



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2024-04-01

Effective Date: 21 Jul. 2024

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. 2024-04-01 - 39-1546.

APPLICABILITY:

(a) This Airworthiness Directive (AD) applies to all Transport, Commuter, and Normal Level 4 Category airplanes certified for Autoland or authorized for any of the following special operations:

(i) Instrument Landing System (ILS) Instrument Approach procedures (IAP) CAT II.

(ii) Instrument Landing System (ILS) Instrument Approach procedures (IAP) CAT III.

(iii) Operation with head-up display (HUD) to touchdown operation.

(iv) Operation with Enhanced Flight Vision System (EFVS) to touchdown

NOTE: Normal Level 4 Category airplane refers to the airplane certification level, according to Section 23.2005 of RBAC 23, amendment 64 or later amendments. Information regarding the RBAC 23 amendment adopted on the airplane certification, as well as the classification level, may be found in the airplane Type Certificate Datasheet (TCDS).

CANCELLATION / REVISION:

Not applicable.

REASON:

The reason for this AD is the finding of potential interference in radio altimeters from wireless broadband operations in the 3,300 MHz to 3,700 MHz frequency band (5G C-Band). Anomalies in the radio altimeter caused by interference, such as loss or erroneous functioning, that are undetected by the automation or pilot, particularly close to the ground (e.g., landing flare), could lead to loss of

continued safe flight and landing.

Since this condition may occur in various airplane models and affects flight safety, corrective action is required. Thus, sufficient reason exists to mandate compliance with this AD in the indicated time limit.

REQUIRED ACTION:

Airplane Flight Manual (AFM) Revision

COMPLIANCE:

Required as indicated below, unless already accomplished.

(b) Airplane Flight Manual Revision

(1) For airplanes identified in paragraph **(a)** of this AD, that do not meet the criteria for a “radio altimeter tolerant aircraft”, as established by PORTARIA N° 14.318/SAR, de 10 de abril de 2024, or further Portaria that supersedes it, within 10 days after the effective date of this AD, revise the Limitations Section of the existing AFM to include the following information:

Radio Altimeter Flight Restrictions

Due to the presence of 5G wireless broadband interference, when operating in the Brazilian airspace, the following operations requiring radio altimeters are prohibited:

- Instrument Landing System (ILS) Instrument Approach procedures (IAP) CAT I AR, CAT II and CAT III
- Automatic Landing operations
- Manual Flight Control Guidance System operations to landing/head-up display (HUD) to touchdown operation
- Use of Enhanced Flight Vision System (EFVS) to touchdown

NOTE 1: The AFM alteration required by this AD may be accomplished by inserting a copy of this AD into the Aircraft Flight Manual.

NOTE 2: For this AD, a “radio altimeter tolerant airplane” is the one for which ANAC accepts that the combination airplane-radio altimeter is sufficient to demonstrate tolerance to the limits specified in PORTARIA N° 14.318/SAR, de 10 de abril de 2024, or further Portaria that supersedes it.

(2) For airplanes identified in paragraph **(a)** of this AD, that are defined as “radio altimeter tolerant aircraft”, according to the established by PORTARIA N° 14.318/SAR, de 10 de abril de 2024, or further Portaria that supersedes it, no action is required by this paragraph (b).

(c) Terminating Action to the AFM Revision

Modification of a “non-radio altimeter tolerant aircraft” to a “radio altimeter tolerant aircraft”, according to PORTARIA N° 14.318/SAR, de 10 de abril de 2024, or further Portaria that supersedes it, terminates the limitations required by paragraph **(b)(1)** of this AD. After modification to a “radio altimeter tolerant aircraft”, according to PORTARIA No. 13.365/SAR, de 14 de dezembro de 2023, remove the

AFM revision required by paragraph **(b)(1)** of this AD.

(d) Compliance with PORTARIA N° 14.318/SAR, de 10 de abril de 2024, or further Portaria that supersedes it.

For the purpose of this AD, the acceptance of the combination airplane - radio altimeter as a "radio altimeter tolerant aircraft" depends on evidence provided to demonstrate the tolerance limits established in PORTARIA N° 14.318/SAR, de 10 de abril de 2024, or further Portaria that supersedes it. These data should be submitted to ANAC through the e-mail 5g@anac.gov.br. The acceptance by ANAC of the airplane-radio altimeter combination as "radio altimeter tolerant aircraft" will be indicated through an ANAC Ofício to the operator or manufacturer, or an ANAC Portaria listing the configurations accepted by ANAC as "radio altimeter tolerant aircraft".

(e) Reporting of events

Report any anomalies in the radio altimeter to ANAC through the e-mail 5g@anac.gov.br, providing the following information:

- (1) Date
- (2) Aircraft and radio altimeter model
- (3) Phase of flight
- (4) Location where the anomaly occurred
- (5) Transient or permanent anomaly

(f) Alternative methods of compliance (AMOCs).

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

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

CONTACT:

For additional technical information, contact:
National Civil Aviation Agency (ANAC)
Continuing Airworthiness Technical Branch (GTAC)
Rua Doutor Orlando Feirabend Filho, nº 230
Centro Empresarial Aquárius - Torre B - 14º ao 18º andares
Parque Residencial Aquárius
CEP 12246-190 - São José dos Campos - SP.
E-mail: pac@anac.gov.br

APPROVAL:

ROBERTO JOSÉ SILVEIRA HONORATO
Head of Department

Airworthiness Department (SAR)
ANAC

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).

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