# Airworthiness Directive

**AD No.: 2021-0281**

**Issued: 17 December 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:**
AIRBUS

**Type/Model designation(s):**
A330 aeroplanes

Effective Date: 31 December 2021

TCDS Numbers: EASA.A.004

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2020-0205 dated 24 September 2020.

## ATA – Aircraft Flight Manual / Engine Bleed Air System – Amendment

## ATA 36 – Pneumatic – Engine Bleed Air System – Maintenance Tasks

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**Manufacturer(s):**
Airbus, formerly Airbus Industrie

**Applicability:**
Airbus A330-201, A330-202, A330-203, A330-223, A330-223F, A330-243, A330-243F, A330-301, A330-302, A330-303, A330-321, A330-322, A330-323, A330-341, A330-342, A330-343 and A330-743L aeroplanes, all manufacturer serial numbers.

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

**The applicable AFM TR:** Airbus A330 Aircraft Flight Manual (AFM) Temporary Revision (TR) 803 issue 1.0, A330 AFM TR 804 issue 1.0 and A330 AFM TR 805 issue 1.0, as applicable.

**The AOT:** Airbus Alert Operators Transmission (AOT) A36L004-20 Revision 01.

**The SB:** Airbus Service Bulletin (SB) A330-31-3279.

**The applicable concurrent SB:** Airbus SB 330-31-3028 and SB A330-31-3266, as applicable.

**Groups:** Group 1 aeroplanes are those that have Flight Warning Computer (FWC) software (SW) T9-2 standard (for all aeroplanes, except A330-743L aeroplanes), or T9-1 standard (for A330-743L aeroplanes) installed, or have earlier FWC SW standard installed.
Group 2 aeroplanes are those that have FWC SW T9-3 standard (for all aeroplanes, except A330-743L aeroplanes), or T9-2 standard (for A330-743L aeroplanes) installed, or have later FWC SW standard installed.

## Reason:

During A330 NEO certification exercise, it was identified that, for A330 CEO aeroplanes (including those in MRTT configuration), there is a risk of an engine bleed system over-temperature, without the engine bleed valve closing. In the case of an engine bleed system over-temperature, identified by an Electronic Centralised Aircraft Monitored (ECAM) message “AIR ENG 1(2) BLEED FAULT” or "AIR ENG 1+2 BLEED FAULT", the associated engine bleed valve should be automatically closed. If, however, the engine bleed valve remains jammed in open position, the manual closure normally requested by the ECAM procedure will not isolate the failed engine bleed air system.

This condition, if not corrected, could lead to damage of the bleed manifold and the ducts downstream of the engine bleed system and exposure of the surrounding structure to heat stress, possibly resulting in reduced structural integrity of the aeroplane.

To address this potential unsafe condition, Airbus issued the applicable AFM TR, as defined in this AD, to provide applicable procedures to be applied if an engine bleed over-temperature occurs, identified by the “AIR ENG 1(2) BLEED FAULT” or "AIR ENG 1+2 BLEED FAULT" ECAM caution messages, combined with the associated engine bleed valve jammed open. In addition, Airbus developed FWC SW T9-0 standard that allows removal of the applicable AFM TR. Additional FWC SW T9 standards are being developed, which will also allow removal of the applicable AFM TR. Consequently, EASA issued AD 2020-0205 to require amendment of the applicable AFM by incorporating the applicable AFM TR and operating the aeroplane accordingly. That AD also allowed, following embodiment of a certain FWC SW standard, removal of the applicable AFM TR.

Since that AD was published, Airbus issued the AOT to provide instructions to accomplish some maintenance actions. In addition, Airbus also issued the SB to introduce FWC SW T9-3 standard. This standard, among introduction of some other alerts, also introduces a level 3-red alert “AIR BLEED LEAK”.

For the reasons described above, this AD retains the requirements of EASA AD 2020-0205, which is superseded, and additionally requires accomplishment of certain maintenance actions. This AD also requires installation of FWC SW T9-3 standard. Finally, this AD prohibits installation on an aeroplane of certain FWC SW standards.

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

Required as indicated, unless accomplished previously:

**AFM Change:**

(1) For all aeroplanes, except those equipped with FWC SW T9-0 standard (or later standard): Within 30 days after 01 October 2020 [the effective date of EASA AD 2020-0205], amend the applicable AFM by incorporating the applicable AFM TR, as specified in Table 1 of this AD, inform all flight crews, and, thereafter, operate the aeroplane accordingly.

Table 1 – AFM Amendment

| Aeroplane Configuration | Applicable AFM TR |
|---|---|
| FWC SW pre-T6 or M6 standard installed | AFM TR 803 issue 1.0, for single engine bleed over-temperature, “AIR ENG 1(2) BLEED FAULT” ECAM caution |
| FWC SW T6 or M6 standard, Part Number (P/N) LA2E20202T60000 or P/N LA2E20202M60000, or later standard installed | AFM TR 804 issue 1.0, for single engine bleed over-temperature, “AIR ENG 1(2) BLEED FAULT” ECAM caution |
| FWC SW pre-T9-0 standard (any P/N prior to P/N LA2E20202T90000), or<br>FWC SW MRTT standard (P/N LA2E20202Mx0000 – x being a numerical value between 3 and 7 inclusive) installed | AFM TR 805 issue 1.0, for dual engine bleed over-temperature, “AIR ENG 1+2 BLEED FAULT” ECAM caution |

(2) Amending the applicable AFM of an aeroplane to incorporate a later AFM revision, which includes the applicable AFM TR, is an acceptable method to comply with the requirements of paragraph (1) of this AD for that aeroplane.

(3) After embodiment on an aeroplane of FWC SW T9-0 standard, P/N LA2E20202T90000 (or later standard and P/N), the operational procedure of the applicable AFM TR, as required by paragraph (1) of this AD, is no longer necessary and can be removed from the AFM of that aeroplane. See also paragraph (9) of this AD.

**Maintenance Actions:**

(4) For all aeroplanes: Within the compliance time specified in Table 2, as applicable and, thereafter, at intervals not to exceed the value specified in Table 3 of this AD, accomplish the maintenance tasks related to Class 3 Maintenance Message (MM) for failures involved in over-temperature scenario, in accordance with the instructions of the AOT.

Table 2 – Maintenance Class 3 MM

| | **Aeroplane** | **Compliance Time** (whichever occurs later **A or B**) |
|---|---|---|
| **A** | All, except A330-743L | 2 000 flight hours (FH) since aeroplane first flight |
| | A330-743L | 1 200 FH since aeroplane first flight |
| **B** | All, except A330-743L | 12 months or 2 000 FH, whichever occurs first after the effective date of this AD |
| | A330-743L | 12 months or 1 200 FH, whichever occurs first after the effective date of this AD |

Table 3

| Aeroplane | Interval |
|---|---|
| All, except A330-743L | 2 000 FH |
| A330-743L | 1 200 FH |

(5) For all aeroplanes: Before exceeding 12 months since aeroplane first flight or within 12 months after the effective date of this AD, whichever occurs later and, thereafter, at intervals not to exceed 12 months, accomplish the maintenance tasks related to hidden failures in equipment involved in “not isolated over-temperature” failure condition, in accordance with the instructions of the AOT.

**Corrective action(s):**

(6) If, during any action as required by paragraph (4) of this AD, any discrepancies are detected, within 1 500 FH (all aeroplanes except A330-743L aeroplanes) or within 400 FH (A330-743L aeroplanes), accomplish the applicable corrective action(s) in accordance with the instructions of the AOT.

(7) If, during any action as required by paragraph (5) of this AD, any discrepancies are detected, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of the AOT.

**Terminating Action(s) for the Maintenance Actions:**

(8) None.

**Modification:**

(9) For Group 1 aeroplanes: Within 18 months after the effective date of this AD, install FWC SW standard T9-3 (P/N LA2E20202930000) in accordance with the instructions of the SB. This new standard is obtained by replacement or reprogramming of the On-Board Replaceable Modules (OBRMs) from T7, T8.1 or T9 standard.

**Concurrent Requirements / Additional Modification:**

(10) Prior to or concurrent with modification of an aeroplane as required by paragraph (9) of this AD, depending on aeroplane configuration, as defined in the SB, modify that aeroplane in accordance with the instructions of the applicable concurrent SB.

**Related AD:**

(11) A Group 1 aeroplane that has been modified as required by paragraph (9) and, depending on aeroplane configuration, as required by paragraph (10) of this AD, remains compliant with the requirements of paragraph (2) of EASA AD 2020-0077.

**FWC SW Installation:**

(12) Do not install on any aeroplane any FWC SW standard T9-2 (for all aeroplanes, except A330-743L aeroplanes), or T9-1 (for A330-743L aeroplanes), or earlier, as required by paragraph (12.1) or (12.2) of this AD.

(12.1) For Group 1 aeroplanes: After modification of the aeroplane as required by paragraph (9) of this AD.

(12.2) For Group 2 aeroplanes: From the effective date of this AD.

**Ref. Publications:**

Airbus A330 AFM TR 803 issue 1.0, approved by EASA on 15 July 2020.

Airbus A330 AFM TR 804 issue 1.0, approved by EASA on 15 July 2020.

Airbus A330 AFM TR 805 issue 1.0, approved by EASA on 04 September 2020.

Airbus AOT A36L004-20 Revision 01 dated 27 October 2021.

Airbus SB A330-31-3279 original issue dated 02 December 2020.

Airbus SB 330-31-3028 original issue dated 25 May 1999, or Revision 1 dated 21 February 2000.

Airbus SB A330-31-3266 original issue dated 19 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 10 November 2021 as PAD 21-168 for consultation until 08 December 2021. 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.

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: AIRBUS – IIAL (Airworthiness Office), E-mail: airworthiness.a330-a340@airbus.com.