



# Notification of a Proposal to issue an Airworthiness Directive

**PAD No.: 23-115**

**Issued: 18 October 2023**

Note: This Proposed Airworthiness Directive (PAD) 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.

In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below.

All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

**Design Approval Holder's Name:** **Type/Model designation(s):**

ATR-GIE AVIONS DE TRANSPORT REGIONAL ATR 42 aeroplanes

**Effective Date:** [TBD - standard: 14 days after AD issue date]

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

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2023-0134 dated 05 July 2023.

## ATA 31 – Instruments – Angle of Attack Probe Electrical Routing – Inspection / Modification

### 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 42-200, ATR 42-300 and ATR 42-320 aeroplanes, all manufacturer serial numbers.

#### Definitions:

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

**The AOM:** ATR Airworthiness Operators Message (AOM) 2020/13.

**The SB 1:** ATR Service Bulletin (SB) ATR42-27-0113.

**The SB 2:** ATR SB ATR42-31-0121 Revision 02.



**Affected wiring:** Electrical wire routing of the left-hand and right-hand side Angle of Attack (AOA) probes.

**Groups:** Group 1 aeroplanes are those which do not have ATR modification (mod) 01845 embodied in production; and those which have mod 01845 and mod 03294 embodied in production, or have embodied SB ATR42-31-0059 in service; and those which have mod 01845 embodied in production and mod 08690 embodied in service in accordance with Conversion Instruction ATR42-98-356A. Group 2 aeroplanes are those which are not Group 1 aeroplanes.

**Reason:**

Several events have been reported by ATR 42 operators of experiencing spurious activation of the stall warning system. Such activation can lead to one or a combination of the following events:

- Autopilot disconnection
- Stick pusher activation
- Stick shaker activation
- Aural stall warning (cricket audio alert)
- Master CAUTION light flashing amber
- STICK PUSHER green light ON
- FLT CTL amber light on CAP
- Stick PUSHER/SHAKER pushbutton 'FAULT' amber light illumination
- Whooler Audio alert

Subsequent investigation results indicated that wiring damage on the wire bundle between an AOA probe and the Crew Alerting Computer can trigger the above scenario.

This condition, if not detected and corrected, could lead to loss of control of the aeroplane during take-off and landing phases.

Initially, to address this potential unsafe condition, ATR issued the AOM to provide inspection instructions. Consequently, EASA published AD 2020-0221 to require a one-time visual inspection of the affected wiring and, depending on findings, accomplishment of applicable corrective action(s). That AD also required reporting of the inspection results to ATR.

After EASA AD 2020-0221 was issued, as an interim action, ATR developed a wiring modification, and issued the SB 1 to provide modification instructions. ATR also developed an amendment of the Aircraft Flight Manual (AFM) by incorporation of the actions described in Appendix 1 of this AD into the Systems Limitations section. Consequently, EASA issued AD 2021-0024, superseding AD 2020-0221, to additionally require a wiring modification for certain aeroplanes, and an amendment of the applicable AFM for all aeroplanes.

After EASA AD 2021-0024 was issued, ATR published the SB ATR42-31-0121 (later revised) to provide final modification instructions. Consequently, EASA issued AD 2023-0134, superseding AD 2021-0024, requiring the installation of a new equipment and, concurrently with that installation, removal of the AFM amendment.

Since that AD was issued, ATR published the SB 2, as defined in this AD, introducing additional work, to ensure the correct modification of the aeroplane.



For the reasons described above, this AD retains the requirements of EASA AD 2023-0134, which is superseded, and requires accomplishment of the additional work.

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

Required as indicated, unless accomplished previously:

#### **Re-statement of the requirements of EASA AD 2021-0024:**

##### **Inspection:**

- (1) For Group 1 and Group 2 aeroplanes: Within 2 months after 27 October 2020 [the effective date of EASA AD 2020-0221], accomplish a visual inspection of the affected wiring in accordance with the instructions of the AOM.

##### **Corrective Action(s):**

- (2) If, during the inspection as required by paragraph (1) of this AD, discrepancies are detected as identified in the AOM, before next flight, contact ATR for approved repair instructions and accomplish those instructions accordingly.

##### **Modification:**

- (3) For Group 1 aeroplanes: Within 12 months after 02 February 2021 [the effective date of EASA AD 2021-0024], modify the captain stick shaker wiring in accordance with the instructions of the SB 1.

##### **AFM Amendment:**

- (4) For Group 1 aeroplanes: Concurrently with modification of an aeroplane as required by paragraph (3) of this AD, amend the Systems Limitations section of the applicable AFM of that aeroplane by inserting the AFM change provided in Appendix 1 of this AD, inform all flight crews, and, thereafter, operate the aeroplane accordingly.
- (5) For Group 2 aeroplanes: Within 12 months after 02 February 2021 [the effective date of EASA AD 2021-0024], amend the Systems Limitations section of the applicable AFM of the aeroplane by inserting the AFM change provided in Appendix 1 of this AD, inform all flight crews, and, thereafter, operate the aeroplane accordingly.
- (6) Amending the applicable AFM of an aeroplane by incorporating a later approved AFM revision that contains the changes of Appendix 1 of this AD, is an acceptable method to comply with the requirements of paragraph (4) or (5) of this AD, as applicable, for that aeroplane.

##### **Modification:**

- (7) For Group 1 and 2 aeroplanes, except those that, before the effective date of this AD, have been modified in accordance with the instructions of ATR SB ATR42-31-0121 at original issue or Revision 01: Within 14 months after 19 July 2023 [the effective date of EASA AD 2023-0134], install the AOA power supply unit in accordance with the instructions of the SB 2.

##### **Additional Work:**

- (8) For Group 1 and 2 aeroplanes that, before the effective date of this AD, have been modified in accordance with the instructions of ATR SB ATR42-31-0121 at original issue or Revision 01: Within 750 flight hours or 6 months, whichever occurs first after the effective date of this AD,



accomplish the additional work as identified in, and in accordance with the instructions of, the SB 2.

**Removal of AFM Amendment:**

- (9) Before next flight after modification of an aeroplane in accordance with the instructions of ATR SB ATR42-31-0121 at any revision, remove the AFM amendment, as required by paragraph (4) or (5) of this AD, as applicable, from the AFM of that aeroplane.

**Alternative Method of Compliance:**

- (10) Modification of an aeroplane as required by paragraph (7) or (8) constitutes compliance with paragraphs (1) and (3) of this AD for the aeroplane.

**Ref. Publications:**

ATR AOM 2020/13 Issue 1 dated 28 September 2020, Issue 2 dated 14 October 2020, Issue 3 dated 09 November 2020, or Issue 4 dated 28 January 2021.

ATR SB ATR42-27-0113 original issue dated 09 December 2020, or Revision 01 dated 10 March 2021.

ATR SB ATR42-31-0121 original issue dated 12 May 2023, or Revision 01 dated 24 July 2023, or Revision 02 dated 13 September 2023.

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

**Remarks:**

1. This Proposed AD will be closed for consultation on 01 November 2023.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
3. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this PAD, and which may occur, or have occurred on a product, part or appliance not affected by this PAD, 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 PAD 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.
4. For any question concerning the technical content of the requirements in this PAD, 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).



**Appendix 1 – AFM amendment****27.2 Stick Pusher**

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In the take-off and landing phases the STICK PUSHER / SHAKER pushbutton must be selected to OFF.

	<b>1845 or 3442</b>
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In the take-off and landing phases the STICK PUSHER pushbutton must be selected to OFF.

