AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2026-10-01 **Effective Date: 26 Oct. 2026**

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. 2026-10-01 - EMBRAER / 39-1608.

APPLICABILITY:

This Airworthiness Directive (AD) applies to Embraer S.A. airplanes model EMB-505, as identified in Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026.

CANCELLATION / REVISION:

Not applicable.

REASON:

It was identified the possibility that some newly manufactured airplanes may have been released with rudder trim control system backlash test results beyond the permissible limits due to an error in production line testing. Excessive backlash combined with the loss of one load path in the rudder trim tab control system may result in a Limit Cycle Oscillation (LCO) phenomenon exposing the surrounding structure and systems to unacceptable vibration levels and reducing the airplane controllability.

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.

REQUIRED ACTION:

Inspection of the airplane rudder trim tab control system and replacement, as applicable, of the attachment parts of the yaw trim actuator, attachment parts and hinge pin of the rudder trim tab surface, yaw trim actuator and its mechanism and rudder trim tab surface, as well.

COMPLIANCE:

Required as indicated below, unless already accomplished.

(a) Within the applicable intervals and limitations established in “Table 01 – Applicable accomplishment intervals for the airplane rudder trim tab backlash inspection”, accomplish with the paragraph **(b)** thru **(h)** of this AD, as applicable.

Table 01 – Applicable accomplishment intervals for the airplane rudder trim tab backlash inspection.

Airplanes identification with Serial Number (S/N).	Accomplishment interval in Flight Hours (FH) or calendar time.
Airplanes with S/N described in Group 1 as identified in Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026.	Within the next 3 months or 150 FH after the effective date of this AD, whichever occurs first.
Airplanes with S/N described in Group 2 as identified in Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026.	Within the next 24 months or 1500 FH after the effective date of this AD, whichever occurs first.
Airplanes with S/N described in Group 3 as identified in Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026.	Within the next 36 months or 3000 FH after the effective date of this AD, whichever occurs first.

(b) Inspection of the airplane rudder trim tab backlash.

(1) Perfom a Functional Check (FNC) of the airplane rudder trim tab backlash according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(i) If the measured backlash angle is less than or equal to 0.57 ^{o} (degrees), no action is required at this time.

(ii) If the measured backlash angle is more than 0.57 ^{o}, accomplish the paragraph **(c)** of this AD before the next flight.

NOTE: For the purposes of this AD, a Functional Check (FNC) is defined as follows.

Functional Check (FNC): A quantitative check to determine if one or more functions of an item performs within specified limits.

(c) Replacement of the attachment parts of the yaw trim actuator.

(1) Replace the attachment parts of the yaw trim actuator according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(2) Perfom a FNC of the airplane rudder trim tab backlash according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(i) If the measured backlash angle is less than or equal to 0.57 ^{o}, no action is required at this time.

(ii) If the measured backlash angle is more than 0.57 ^{o}, accomplish the paragraph **(d)** of this AD before the next flight.

(d) Replacement of the attachment parts of the rudder trim tab surface.

(1) Replace the attachment parts of the rudder trim tab surface according to the

detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(2) Perform a FNC of the airplane rudder trim tab backlash according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(i) If the measured backlash angle is less than or equal to 0.57 º, no action is required at this time.

(ii) If the measured backlash angle is more than 0.57 º, accomplish the paragraph **(e)** of this AD before the next flight.

(e) Replacement of the hinge pins of the rudder trim tab surface.

(1) Replace the hinge pins of the rudder trim tab surface according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(2) Perform a FNC of the airplane rudder trim tab backlash according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(i) If the measured backlash angle is less than or equal to 0.57 º, no action is required at this time.

(ii) If the measured backlash angle is more than 0.57 º, accomplish the paragraph **(f)** of this AD before the next flight.

(f) Replacement of the yaw trim actuator.

(1) Replace the yaw trim actuator according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 01, dated August 03, 2026; or further revisions approved by ANAC.

(2) Perform a FNC of the airplane rudder trim tab backlash according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(i) If the measured backlash angle is less than or equal to 0.57 º, no action is required at this time.

(ii) If the measured backlash angle is more than 0.57 º, accomplish the paragraph **(g)** of this AD before the next flight.

(g) Replacement of the yaw trim mechanism.

(1) Replace the yaw trim mechanism according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(2) Perform a FNC of the airplane rudder trim tab backlash according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(i) If the measured backlash angle is less than or equal to 0.57 º, no action is required at this time.

(ii) If the measured backlash angle is more than 0.57 º, accomplish the paragraph **(h)** of this AD before the next flight.

(h) Replacement of the rudder trim tab surface.

(1) Replace the rudder trim tab surface according to the detailed instructions and

procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(2) Perform a FNC of the airplane rudder trim tab backlash according to the detailed instructions and procedures described in the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; or further revisions approved by ANAC.

(i) If the measured backlash angle is less than or equal to 0.57 º, no action is required at this time.

(ii) If the measured backlash angle is more than 0.57 º, before the next flight contact the Embraer S.A. for further disposition according to the paragraph **(i)** of this AD.

(i) Alternative methods of compliance (AMOCs).

A different method or a different compliance time, with the requirements of this AD, maybe used if approved by the Manager of the Product Safety and Airworthiness Technical Branch (GTSAP) of ANAC.

(j) Material incorporated by reference.

You must use the Embraer Service Bulletin N. 505-27-0036, Revision 02, dated August 27, 2026; 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.

CONTACT:

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NOTA: Original in Portuguese language signed and available in the files of the Product Safety and Airworthiness Technical Branch (GTSAP) of the National Civil Aviation Agency (ANAC).