal mass-balance, before further flight, replace the attachment parts and replace or install the same mass-balance in accordance with the criteria and procedures established in Embraer SB Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC.

NOTE: if no signs of material fragmentation are found, no action is required.

(g) Alternative methods of compliance (AMOCs).

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 (GGCP).

(h) Service information.

You must use Embraer Service Bulletin Nº 505-55-A004, revision 2, dated November 06, 2019, or further revisions approved by the ANAC, to do the actions required in this AD.

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).