

**NOTICE OF PROPOSED REGULATION
BRAZILIAN AIRWORTHINESS DIRECTIVES**

**REPÚBLICA FEDERATIVA DO BRASIL
AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – ANAC
Gerência Geral de Certificação de Produto Aeronáutico**

Reference: NPR/AD 2023-737-02

Date: 27 Dec. 2023

In accordance with the provisions of RBAC 11, The Continuing Airworthiness Technical Branch (GTAC) is proposing the issuance of a Brazilian Airworthiness Directive applicable to the aeronautical product referred below.

*All the persons interested may send their comments until the date specified in item 2, indicating the **Reference** above, to the following address:*

*National Civil Aviation Agency (ANAC) – Continuing Airworthiness Technical Branch (GTAC)
Rua Doutor Orlando Feirabend Filho, nº 230
Centro Empresarial Aquárius - Torre B - 14 o ao 18 o andares
Parque Residencial Aquárius
12246-190 – São José dos Campos – SP - Tel.: (12) 3203-6600 - E-mail: pac@anac.gov.br.*

1. Proposer: Continuing Airworthiness Technical Branch (GTAC).

2. Comments: Must be received until 31 Mar. 2024.

APPLICABILITY:

(a) This Airworthiness Directive (AD) applies to BOEING airplanes models 737-300, 737-400, 737-500, 737-600, 737-700 and 737-800, all serial numbers.

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). During takeoffs and landings, as a result of this interference, certain airplane systems may not properly function, resulting in increased flightcrew workload while on approach with the flight director, autothrottle, or autopilot engaged. The increased flightcrew workload could lead to reduced ability of the flightcrew to maintain safe flight and landing of the airplane.

Since this condition may occur in other airplanes and affects flight safety, corrective action is required. Thus, sufficient reason exists to request 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 airplanes”, as established by PORTARIA Nº 13.365/SAR, de 14 de dezembro de 2023, 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 5G C-Band Interference, Approach, Landing, and Go-Around

Due to the presence of 5G C-Band wireless broadband interference, the following limitations are required to dispatch or release to airports, and approach, landing and go-around on runways, in the Brazilian airspace.

Approach, Landing, and Go-Around

Operators must use the **Radio Altimeter 5G C-Band Interference, Approach, Landing, and Go-Around** procedure.

- (2) For airplanes models 737-300, 737-400 and 737-500 identified in paragraph (a) of this AD, that do not meet the criteria for a “radio altimeter tolerant airplanes”, as established by PORTARIA Nº 13.365/SAR, de 14 de dezembro de 2023, within 10 days after the effective date of this AD, revise the Operating Procedures Section of the existing AFM to include the following information:

Radio Altimeter 5G C-Band Interference, Approach, Landing, and Go-Around

ILS Approaches

For ILS approaches other than CAT II and CAT III, during any ILS approach with autopilot engaged or flight director ON, execute a go-around for any of the following conditions, unless the runway environment is in sight and a manual, visual landing can be accomplished:

- If the flight director automatically retract from view, or
- If the pitch guidance indicates FLARE mode prematurely, or
- If the autothrottle retards to IDLE prematurely.

During Go-Around and Missed Approach

If go-around is required, ensure thrust is increased to go-around power. Do not use flight director, autopilot, or autothrottles until reaching a safe altitude, TOGA mode may not be available. Autopilot may not be available. Monitor pitch and roll modes for engagement.

- (3) For airplanes models 737-600, 737-700 and 737-800 identified in paragraph (a) of this AD, that do not meet the criteria for a “radio altimeter tolerant airplanes”, as established by PORTARIA Nº 13.365/SAR, de 14 de dezembro de 2023, within 10 days after the effective date of this AD, revise the Operating Procedures Section of the existing AFM to include the following information:

Radio Altimeter 5G C-Band Interference, Approach, Landing, and Go-Around

ILS Approaches

For ILS approaches other than CAT II, and CAT III, during any ILS (and GLS if installed) approach with autopilot engaged or flight director ON, execute a go-around for any of the following conditions, unless the runway environment is in sight and a manual, visual landing can be accomplished:

- If the flight director automatically retract from view, or
- If the pitch guidance indicates FLARE mode prematurely, or
- If the autothrottle retards to IDLE prematurely.

Landing

Adjust operational (time of arrival) landing distance for manual speedbrakes.

Automatic speedbrake deployment may not occur after touchdowns.

During Go-Around and Missed Approach

If go-around is required, ensure thrust is increased to go-around power. Do not use flight director, autopilot, or autothrottles until reaching a safe altitude, TOGA mode may not be available. Autopilot may not be available. Monitor pitch and roll modes for engagement.

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 the purpose of this AD, a “radio altimeter tolerant airplane” is the one for which ANAC accepts that the combination airplane-radio altimeter demonstrates tolerance to the limits specified in this PORTARIA N^o 13.365/SAR, de 14 de dezembro de 2023.

- (4) For airplanes identified in paragraph (a) of this AD, that are defined as “radio altimeter tolerant airplanes”, according to the established by PORTARIA N^o 13.365/SAR, de 14 de dezembro de 2023, no action is required.

(c) Terminating Action to the AFM Revision

Modification of a “non-radio altimeter tolerant airplane” to a “radio altimeter tolerant airplane”, according to PORTARIA N^o 13.365/SAR, de 14 de dezembro de 2023, terminates the limitations required by paragraphs (b)(1) and (b)(2) or (b)(3) of this AD, as applicable. After modification to a “radio altimeter tolerant airplane”, according to PORTARIA N^o 13.365/SAR, de 14 de dezembro de 2023, remove the AFM revision required by paragraphs (b)(1) and (b)(2) or (b)(3) of this AD, as applicable.

(d) Compliance with PORTARIA NO 13.365/SAR, de 14 de dezembro de 2023.

For the purpose of this AD, the acceptance of the combination airplane-radio altimeter as a “radio altimeter tolerant airplane” depends on the data provided to demonstrate the tolerance limits established in PORTARIA N^o 13.365/SAR, de 14 de dezembro de 2023. These data should be submitted to ANAC through 5g@anac.gov.br.

(e) 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.

(f) Addition information

For questions or further information, please contact pac@anac.gov.br