Airworthiness Directive

AD No.: 2019-0004

Issued: 11 January 2019

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

THALES AVS FRANCE SAS

Type/Model designation(s):

GPS/SBAS Receiver Topstar 200 LPV units

Effective Date: 25 January 2019

TCDS Number(s): EASA.21O.10047210

Foreign AD: Not applicable

Supersedure: None

ATA 34 – Navigation – Global Navigation Satellite System – Operational Limitations

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Manufacturer(s):

Thales AVS France SAS (Thales), formerly Thales Avionics SAS

Applicability:

Thales Global Positioning System/Satellite Based Augmentation System (GPS/SBAS) receivers, Topstar 200 LPV, identified by Part Number (P/N) C17149HA01 and P/N C17149JA02, using SBAS.

These receivers are known to be installed on, but not limited to, certain ATR 42-500 and ATR 72-212A aeroplanes (see Note 1 of this AD), and Sikorsky S-76D helicopters.

Definitions:

For the purpose of this AD, the following definitions apply:

The AFM Change: Change to the applicable Aircraft Flight Manual (AFM) for ATR 42-500 (commercially known as 600 version) and AFM for ATR 72-212A (600 version) aeroplanes, as specified in Appendix 1 of this AD, as applicable to configuration (1 or 2 GPS receivers installed).

The SIL: Thales NavDB Service Information Letter (SIL) Airac Cycle 1813 Ref. F9111-J70883BY-00.

Reason:

It has been determined that, in SBAS areas, in specific conditions of the GPS satellite constellation in line of sight to the aircraft, the Thales Topstar 200 LPV GPS/SBAS receiver may provide an erroneous position on its outputs, which may not be detected by the integrity check. Depending on the aircraft installation, this error may not be noticed by the flight crew.

This condition, if not corrected, could possibly compromise the safety margins when the receiver is used for Localizer Performance with Vertical guidance (LPV) and/or RNP-AR (Required Navigation Performance – Authorization Required) operations.

Prompted by these findings, Thales has informed the respective aircraft manufacturers and published the SIL accordingly to inform affected operators.

For the reasons described above, this AD requires removal from the navigation database of LPV procedures and all RNP-AR procedures in SBAS areas, listed in the SIL. To ensure a reset of all the GPS computations which may contribute to the erroneous GPS position output, this AD also requires, for certain ATR aeroplanes (see Note 1 of this AD), amendment of the applicable AFM.

This AD is considered as an interim action and further AD action will follow.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

Use of Navigation Database:

(1) Within 30 days after the effective date of this AD, update the aircraft's navigation database where all RNP-AR procedures within SBAS areas and certain LPV procedures, as listed in the SIL, have been removed and, thereafter, use only a regularly updated navigation database where the above-mentioned procedures are not included.

AFM Update:

(2) For ATR aeroplanes as identified in Note 1 of this AD: Within 30 days after the effective date of this AD, amend Section 1.2 "Each Flight Checks" of the applicable AFM by inserting the AFM Change, as defined in this AD, inform all flight crew and, thereafter, operate the aeroplane accordingly.

Note 1: ATR42 and ATR72 aeroplanes authorised for LPV and/or RNP-AR operations, in one of the following configurations:

ATR 42-500 (commercially known as 600 version) aeroplanes on which ATR modification (mod) 7180 or mod 7182 has been embodied in production, or on which SB ATR42-34-0194 or SB ATR42-34-0196 has been embodied in service; and

ATR 72-212A (600 version) aeroplanes on which ATR mod 7180, mod 7182 or mod 7585 has been embodied in production, or SB ATR72-34-1143, SB ATR72-34-1145 or SB ATR72-34-1154 has been embodied in service.

(3) After amending the AFM of an aeroplane, as required by paragraph (2) of this AD, introducing a later approved ATR AFM Revision that contains the AFM Change, as defined in this AD, into the applicable AFM is an acceptable method to comply with the requirements of paragraph (2) of this AD for that aeroplane.

Ref. Publications:

Thales NavDB SIL Airac Cycle 1813 Ref. F9111-J70883BY-00 dated 26 November 2018.

ATR 42-500 (commercially known as 600 version) AFM Revision [to be published].

ATR 72-212A (600 version) AFM Revision [to be published].

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. This AD was posted as PAD 18-153 on 08 November 2018 for consultation until 06 December 2018, and revised and republished as PAD 18-153R1 on 21 December 2018 for additional consultation until 04 January 2019. The Comment Response Documents can be found in the EASA Safety Publications Tool, in the compressed (zipped) file attached to the record for this AD.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the EU aviation safety reporting system.

5. For any question concerning the technical content of the requirements in this AD, or for information related to Thales GPS receiver and Navigation Database, please contact: Thales AVS France SAS, E-mail: continued.airworthiness@thalesgroup.com.

Appendix 1 – AFM Amendment

Procedure to reset the GPS receiver(s) before each flight.

Note: At power-up of the aeroplane, the GPS receiver(s) is/are automatically reset.

2 GPS Receivers Installed

1.2.6. GPS Reset

- ▸ DATA/INIT/POS INIT page..... DISPLAY
- ▸ GPS POS key..... SELECT
- ▸ C/B NAV/COM/SURV GPS 1..... PULL
- ▸ C/B NAV/COM/SURV GPS 2..... PULL
- **● After 10 s**
  - ▸ C/B NAV/COM/SURV GPS 1..... PUSH
  - ▸ C/B NAV/COM/SURV GPS 2..... PUSH
  - ▸ SENSOR INIT< key..... SELECT

1 GPS Receiver Installed

1.2.6. GPS Reset

- ▸ DATA/INIT/POS INIT page..... DISPLAY
- ▸ GPS POS key..... SELECT
- ▸ C/B NAV/COM/SURV GPS 1..... PULL
- **● After 10 s**
  - ▸ C/B NAV/COM/SURV GPS 1..... PUSH
  - ▸ SENSOR INIT< key..... SELECT