



## Airworthiness Directive

**AD No.:** 2021-0013

**Issued:** 13 January 2021

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:

ATR-GIE AVIONS de TRANSPORT RÉGIONAL

### Type/Model designation(s):

ATR 42 and ATR 72 aeroplanes

**Effective Date:** 27 January 2021

**TCDS Number(s):** EASA.A.084

**Foreign AD:** Not applicable

**Supersedure:** None

### ATA 34 – Navigation – Global Navigation Satellite System – Replacement

### ATA – Aircraft Flight Manual – Amendment

#### Manufacturer(s):

ATR-GIE Avions de Transport Régional, formerly EADS ATR - Alenia, Aerospatiale Matra ATR - ALENIA, Aerospatiale - Alenia, Aerospatiale – Aeritalia

#### Applicability:

ATR 42-500 and ATR 72-212A aeroplanes, all manufacturer serial numbers.

#### Definitions:

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

**Affected part:** Thales Global Positioning System/Satellite Based Augmentation System (GPS/SBAS) receivers, Topstar 200 LPV, having Part Number (P/N) C17149HA01 and P/N C17149JA02.

**Improved part:** Thales GPS/SBAS receiver, Topstar 200 LPV-2, having P/N C17149RA01 or later approved P/Ns.

**The applicable SB:** ATR Service Bulletin (SB) ATR42-34-0210 (GPS1), SB ATR42-34-0211 (GPS2), SB ATR72-34-1164 (GPS1) and SB ATR72-34-1165 (GPS2), as applicable.



**Groups:** Group 1 aeroplanes are those that have an affected part installed and 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 or SB ATR72-34-1143 or SB ATR72-34-1145 or SB ATR72-34-1154 has been embodied in service.

Group 2 aeroplanes are those that do not have an affected part installed.

Group 3 aeroplanes are those that have an affected part installed and on which ATR mod 7180 or mod 7182 has not been embodied in production, or on which SB ATR42-34-0194 or SB ATR42-34-0196 or SB ATR72-34-1143 or SB ATR72-34-1145 or SB ATR72-34-1154 has not been embodied in service.

**Reason:**

It was 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, installed on (but not limited to) ATR 42 and ATR 72 aeroplanes, may provide an erroneous position on its outputs, which may not be detected by the integrity check. Depending on the aeroplane installation, this error may not be noticed by the flight crew.

This condition, if not corrected, could possibly compromise the aeroplane safety margins when the Thales Topstar 200 LPV GPS/SBAS receiver is used for Localizer Performance with Vertical guidance (LPV) and/or Required Navigation Performance – Authorization Required (RNP-AR) operations.

Prompted by these findings, Thales informed the respective aircraft manufacturers and the affected operators. To address this potential unsafe condition, EASA issued AD 2019-0004, applicable to the affected GPS/SBAS receivers, requiring removal from the aircraft navigation database of LPV procedures and all RNP-AR procedures in certain SBAS areas. That AD also required amendment of the Aircraft Flight Manual (AFM) of certain ATR aeroplanes to ensure reset of all the GPS computations which may contribute to the erroneous GPS position output.

Since AD 2019-0004 was issued, Thales AVS France SAS, the affected receiver manufacturer, developed the improved receiver, incorporating software improvement ensuring the required navigation performance. Prompted by this development, ATR issued the applicable SB.

For the reasons described above, this AD requires replacement of the affected parts. This AD also requires amendment of the applicable AFM and confirms that, following installation of improved receiver(s) on an ATR aeroplane as required by this AD, that aeroplane is no longer affected by the requirements of EASA AD 2019-0004.

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

Required as indicated, unless accomplished previously:

**Replacement:**

- (1) Group 1 aeroplanes: Within 24 months after the effective date of this AD, modify the aeroplane by replacing each affected part with an improved part in accordance with the instructions of the applicable SB.



**AFM Amendment:**

- (2) Concurrently with modification of an aeroplane as required by paragraph (1) of this AD, amend the applicable AFM of that aeroplane in accordance with the instructions of the applicable SB.
- (3) After amending the applicable AFM of an aeroplane, as required by paragraph (2) of this AD, introducing a later approved ATR AFM Revision that contains that AFM change is an acceptable method to comply with the requirements of paragraph (2) of this AD for that aeroplane.

**Part Installation:**

- (4) For Group 1 aeroplanes: Do not install an affected part on an aeroplane after modification of the aeroplane as required by paragraph (1) of this AD.
- (5) For Group 2 aeroplanes: From the effective date of this AD, installation of an affected part on an aeroplane is allowed, except on those modified in production in accordance with ATR mod 7180 or mod 7182, or in service in accordance with the instructions of SB ATR42-34-0194 or SB ATR42-34-0196 or SB ATR72-34-1143 or SB ATR72-34-1145 or SB ATR72-34-1154.

**Optional Modification:**

- (6) Group 3 aeroplanes: Modification of an aeroplane in accordance with the instructions of SB ATR42-34-0194 or SB ATR42-34-0196 or SB ATR72-34-1143 or SB ATR72-34-1145 or SB ATR72-34-1154 is allowed, provided that concurrently with the modification of an aeroplane each affected part is replaced as required by this AD.

**Related AD:**

- (7) After modification of an aeroplane as required by paragraph (1) of this AD, that aeroplane is no longer affected by the requirements of EASA AD 2019-0004.

**Ref. Publications:**

ATR SB ATR42-34-0210 original issue dated 13 December 2019.

ATR SB ATR42-34-0211 original issue dated 13 December 2019.

ATR SB ATR72-34-1164 original issue dated 13 December 2019.

ATR SB ATR72-34-1165 original issue dated 13 December 2019.

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 on 20 November 2020 as PAD 20-183 for consultation until 18 December 2020. The Comment Response Document 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](mailto: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](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact: ATR - GIE Avions de Transport Régional, Continued Airworthiness Service, Telephone: +33 (0)5 62 21 62 21, Fax: +33 (0) 5 62 21 67 18; E-mail: [continued.airworthiness@atr-aircraft.com](mailto:continued.airworthiness@atr-aircraft.com).