



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2023-1213; Project Identifier MCAI-2022-01615-T; Amendment 39-22561; AD 2023-20-02]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Airbus SAS Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 2022-18-12, which applied to all Airbus SAS Model A330-841 and -941 airplanes. AD 2022-18-12 required installing serviceable engine electronic control (EEC) software or EEC units having the serviceable software, limiting certain parts installation configurations, and prior or concurrent modification of EEC software. This AD was prompted by a determination that engine crystal icing protection could be (temporarily) lost if an erroneous total pressure value is provided by the airplane system, which is addressed through EEC software. This AD continues to require certain actions in AD 2022-18-12 and requires adding new limitations for intermixing of certain EEC software standards and a new operational limitation for engines with certain EEC software installed, as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. This AD also prohibits the installation of certain engines under certain conditions. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:**

*AD Docket:* You may examine the AD docket at regulations.gov under Docket No. FAA-2023-1213; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

*Material Incorporated by Reference:*

- For material incorporated by reference in this AD, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); website [easa.europa.eu](http://easa.europa.eu). You may find this material on the EASA website at [ad.easa.europa.eu](http://ad.easa.europa.eu).

- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available in the AD docket at regulations.gov under Docket No. FAA-2023-1213.

**FOR FURTHER INFORMATION CONTACT:** Tim Dowling, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 206-231-3667; email [timothy.p.dowling@faa.gov](mailto:timothy.p.dowling@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part

39 to supersede AD 2022-18-12, Amendment 39-22163 (87 FR 56561, September 15, 2022) (AD 2022-18-12). AD 2022-18-12 applied to all Airbus SAS Model A330-841 and -941 airplanes. 2022-18-12 required installing serviceable EEC software or EEC units having the serviceable software, limiting certain parts installation configurations, and prior or concurrent modification of EEC software. The FAA issued AD 2022-18-12 to address erroneous electronic centralized airplane monitoring (ECAM) engine oil pressure warnings, which could lead to dual engine in-flight shutdown and result in reduced control of the airplane.

The NPRM published in the *Federal Register* on June 16, 2023 (88 FR 39379). The NPRM was prompted by AD 2022-0253, dated December 19, 2022 (EASA AD 2022-0253) (also referred to as the MCAI), issued by EASA, which is the Technical Agent for the Member States of the European Union. The MCAI states that it has been determined that engine crystal icing protection could be (temporarily) lost if an erroneous total pressure value is provided by the airplane system, which, if not corrected, also could lead to dual engine in-flight shutdown and result in reduced control of the airplane. To address this unsafe condition, Rolls-Royce developed new EEC full-authority digital engine control software (EEC standard 5.3) for the affected Trent 7000 engines.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-1213.

In the NPRM, the FAA proposed to continue certain actions in AD 2022-18-12. The NPRM also proposed to require adding new limitations for intermixing of certain EEC software standards, and an operational limitation for airplanes having an engine with certain EEC software installed, as specified in EASA AD 2022-0253. The NPRM also proposed to prohibit the installation of certain engines under certain conditions. The FAA is issuing this AD to address the unsafe condition on these products.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received comments from Air Line Pilots Association, International (ALPA), who supported the NPRM without change.

The FAA received additional comments from a commenter, Delta Air Lines (Delta). The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Request for Exception to Operational Limitations**

Delta requested adding an exception to the operational limitations described in paragraph (7) of EASA AD 2022-0253, which Delta stated prohibits intermixing of software once the airplane has been modified to install EEC SW standard 5.3 on both engines. Delta stated that paragraph (7) of EASA AD 2022-0253 contradicts paragraph (4) of EASA AD 2022-0253, which allows intermixing certain software standards. Delta requested that the exception allow installation of an affected EEC unit, software, or engine if the airplane is operated under certain operational requirements. Delta reasoned that because the software can be installed on individual engines or EECs, an affected EEC unit or engine should be permitted to be installed on a modified airplane (i.e., go from having both engines updated and unaffected to having only one engine updated) as long as the configuration meets intermixing or interchangeability requirements and the 2-year limit specified in paragraph (6) of EASA AD 2022-0253 is not exceeded. Delta pointed out that allowing this would promote operational flexibility if an updated EEC unit or engine needs to be replaced and the only available EEC unit or engine has not been updated to EEC software standard 5.3. Delta added that it made a similar comment during EASA's rulemaking process for EASA AD 2022-0253 and that EASA clarified that paragraph (7) of EASA AD 2022-0253 didn't prohibit re-installing affected EEC software on the airplane. Delta recommended revising the Background

section, Related Service Information Under 1 CFR Part 51 section, and paragraph (h) of the proposed AD with the exceptions or clarifying changes.

The FAA agrees to clarify. Paragraph (7) of EASA AD 2022-0253 simply provides an acceptable method to comply with the operational limitations in paragraph (6) of EASA AD 2022-0253, which only becomes effective 2 years after the effective date of this AD. Paragraph (7) of EASA AD 2022-0253 does not prohibit intermixing or interchangeability before that date, but instead clarifies that changing the modified airplane configuration to install an affected EEC unit or engine would mean the airplane no longer complies with the operational limitations in paragraph (6) of EASA AD 2022-0253. The FAA has not changed this AD in this regard.

### **Conclusion**

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

### **Related Service Information Under 1 CFR Part 51**

EASA AD 2022-0253 specifies procedures for limitations for intermixing of certain EEC software and an operational limitation for engines with certain EEC software installed. EASA AD 2022-0253 specifies that installation of serviceable EEC software is acceptable for compliance with (terminates) the operational limitation, provided that no affected EEC software, affected EEC unit, or affected engine is subsequently installed on the airplane. EASA AD 2022-0253 also prohibits the installation of engines with certain

EEC software. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **Costs of Compliance**

The FAA estimates that this AD, affects 20 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

### Estimated costs for required actions

| Action  | Labor cost                                    | Parts cost | Cost per product | Cost on U.S. operators |
|---|---|------------|------------------|------------------------|
| Retained actions from AD 2022-18-12 (parts limitations) | 1 work-hours X \$85 per hour = \$85           | \$0        | \$85             | \$1,700                |
| New actions   | Up to 25 work-hours X \$85 per hour = \$2,125 | \$0*       | \$2,125          | \$42,500               |

\* The FAA has received no definitive data on which to base the cost estimates for the parts specified in this AD.

#### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

#### Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive (AD) 2022-18-12, Amendment 39-22163 (87 FR 56561, September 15, 2022); and

- b. Adding the following new AD:

**2023-20-02 Airbus SAS:** Amendment 39-22561; Docket No. FAA-2023-1213; Project Identifier MCAI-2022-01615-T.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces AD 2022-18-12, Amendment 39-22163 (87 FR 56561, September 15, 2022) (AD 2022-18-12).

#### **(c) Applicability**

This AD applies to all Airbus SAS Model A330-841 and -941 airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 73, Engine Fuel and Control.

**(e) Unsafe Condition**

This AD was prompted by a determination that engine crystal icing protection could be (temporarily) lost if an erroneous total pressure value is provided by the airplane system and the engine electronic control (EEC) software used to correct the system requires modification. This modification may conflict with EEC software to address erroneous electronic centralized airplane monitoring (ECAM) engine oil pressure warnings. The FAA is issuing this AD to address erroneous total pressure values being provided by the airplane system and any EEC software that should not be intermixed. The unsafe condition, if not addressed, could result in dual engine in-flight shut-down, and subsequent reduced control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Requirements**

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2022-0253, dated December 19, 2022 (EASA AD 2022-0253).

**(h) Exceptions to EASA AD 2022-0253**

(1) Where EASA AD 2022-0253 refers to its effective date, this AD requires using the effective date of this AD.

(2) Where EASA AD 2022-0253 refers to “10 September 2021,” this AD requires using October 20, 2022 (the effective date of AD 2022-18-12).

(3) Where EASA AD 2022-0253 refers to “10 September 2023,” this AD requires using October 20, 2024 (24 months after October 20, 2022, the effective date of AD 2022-18-12).

(4) This AD does not adopt the “Remarks” section of EASA AD 2022-0253.

**(i) Additional AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the International Validation Branch, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, International Validation Branch, FAA; or EASA; or Airbus SAS’s EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(3) *Required for Compliance (RC)*: Except as required by paragraph (i)(2) of this AD, if any service information contains procedures or tests that are identified as RC, those procedures and tests must be done to comply with this AD; any procedures or tests that are not identified as RC are recommended. Those procedures and tests that are not identified as RC may be deviated from using accepted methods in accordance with the operator’s maintenance or inspection program without obtaining approval of an AMOC,

provided the procedures and tests identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to procedures or tests identified as RC require approval of an AMOC.

**(j) Additional Information**

For more information about this AD, contact Tim Dowling, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 206-231-3667; email [timothy.p.dowling@faa.gov](mailto:timothy.p.dowling@faa.gov).

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2022-0253, dated December 19, 2022.

(ii) [Reserved]

(3) For EASA AD 2022-0253, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); website [easa.europa.eu](http://easa.europa.eu). You may find this EASA AD on the EASA website at [ad.easa.europa.eu](http://ad.easa.europa.eu).

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on September 27, 2023.

Victor Wicklund, Deputy Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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