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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-0229; Project Identifier AD-2023-00485-T; Amendment 39-22848; AD 2024-19-06]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain The Boeing Company Model 737-8 and Model 737-9 airplanes. This AD was prompted by a Boeing review of the standby power system control unit (SPCU) design where a single point of failure exists internal to the SPCU. This AD requires installing four diodes and changing wire bundles in the P5 panel, as well as performing installation and power tests and applicable on-condition actions. 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](https://www.regulations.gov) under Docket No. FAA-2024-0229; 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,

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 Boeing material identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; website myboeingfleet.com.

- 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 at regulations.gov under Docket No. FAA-2024-0229.

FOR FURTHER INFORMATION CONTACT: Raja Vengadasalam, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3537; email Raja.Vengadasalam@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 737-8 and Model 737-9 airplanes. The NPRM published in the *Federal Register* on February 14, 2024 (89 FR 11231). The NPRM was prompted by a Boeing review of the SPCU design where a single point of failure exists internal to the SPCU. In the NPRM, the FAA proposed to require installing four diodes and changing wire bundles in the P5 panel, as well as performing installation and power tests and applicable on-condition actions. The FAA is issuing this AD to address a potential single point of failure in the SPCU, which

can result in a non-latent loss of the entire battery bus and consequent un-announced loss of control and indication of both engine anti-ice (EAI) systems.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from eight commenters who supported the NPRM without change.

The FAA received additional comments from Alaska Airlines and two individuals. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request for a "Credit for Previous Actions" Paragraph

Alaska Airlines requested that the proposed AD be revised to include a "Credit for Previous Actions" paragraph that gives credit as specified in paragraph (h)(2), "Exceptions to Service Information Specifications," of the proposed AD. Alaska requested credit for "ACTION 3" in the Action column of the table in the "Compliance" paragraph of Boeing Alert Requirements Bulletin 737-30A1083 RB, dated November 18, 2022, for airplanes on which the requirements bulletin was embodied prior to the effective date of this AD.

The FAA disagrees with revising this AD to include a "Credit for Previous Actions" paragraph in this AD. Paragraph (f), "Compliance," of this AD provides credit for required actions performed before the effective date of this AD. The FAA has not changed this AD as a result of this comment.

Request for Clarification of AD Actions

An individual was supportive, but requested clarification of whether the proposed AD adequately addresses the unsafe condition to prevent the single point of failure addressed by the proposed AD. The commenter also questioned what is being done so this condition does not occur again, and whether this is the only issue with this airplane

design. The commenter also requested clarification of whether the affected airplanes would be grounded until the proposed AD actions are completed.

The FAA worked with Boeing to develop appropriate actions, i.e., the diode installation and wire bundle change, using the procedures specified in Boeing Alert Requirements Bulletin 737-30A083 RB, dated November 18, 2022, to address the identified unsafe condition in this AD. This particular issue is the only one addressed by this AD. The FAA continuously evaluates operator and manufacturer reports and other data in order to promote safe type certification and production. Operators are required to comply with all applicable actions of an AD within the required compliance time and cannot later undo those required actions. The FAA's safety analysis has determined that the compliance time for corrective action in this AD provides an acceptable level of safety. The FAA has not changed this AD as a result of this comment.

Request for FAA's Approach to Continued Operational Safety

Another individual stated that the AD "prompted a review of" the SPCU and "found a design flaw." The commenter acknowledged that the proposed AD would address the underlying problem, but questioned how long the condition has existed, whether the SPCU review addresses all systems on these airplanes, and whether affected airplanes remain in service until the concerns are addressed. This commenter stated that a deeper review into other models and ways to address these issues must be investigated.

The FAA provides the following clarification. This AD did not prompt the SPCU review; rather, after the SPCU review conducted by Boeing, the FAA determined that an AD was necessary and appropriate to address the unsafe condition. The FAA continuously receives and evaluates performance and safety data from operators and manufacturers on all type-certificated airplanes. The FAA takes corrective action—whether advisory such as an advisory circular or mandatory such as an AD—as warranted by the facts. The FAA has not changed this AD as a result of this comment.

Conclusion

The FAA reviewed the relevant data, considered any 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 these products. 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.

Material Incorporated by Reference Under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin 737-30A083 RB, dated November 18, 2022. This material specifies procedures for installing four diodes and changing wire bundles in the P5 panel, as well as performing an anti-ice diode installation test and an engine anti-ice and wing anti-ice power test and applicable on-condition actions. On-condition actions include doing applicable corrective actions until the tests are passed.

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 205 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Installation, Wiring bundle changes, and tests	Up to 18 work-hours X \$85 per hour = Up to \$1,530	Up to \$3,760	Up to \$5,290	Up to \$1,084,450

The FAA has received no definitive data on which to base the cost estimates for the on-condition actions specified in this AD.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

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 adding the following new airworthiness directive:

2024-19-06 The Boeing Company: Amendment 39-22848; Docket No. FAA-2024-0229; Project Identifier AD-2023-00485-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

None.

(c) Applicability

This AD applies to The Boeing Company Model 737-8 and 737-9 airplanes, certificated in any category, having a line number identified in paragraph 1.A., “Effectivity,” of Boeing Alert Requirements Bulletin 737-30A1083 RB, dated November 18, 2022.

(d) Subject

Air Transport Association (ATA) of America Code 30, Ice/Rain Protection System.

(e) Unsafe Condition

This AD was prompted by a Boeing review of the standby power system control unit (SPCU) design that determined a potential single point of failure exists in the SPCU. The FAA is issuing this AD to address a potential single point of failure in the SPCU, which can result in a non-latent loss of the entire battery bus and consequent unannounced loss of control and indication of both engine anti-ice (EAI) systems. The unsafe condition, if not addressed, could result in loss of thrust on both engines due to damage from operation in icing conditions without EAI and can result in loss of continued safe flight and landing.

(f) Compliance

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

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-30A1083 RB, dated November 18, 2022, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 737-30A1083 RB, dated November 18, 2022.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 737-30A1083, dated November 18, 2022, which is referred to in Boeing Alert Requirements Bulletin 737-30A1083 RB, dated November 18, 2022.

(h) Exceptions to Service Information Specifications

(1) Where the Compliance Time columns of the table in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-30A1083 RB, dated November 18, 2022, uses the phrase “the original issue date of Requirements Bulletin 737-30A1083 RB,” this AD requires using the effective date of this AD.

(2) Where “ACTION 3” in the Action column of the table in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 737-30A1083 RB, dated November 18, 2022, specifies to do applicable corrective actions and repeat the test until the test passes if any test fails, for this AD, the compliance time for those actions is before further flight after accomplishing the test.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR-520, Continued Operational Safety 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 manager of AIR-520, Continued Operational Safety Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, AIR-520, Continued Operational Safety Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(j) Related Information

(1) For more information about this AD, contact Raja Vengadasalam, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3537; email Raja.Vengadasalam@faa.gov.

(2) Material identified in this AD that is not incorporated by reference is available at the addresses specified in paragraph (k)(3) of this AD.

(k) Material Incorporated by Reference

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

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

(i) Boeing Alert Requirements Bulletin 737-30A1083 RB, dated November 18, 2022.

(ii) [Reserved]

(3) For Boeing material identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; website myboeingfleet.com.

(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 at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations.html or email fr.inspection@nara.gov.

Issued on September 13, 2024.

Peter A. White,
Deputy Director, Integrated Certificate Management Division,
Aircraft Certification Service.

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