



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

BRAZILIAN EMERGENCY AIRWORTHINESS DIRECTIVE

EAD No: 2020-01-01

Effective Date: 09 jan. 2020

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. 2020-01-01 - (EMBRAER) / 39-1454.

APPLICABILITY: This Emergency Airworthiness Directive is applicable to Embraer model EMB-505 airplanes, all serial numbers.

CANCELLATION / REVISION: This EAD cancels and supersedes AD No. 2011-05-05, effective 16 Jun. 2011, and EAD No. 2019-11-08, effective 14 Nov. 2019, and is being issued to include additional aircraft in the applicability, to require a more restrictive compliance time for a new specific group of aircraft and to include, as required action for all serial numbers, new maintenance requirements for the Airworthiness Limitations Section of the maintenance program.

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, 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:

- (1) Inspection of the mass-balance weights of the elevators, ailerons and rudder, and their attachment parts, and replacement as necessary.
- (2) Reporting to the manufacturer if, as result of the inspections performed as required by this EAD, any signs of corrosion or material fragmentation are found.
- (3) Inclusion of new mass-balance weights maintenance requirements, and respective execution intervals, in the approved maintenance or inspection program, as applicable.

COMPLIANCE: Required as indicated below, unless already accomplished.

For aircraft belonging to Group 1, as identified in Embraer Service Bulletin N° 505-55-A004, revision 5, dated December 12, 2019, within 3 calendar days or 5 Flight Hours (FH), whichever occurs first, after the November 14, 2019 (effective date of EAD 2019-11-08), carry out the actions in paragraphs (a) to (g) of this EAD.

For aircraft belonging to Group 2, as identified in Embraer Service Bulletin N° 505-55-A004, revision 5, dated December 12, 2019, within 60 calendar days or 100 FH, whichever occurs first, after November 08, 2019 (effective date of AD 2019-11-06), carry out the actions in paragraphs (a) to (g) of this EAD.

For aircraft belonging to Group 3, as identified in Embraer Service Bulletin N° 505-55-A004, revision 5, dated December 12, 2019, within 30 calendar days or 50 FH, whichever occurs first, after the effective date of this EAD, carry out the actions in paragraphs (a) to (g) of this EAD.

For all aircraft serial numbers, update the aircraft approved maintenance or inspection program, as applicable, to include the mass-balance weights maintenance requirements, and respective execution intervals, as new Airworthiness Limitations, according to paragraph (h) of this EAD.

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

Inspect, replace or reinstall the elevator adjustable mass-balance weights and attachments, according to the procedures detailed in the Embraer Service Bulletin No. 505-55-A004, revision 5, dated December 12, 2019, or subsequent revisions approved by ANAC.

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

Inspect, replace or reinstall the elevator horn mass-balance weights and attachments, according to the procedures detailed in the Embraer Service Bulletin No. 505-55-A004, revision 5, dated December 12, 2019, or subsequent revisions approved by ANAC.

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

Inspect, replace or reinstall the elevator internal mass-balance weights and attachments, according to the procedures detailed in the Embraer Service Bulletin No. 505-55-A004, revision 5, dated December 12, 2019, or subsequent revisions approved by ANAC.

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

Inspect, replace or reinstall the aileron mass-balance weights and attachments, according to the procedures detailed in the Embraer Service Bulletin No. 505-55-A004, revision 5, dated December 12, 2019, or subsequent revisions approved by ANAC.

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

Inspect, replace or reinstall the rudder mass-balance weights and attachments, according to the procedures detailed in the Embraer Service Bulletin No. 505-55-A004, revision 5, dated December 12, 2019, or subsequent revisions approved by ANAC.

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

Inspect, replace or reinstall the rudder internal mass-balance weights and attachments, according to the procedures detailed in the Embraer Service Bulletin No. 505-55-A004, revision 5, dated December 12, 2019, or subsequent revisions approved by ANAC.

(g) Reporting 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 EMBRAER (for contact information refer to Embraer Service Bulletin No. 505-55-A004), within the next 96 hours after such finding or within 5 calendar days after the effective date of this EAD, whichever occurs later.

(h) Updating of the Airworthiness Limitations Section

Within 10 days after the effective date of this EAD, update the approved maintenance or inspection program, as applicable, to include the inspection tasks listed in Table 1 below, as new inspection requirements with initial inspection according to Table 2 below and, subsequently, at intervals of 60 MO.

Table 1 – New Airworthiness Limitations Requirements

MRBP Task Number	Type	Title/Description	Applicability	I: Interval
55-20-04-001	GVI	Internal General Visual Inspection of Elevator Mass-Balance Weight and Attachments	EMB-505 (all serial numbers)	I: 60 MO

55-20-04-002	SDI	Special Detailed Inspection (Borescope Method) of Elevator Mass-Balance Weight and Attachments	EMB-505 (all serial numbers)	I: 60 MO
55-40-04-002	GVI	Internal General Visual Inspection of Rudder Adjustable Mass-Balance Weight and Attachments	EMB-505 (all serial numbers)	I: 60 MO
55-40-04-003	SDI	Special Detailed Inspection (Borescope Method) of Rudder Fixed Mass-Balance Weight and Attachments	EMB-505 (all serial numbers)	I: 60 MO
57-60-00-001	DET	External Detailed Visual Inspection of the Aileron	EMB-505 (all serial numbers)	I: 60 MO

Table 2 – Initial inspection of the tasks listed on Table 1

Aircraft age	Initial inspection
<48 MO after new	Before aircraft completes 60 MO
>=48 MO after new	Next 12 MO from the effective date of this EAD or before aircraft completes 72 MO, whichever occurs first
>72 MO after new	30 days after the effective date of this EAD

Note 1: Inspections performed according to Embraer Service Bulletin N° 505-55-A004, revision 2 or later approved by ANAC, count as initial inspections for the tasks listed on Table 1.

(i) 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).

(j) Service information

You must use Embraer Service Bulletin N° 505-55-A004, revision 5, dated December 12, 2019, or subsequent revisions approved by ANAC, to do the actions required in this EAD.

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

(k) 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 N° 505-55-A004, revisions 2, 3 or 4, dated November 06, 13 and 21, 2019, respectively.

CONTACT:

For additional technical information, contact:

National Civil Aviation Agency (ANAC)

Aeronautical Products Certification Branch (GGCP)

Rua Laurent Martins, 209, Jardim Esplanada

Telephone: 55 (12) 3203-6600

Cep 12242-431 – São José dos Campos - SP, BRAZIL.

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 Products Certification Branch (GGCP) of the National Civil Aviation Agency (ANAC).

Referência: Processo nº 00066.000526/2020-87

SEI nº 3903641