



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2019-10-02

Effective Date: 21 Oct. 2019

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. 2019-10-02 - EMBRAER / 39-1444.

APPLICABILITY:

This Airworthiness Directive (AD) applies to Embraer S.A. model ERJ 170-100 LR, ERJ 170-100 SE, ERJ 170-100 STD, ERJ 170-100 SU, ERJ 170-200 LR, ERJ 170-200 STD, ERJ 170-200 SU and ERJ 170-200 LL airplanes, all serial numbers, equipped with Honeywell Primus EPIC software versions up to 25.7, inclusive, or version 27.1 or version 27.2.

CANCELLATION / REVISION:

Not applicable.

REASON:

It was detected a case of erroneous indications of the parameters N1, N2 and ITT from both engines due to the design of data communication of the FADEC 1 and 2 with the EICAS display. As there is a possibility of this failure to interfere with decisions that shall be taken by the crew during the take-off, this is considered an unsafe condition.

There were also informed occurrences of “pitch up” and “pitch down” uncommanded attitudes with autopilot engaged in cruise flight. As this failure could occur in “Autoland” mode during landing, it is considered an unsafe condition.

Since this condition may exist in other airplanes of the same type and affects flight safety, 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 or 27.2, and Autopilot System with Autoland function, within 48 months after the effective date of this AD, install Primus EPIC software version 27.3 or higher. For the installation of version 27.3, use the Service Bulletin Embraer 170-

31-0066 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 and Autopilot System without Autoland function, within 48 months after the effective date of this AD, install Primus EPIC software version 27.2 or higher. For the installation of version 27.2, use the Service Bulletin Embraer 170-31-0054 revision 04, 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 25.7, inclusive, within 48 months after the effective date of this AD, install Primus EPIC software version 25.8 or higher, except version 27.1 for any of these aircraft and version 27.2 for aircraft equipped with Autoland function. For the installation of version 25.8, use the Service Bulletin Embraer 170-31-0070 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 version 27.1 and versions up to 25.7, inclusive, of the Primus EPIC software is being discontinued by this AD, from the date of this update. For aircraft with Autoland function, the utilization of the version 27.2 is also being discontinued, from the date of this update.

NOTE 2: For airplanes equipped with Primus EPIC software version 27.2 and Autopilot System without Autoland function, no further action is required by this AD.

(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 previous revisions of the Service Bulletin 170-31-0054, revision 04, incorporated by reference to this AD.

(c) Alternative Methods of Compliance (AMOC)

A different method or a different compliance time with the requirements of this AD may be used if approved by the General Manager of ANAC's Aeronautical Product Certification Branch (*Gerência-Geral de Certificação de Produtos Aeronáuticos – GGCP*). The AMOC approval letter must specifically reference this AD.

(d) Material incorporated by reference

You must use the following service information for the installation of the Primus EPIC software versions 25.8, 27.2 and 27.3 as required by this AD:

- (1) Service Bulletin 170-31-0070, original revision, dated January 03, 2019.
- (2) Service Bulletin 170-31-0054, revision 04, dated May 31, 2019.
- (3) Service Bulletin 170-31-0066, original revision, dated June 24, 2019.

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

CONTACT:

For additional technical information, contact:

National Civil Aviation Agency (ANAC)
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APPROVAL:

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Airworthiness Superintendent
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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 00066.017568/2019-13

SEI nº 3599505