AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2022-05-04 **Effective Date: 25 May 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. 2022-05-04 - EMBRAER / 39-1496.

APPLICABILITY:

This Airworthiness Directive (AD) applies to Embraer S.A. model ERJ 190 100 STD, ERJ 190 100 LR, ERJ 190 100 IGW, ERJ 190 100 SR, ERJ 190 100 ECJ, ERJ 190 200 STD, ERJ 190 200 LR and ERJ 190 200 IGW airplanes, all serial numbers, equipped with Honeywell Primus EPIC software versions up to 25.8, inclusive, or version 27.1 through 27.3.

CANCELLATION / REVISION:

Not applicable.

REASON:

It was detected a case of uncommanded setting of the barometric reference in both primary flight displays (PFD) due to the architecture of data communication of the Control I/O modules, which interconnect the display controllers to the air data system. As there is a possibility of erroneous indications for both pilots combined with possible adverse meteorological conditions resulting in an increase of crew workload, which could interfere in decisions that shall be taken by the crew during critical phases of the flight, this is considered an unsafe condition.

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:

This AD requires the installation of newer versions of the Honeywell Primus EPIC software.

COMPLIANCE:

Required as indicated below, unless for aircraft which are already equipped with the

software versions required by this AD.

(a) Software update

(1) For airplanes equipped with Primus EPIC software versions 27.1 through 27.3, and a Head-Up Guidance System (HGS), excluding model ERJ 190 100 ECJ, within 18 months after the effective date of this AD, install Primus EPIC software version 27.4.0.1 or higher. For the installation of version 27.4.0.1, use the Service Bulletin Embraer 190 31 0077, original revision, or further revisions approved by ANAC. For higher versions of the software, use the applicable service bulletin as recommended by the manufacturer.

(2) For airplanes equipped with Primus EPIC software version 27.1 through 27.3 and no Head-Up Guidance System (HGS), excluding model ERJ 190 100 ECJ, within 18 months after the effective date of this AD, install Primus EPIC software version 27.4 or higher. For the installation of version 27.4, use the Service Bulletin Embraer 190 31 0075, revision 02, or further revisions approved by ANAC. For higher versions of the software, use the applicable service bulletin as recommended by the manufacturer.

(3) For airplanes equipped with Primus EPIC software versions up to 25.8, inclusive, excluding model ERJ 190 100 ECJ, within 18 months after the effective date of this AD, install Primus EPIC software version 25.9 or higher, except versions 27.1 through 27.3. For the installation of version 25.9, use the Service Bulletin Embraer 190 31 0074, original revision, or further revisions approved by ANAC. For higher versions of the software, use the applicable service bulletin as recommended by the manufacturer.

(4) For airplanes model ERJ 190 100 ECJ equipped with Primus EPIC software versions 27.1 through 27.3, and a Head-Up Guidance System (HGS), within 18 months after the effective date of this AD, install Primus EPIC software version 27.4.0.1 or higher. For the installation of version 27.4.0.1, use the Service Bulletin Embraer 190LIN 31 0025, original revision, or further revisions approved by ANAC. For higher versions of the software, use the applicable service bulletin as recommended by the manufacturer.

(5) For airplanes model ERJ 190 100 ECJ equipped with Primus EPIC software versions 27.1 through 27.3, and no Guidance System (HGS), within 18 months after the effective date of this AD, install Primus EPIC software version 27.4 or higher. For the installation of version 27.4, use the Service Bulletin Embraer 190LIN 31 0024, revision 02, or further revisions approved by ANAC. For higher versions of the software, use the applicable service bulletin as recommended by the manufacturer.

(6) For airplanes model ERJ 190 100 ECJ equipped with Primus EPIC software versions up to 25.8, inclusive, within 18 months after the effective date of this AD, install Primus EPIC software version 25.9 or higher, except versions 27.1 through 27.3. For the installation of version 25.9, use the Service Bulletin Embraer 190LIN 31 0023, original revision, or further revisions approved by ANAC. For higher versions of the software, use the applicable service bulletin as recommended by the manufacturer.

NOTE 1: The utilization of versions 27.1 through 27.3 and versions up to 25.8, inclusive, of the Primus EPIC software is being discontinued from the date of accomplishment of this AD.

NOTE 2: This AD requires the installation of software versions which are more up-to-date than the versions required by ANAC AD 2019 10 01, therefore the accomplishment of this AD also covers the accomplishment of ANAC AD 2019 10 01.

(b) Credit for previous actions

This paragraph provides credit for the actions specified in paragraph (a) of this AD, if those actions were performed before the effective date of this AD according to the original revision, dated May 19th 2021, or revision 01, dated September 29th 2021, of the Service Bulletin Embraer 190-31-0075; or according to the original revision, dated May 31st 2021, or revision 01, dated August 23rd 2021, of the Service Bulletin Embraer 190LIN 31 0024 incorporated by reference to this AD.

(c) Alternative Methods of Compliance (AMOC)

(1) A different method or a different compliance time, with the requirements of this AD, may be used if approved by the Manager of the Continuing Airworthiness Technical Branch (GTAC) of ANAC.

(2) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (c)(2)(i) and (c)(2)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under a RC step and any figures identified in a RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(d) Material incorporated by reference

You must use the following service information for the installation of the Primus EPIC software versions 25.9, 27.4 and 27.4.0.1 as required by this AD:

(1) Service Bulletin Embraer 190-31-0077, original revision, dated December 03rd, 2021.

(2) Service Bulletin Embraer 190-31-0075, revision 02, dated October 28th, 2021.

(3) Service Bulletin Embraer 190-31-0074, original revision, dated June 11th, 2021.

(4) Service Bulletin Embraer 190LIN-31-0025, original revision, December 10th, 2021.

(5) Service Bulletin Embraer 190-31LIN-0024, revision 02, dated December 10th, 2021.

(6) Service Bulletin Embraer 190LIN-31-0023, original revision, dated June 11th, 2021

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

CONTACT:

For additional technical information, contact:

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APPROVAL:

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NOTE: Original in Portuguese language signed and available in the files of the Continuing Airworthiness Technical Branch (GTAC) of the National Civil Aviation Agency (ANAC).