AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

BRAZILIAN EMERGENCY AIRWORTHINESS DIRECTIVE

EAD No: 2019-11-08 **Effective Date: 14 Nov. 2019**

The following Brazilian Emergency Airworthiness Directive (EAD), 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.

EAD No. 2019-11-08 - EMBRAER / 39-1452.

APPLICABILITY: This Emergency Airworthiness Directive (EAD) is applicable to Embraer model EMB-505 airplanes, as identified in Embraer Service Bulletin N. 505-55-A004, revision 3, dated November 13, 2019.

CANCELLATION / REVISION: This EAD cancels and supersedes the AD No. 2019-11-06 – Amdt 39-1450, effective 08 Nov. 2019, and is being issued to include additional aircraft in the applicability, to require a more restrictive compliance time for a specific group of aircraft and to include reporting requirements.

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 conjuction with certain flight conditions, could lead to flutter and possible loss of airplane control. Since this condition may occur in other airplane of the same type and affects flight safety, an immediate corrective action is required. Thus, sufficient reason exists to request compliance with this EAD in the indicated time limit without prior notice.

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.

For aircraft belonging to Group 1, as identified in Embraer Service Bulletin Nº 505-55-A004, revision 3, dated November 13, 2019, within 3 calendar days or 5 Flight Hours (FH), whichever occurs first, after the effective date of this EAD, carry out the actions in paragraphs (a) to (g) of this EAD.

For aircraft belonging to Group 2, as identified in Embraer Service Bulletin Nº 505-55-A004, revision 3, dated November 13, 2019, within 60 calendar days or 100 FH, whichever occurs first, after 08 Nov. 2019 (effective date of AD 2019-11-06), carry out the actions in paragraphs (a) to (g) of this EAD.

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

(1) Inspect the elevator adjustable mass-balance weight and attachment parts for integrity and signs of 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 3, dated November 13, 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 3, dated November 13, 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 signs of 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 3, dated November 13, 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 3, dated November 13, 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 3, dated November 13, 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 3, dated November 13, 2019, or further revisions approved by the ANAC. 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 3, dated November 13, 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 3, dated November 13, 2019, or further revisions approved by the ANAC. 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 signs of corrosion.

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

(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 3, dated November 13, 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 3, dated November 13, 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 3, dated November 13, 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 3, dated

November 13, or further revisions approved by the ANAC. If no signs of material fragmentation are found, no action is required.

(g) Additional requirements for reporting to the authority and to the manufacturer

If, as a result of the inspections conducted as required by paragraphs (a) to (f) of this EAD, any sign of corrosion or material fragmentation is found, the details of such findings shall be reported to ANAC – Aeronautical Product Certification Branch, and to EMBRAER, within the next 96 hours after such finding or within 5 calendar days after the effective date of this EAD, whichever occurs later.

(h) Alternative methods of compliance (AMOCs)

A different method or a different compliance time, with the requirements of this EAD, may be used if approved by the General Manager of the Aeronautical Product Certification Branch (GGCP).

(i) Service information

You must use Embraer Service Bulletin Nº 505-55-A004, revision 3, dated November 13, 2019, or further revisions approved by the ANAC, to do the actions required in this EAD.

(j) Credit for previous actions

This paragraph provides credit for the actions specified in paragraphs (a) to (f) of this EAD, if those actions were performed before the effective date of this EAD using Embraer Service Bulletin Nº 505-55-A004, revision 2, dated November 06, 2019.

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

CONTACT:

For additional technical information, contact:
National Civil Aviation Agency (ANAC)
Aeronautical Product Certification Branch (GGCP)
Rua Laurent Martins, nº 209, Jardim Esplanada
CEP 12242-431 – São José dos Campos - SP, BRAZIL.
Phone: (12) 3203-6600; E-mail: pac@anac.gov.br

APPROVAL:

MÁRIO IGAWA
General Manager
GGCP

ROBERTO JOSÉ SILVEIRA HONORATO
Airworthiness Superintendent
ANAC

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