



Boletim Especial de Aeronavegabilidade *(Special Airworthiness Bulletin)*

ATA: 31-60 Central Display System

BEA Nº 2015-03

Subject: Barometric compensation for altitude indication **Date:** August 14, 2015

Introduction:

This Boletim Especial de Aeronavegabilidade advises owners and operators of aircraft equipped with Rockwell Collins Fusion IPS and EDS systems, particularly those with RC AFD-6510/6520 and AFD-3700 displays, about a potential vulnerability that might simultaneously affect the barometric compensation setting on both PFDs, which can cause erroneous altitude indication to both displays.

Below is a non-exhaustive list of aircraft models affected by this vulnerability:

- Bombardier Inc., models BD-700-1A10 and BD-700-1A11, equipped with “Global Vision Flight Deck”;
- Embraer S.A., model EMB-550; and
- Gulfstream Aerospace LP, model G280.

This document has information and not mandatory recommendations, therefore, until this time there is no reason to issue an Airworthiness Directive in accordance with Regulamento Brasileiro da Aviação Civil (RBAC) Nº 39 requirements.

Manufacturer: Rockwell Collins Inc.

Affected Aeronautic Product: Embraer S.A., model EMB-550; Bombardier Inc., models BD-700-1A10 and BD-700-1A11; Gulfstream Aerospace LP, model G280.

Background:

We have become aware of a potential vulnerability in Rockwell Collins Fusion IPS and EDS systems that might simultaneously and inadvertently change the barometric compensation setting on both PFDs to an erroneous value. Should this occur, if not detected by the pilots, the crew will be presented with erroneous altitudes on both PFDs as a result of the incorrect barometric compensation setting. This might cause the aircraft to either level off at a flight level different than intended or depart from the altitude which was being maintained. In extreme cases this could increase the risk of a mid air collision, or a collision with the terrain.

Recommendations:

Until a correction to this vulnerability is available and implemented, the ANAC recommends that all owners and operators of the aircraft models affected by this potential vulnerability adopt the following additional operating procedures:

- Pilots should monitor the altimeter barometric compensation settings during all flight phases and ensure that they are the same as the last ATC reported value.
- During all flight phases a continuous cross-check of the altimeter barometric compensation setting should be made between the PFD and the Standby Flight Instrument System (SFIS). If a difference is detected, pilots must correct the barometric setting on the displays, as applicable, with the same value informed by the ATC. If unable to set the correct barometric compensation setting value to the PFDs, pilots must consider the PFDs indication as unreliable and follow the SFIS.
- During the climb and descent flight phases, pilots must crosscheck the pressure altitude between PFD and SFIS. When approaching the level off altitude or MDA/DA, pilots must crosscheck altimeters barometric pressure setting between PFD and SFIS, and check them against the last ATC reported value.

In addition to the recommended operating procedures, the ANAC recommends that no aircraft affected by this potential vulnerability be dispatched with any of the following inoperative: Transponder, TCAS, TAWS and Radio Altimeter.

Reference documents:

1) Embraer S.A. Operational Bulletin (OB) 550-005/2015, original issue, dated 10 August 2015 or further revisions.

For further information contact

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