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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2017-1022; Product Identifier 2017-NM-098-AD; Amendment 39-19357; AD 2018-17-03]**

**RIN 2120-AA64**

#### **Airworthiness Directives; The Boeing Company Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 787-8 and 787-9 airplanes. This AD was prompted by reports of failures of the lip heater assemblies of the inlet ice protection system of the cabin air compressor (CAC) due to chafing. This AD requires changing the airplane electrical connectors and the routes of certain wire bundles, and installing new or modified left and right CAC inlet duct assemblies. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective September 19, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of September 19, 2018.

**ADDRESSES:** For service information identified in this final rule, 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; internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Transport Standards 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 on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1022.

#### **Examining the AD Docket**

You may examine the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-1022; 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 regulatory evaluation, any comments received, and other information. The address for Docket

Operations (phone: 800-647-5527) is Docket Operations, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Joe Saleme, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3536; email: joe.salameh@faa.gov.

**SUPPLEMENTARY INFORMATION:**  
**Discussion**

We 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 787-8 and 787-9 airplanes. The NPRM published in the Federal Register on November 17, 2017 (82 FR 54302). The NPRM was prompted by reports of failures of the CAC inlet ice protection system (CIPS) inlet lip heater assemblies due to chafing of the CIPS inlet lip heater wire harness against adjacent structures. The NPRM proposed to require changing the airplane electrical connectors and the routes of certain wire bundles, and installing new or modified left and right CAC inlet duct assemblies. We are issuing this AD to address any damage to the CIPS inlet lip heater wire bundle, which could cause an electrical short and potential loss of functions essential for safe flight of the airplane.

**Comments**

We gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

**Request for Clarification of Affected Spare Parts**

Oman Air requested clarification regarding whether the proposed AD applies only to the airplane line numbers specified in the service information, or whether the proposed AD would also require modification of spare ducts.

Oman Air stated that the applicability in the proposed AD includes those airplanes that are specified in Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 001, dated March 22, 2017. Oman Air also stated that the service information also affects spare CAC inlet duct assemblies with part numbers specified in the service information. Oman Air commented that the service information recommended that the spares be modified in accordance with Boeing Alert Service Bulletin B787-81205-SB300019-00, or any later FAA-approved revision. Oman Air stated that there is no mention of spares in the proposed rule, no compliance time associated with the spares, and no parts installation prohibition paragraph.

We agree to clarify. This AD applies only to the airplanes specified in the applicability, which includes Boeing Model 787-8 and 787-9 airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 002, dated April 20, 2018. Modification of spare parts is not required by this AD because operators must maintain affected airplanes in the required configuration. The FAA is not mandating action on spare parts, but an operator that wants to use those parts and not discard them must do the modification using the component service information. In addition, the existing spare parts cannot be installed after the accomplishment of Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 001, dated March 22, 2017, because the electrical connectors are different due to the modifications in the component service information and the airplane service information. We have not changed this AD in this regard.

## **Request To Use the Information Notice**

All Nippon Airways (ANA), Boeing, and United Airlines (UAL) requested that the FAA use Boeing Information Notice B787-A-30-00-0019-02A-931E-D, Issue 001, dated December 15, 2017, as a source when referencing Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 001, dated March 22, 2017. Boeing stated that the information notice informs operators of a wire termination reference error that does not affect system function or airplane safety. ANA stated that the correction in the information notice must be incorporated in conjunction with the incorporation of Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 001, dated March 22, 2017. UAL stated that the use of the information notice would avoid unnecessary requests for alternative methods of compliance (AMOC).

We agree with the commenters. We agree that the information notice corrects a wiring termination reference error for certain configurations to make it consistent with the 787 Wiring Diagram Manual and that accomplishing the service information with the wiring error does not affect system function or airplane safety. The manufacturer has revised the service information to correct the wiring termination reference error; therefore, we have revised paragraph (g) of this AD to require accomplishment of the actions in accordance with Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 002, dated April 20, 2018. We have also added paragraph (h) to this AD to give credit for actions completed before the effective date of this AD using Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 001, dated March 22, 2017. In addition, we have given credit for Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 001, dated March 22, 2017, in conjunction with Boeing Information Notice B787-A-30-00-0019-02A-931E-D, Issue 001, dated December 15, 2017. We redesignated subsequent paragraphs accordingly.

## **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

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

We reviewed Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 002, dated April 20, 2018. This service information describes procedures for changing the airplane electrical connectors and the routes of certain wire bundles, and installing new or modified left and right CAC inlet duct assemblies. This service information 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**

We estimate that this AD affects 66 airplanes of U.S. registry. We estimate 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
Change and installation	20 work-hours × \$85 per hour = \$1,700	\$32,937	\$34,637	\$2,286,042

According to the manufacturer, all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

#### 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.

We are 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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

#### 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) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

#### Adoption of 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 (AD):



**2018-17-03 The Boeing Company:** Amendment 39-19357; Docket No. FAA-2017-1022; Product Identifier 2017-NM-098-AD.

**(a) Effective Date**

This AD is effective September 19, 2018.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company Model 787-8 and 787-9 airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 002, dated April 20, 2018.

**(d) Subject**

Air Transport Association (ATA) of America Code 30, Ice/Rain protection system wiring.

**(e) Unsafe Condition**

This AD was prompted by reports of failures of the Cabin Air Compressor (CAC) inlet ice protection system (CIPS) inlet lip heater assemblies due to chafing of the CIPS inlet lip heater wire harness against adjacent structures. We are issuing this AD to address any damage to the CIPS inlet lip heater wire bundle, which could cause an electrical short and potential loss of functions essential for safe flight of the airplane.

**(f) Compliance**

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

**(g) Required Actions**

Within 36 months after the effective date of this AD, do all applicable actions identified as "RC" (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 002, dated April 20, 2018.

**(h) Credit for Previous Actions**

(1) This paragraph provides credit for the actions specified in paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 001, dated March 22, 2017.

(2) This paragraph provides credit for the actions specified in paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 001, dated March 22, 2017, in conjunction with Boeing Information Notice B787-A-30-00-0019-02A-931E-D, Issue 001, dated December 15, 2017.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO 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 local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district 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 Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, 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.

(4) For service information that contains steps that are labeled as RC, the provisions of paragraphs (i)(4)(i) and (i)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled 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 RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

**(j) Related Information**

For more information about this AD, contact Joe Salemech, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th Street, Des Moines, WA 98198; phone and fax: 206-231-3536; email: joe.salamech@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 the AD specifies otherwise.

(i) Boeing Alert Service Bulletin B787-81205-SB300019-00, Issue 002, dated April 20, 2018.

(ii) Reserved.

(3) For Boeing service information 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; internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Standards 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 service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on August 5, 2018.

Michael Kaszycki,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.