AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2011-02-01R1 **Effective Date: 14 Oct. 2022**

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. 2011-02-01R1 - EMBRAER / 39-1501.

APPLICABILITY:

This Airworthiness Directive (AD) applies to Embraer airplanes models ERJ 190-100 STD, ERJ 190-100 LR, ERJ 190-100 IGW, ERJ 190-100 ECJ, ERJ 190-100 SR, ERJ 190-200 STD, ERJ 190-200 LR and ERJ 190-200 IGW; all serial numbers.

CANCELLATION / REVISION:

This AD cancels and supersedes the AD No. 2011-02-01 / 39-1328, dated 12 Feb. 2011, and is being issued to include other service documents associated with its compliance.

REASON:

It has been found the occurrence of damage on the rod end of the Main Landing Gear (MLG) retraction actuator. The breakage of the MLG retracting actuator rod may result in MLG extension with no hydraulic damping and consequent damage to the locking mechanism and collapse of the MLG during the airplane operations.

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:

General Visual Inspection (GVI) on the Left Hand (LH) and the Right Hand (RH) MLG retraction actuators, replacement of some components, if apllicable, and replacement of retraction actuators of the airplane MLG.

COMPLIANCE:

Required as indicated below, unless already accomplished.

(a) Inspection of retraction actuators of the airplane LH and RH

MLG.

Within 30 days after Feb. 12, 2011, the effective date of the AD No. 2011-02-01 / 39-1328, perform a one-time inspection to determine the part number (P/N) of the MLG retraction actuator on both sides of the airplane. Instead of inspecting the MLG retraction actuator, a review of airplane maintenance records is acceptable if the detailed part number of the MLG retraction actuator can be positively determined from that review.

(1) If no MLG retraction actuator having P/N 190-70980-403 is found, no further action is required by this paragraph **(a).**

(2) If any MLG retraction actuator having P/N 190-70980-403 is found, accomplish the requirements of the following AD paragraphs.

(b) For the MLG retraction actuator identified in paragraph **(a)(2)** of this AD, perform a GVI in accordance with “Part I” as described in the Embraer Service Bulletin (SB) No. 190-32-0036 or Embraer SB No. 190LIN-32-0014, as applicable, at the following intervals:

(1) If the MLG retraction actuator has accumulated less than 3,500 Flight Cycles (FC), perform the inspection required by paragraph **(b)** before the MLG retraction actuator logs 4,500 FC.

(2) For the MLG retraction actuator that has accumulated more than 3,500 FC, perform the inspection required by paragraph **(b)** within the next 1,000 FC.

(c) Repeat the GVI required by paragraph **(b)** of this AD every 3,500 FC of the MLG retraction actuator.

(d) Components replacement.

If any discrepancy is found during the inspection required by paragraph **(b)** or **(c)** of this AD, including any movement between the actuator rod-end and shock strut lug, the MLG retraction actuator and, if applicable, the anti-rotation pin and the attachment bolt must be replaced within next 500 FC in accordance with “Part II” or “Part III” of the Embraer SB No. 190-32-0036 or Embraer SB No. 190LIN-32-0014, as applicable.

(e) Retraction actuators replacement.

Before the MLG retraction actuators P/N 190-70980-403 logs 12,000 FC replace them by a new improved of P/N 190-70980-405 and modify the attachment points in accordance with “Part I” and “Part II” of Embraer SB No. 190-32-0037 or Embraer SB No. 190LIN-32-0015, as applicable.

(f) On the next MLG overhaul do the actions referred by paragraph **(e)** above, modify the attachment points in accordance with “Part III” of Embraer SB No. 190-32-0037 or Embraer SB No. 190LIN-32-0015, as applicable. Compliance with this paragraph constitutes a terminating action for this AD requirements.

NOTE: 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.”

(g) Material incoporated by reference.

The detailed instructions and procedures to accomplish this AD are described in the Embraer Service Bulletins No. 190-32-0036, original revision, dated October 04, 2010, or further revisions approved by ANAC, Embraer Service Bulletins No.190-32-0037. original revision, dated October 06, 2010, or further revisions approved by ANAC, Embraer Service Bulletins No.190LIN-32-0014, original revision, dated February 10, 2011, or further revisions approved by ANAC or in the Embraer Service Bulletins No.190LIN-32-0015, original revision, dated February 10, 2011, 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 Continuing Airworthiness Technical Branch (GTAC) of the National Civil Aviation Agency (ANAC).