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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0480; Directorate Identifier 2010-NM-035-AD; Amendment 39-17139; AD 2012-15-10]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 747-400 and 747-400D series airplanes. This AD was prompted by a report of an in-flight multi-power system loss of the 1, 2, and 3 alternating current electrical power systems located in the main equipment center (MEC). This AD requires installing aluminum gutter reinforcing brackets to the forward and aft drip shield gutters of the MEC; and adding a reinforcing fiberglass overcoat to the top surface of the MEC drip shield, including an inspection for cracking and holes in the MEC drip shield, and corrective actions if necessary. This AD also provides for an option to install an MEC drip shield drain system, which, if accomplished, would extend the compliance time for adding the reinforcing fiberglass overcoat to the top surface of the MEC drip shield. We are issuing this AD to prevent water penetration into the MEC, which could result in the loss of flight critical systems.

DATES: This AD is effective September 11, 2012.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of September 11, 2012.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document

Management Facility, 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: Francis Smith, Aerospace Engineer, Cabin Safety and Environmental Systems Branch, ANM-150S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6596; fax: 425-917-6590; email: francis.smith@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to the specified products. That SNPRM published in the Federal Register on March 5, 2012 (77 FR 13043). The original NPRM (75 FR 27966, May 19, 2010) proposed to require installing aluminum gutter reinforcing brackets to the forward and aft drip shield gutters of the MEC; and adding a reinforcing fiberglass overcoat to the top surface of the MEC drip shield, including an inspection for cracking and holes in the MEC drip shield, and corrective actions if necessary. That NPRM also provided for an option to install an MEC drip shield drain system, which, if accomplished, would extend the compliance time for adding the reinforcing fiberglass overcoat to the top surface of the MEC drip shield. The SNPRM proposed to revise the locating dimensions of the brackets and change the routing of the forward drain tubes.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal (77 FR 13043, March 5, 2012) and the FAA's response to each comment.

Concurrence With Supplemental NPRM (77 FR 13043, March 5, 2012)

Boeing concurs with the contents of the proposed rule (77 FR 13043, March 5, 2012).

Request To Extend Compliance Time

United Airlines (UAL) requested an extension of the compliance time from 24 months to 48 months to accomplish the actions in paragraph (g)(1) of the supplemental NPRM (77 FR 13043, March 5, 2012). UAL stated that based on parts availability and its normal maintenance schedule, a 48-month compliance time would save costs and would allow time for the operators to perform the terminating action without having to perform the interim action, which would permanently add 26 lbs. to the airplane.

We do not agree with the commenter's request to extend the compliance time. In developing an appropriate compliance time for this action, we considered the safety implications, parts availability, and normal maintenance schedules for the timely accomplishment of the modification. In consideration of these items, as well as the reports of multi-power system loss affecting flight-critical systems of an airplane in flight, we have determined that a 24-month compliance time will ensure an acceptable level of safety and allow the modifications to be done during scheduled maintenance intervals for most affected operators. The interim action is provided to give operators additional time to perform the more time-consuming action of accessing the necessary locations to perform the terminating action. We have not changed the AD in this regard.

Request To Reduce Compliance Time

Cara Leigh Bitton (Weber State University) concurred with the actions proposed by the supplemental NPRM (77 FR 13043, March 5, 2012), but questioned why the compliance time would need to be extended for adding the reinforcing fiberglass overcoat to the top surface of the MEC drip shield, as required by paragraph (g)(2)(ii) of the supplemental NPRM. The commenter noted the risk and the importance to the passengers and crew of these airplanes. The commenter contended these changes should be made as soon as possible.

We infer the commenter is requesting we reduce the compliance time in paragraph (g)(2)(ii) of this AD. We disagree with the commenter's request. In developing an appropriate compliance time for adding the reinforcing fiberglass overcoat to the top surface of the MEC drip shield, we considered the safety implications, parts availability, and normal maintenance schedules for timely accomplishment of replacement of the fasteners. Further, we arrived at the compliance time with operator and manufacturer concurrence.

In consideration of these factors, we determined that the compliance time, as proposed and retained in this final rule, represents an appropriate interval in which operators can install the modification in a timely manner within the fleet, while still maintaining an adequate level of safety. Operators are always permitted to accomplish the requirements of an AD at a time earlier than the specified compliance time; therefore, an operator may choose to add the reinforcing fiberglass overcoat before the specified compliance time of 96 months after the effective date of this AD.

In addition, the purpose of two different compliance times is to provide a more immediate solution to the safety risk of cracked MEC drip shields by installing aluminum reinforcing brackets (i.e., an interim corrective action that specifies installing drains for the water to travel away from the MEC drip shield), and adding a reinforcing fiberglass overcoat to the top surface of the MEC drip shield (i.e., the long-term corrective action). Reducing the compliance time for the terminating action is not necessary based on the safety risk for affected operators of Model 747-400 and 747-400D airplanes. If additional data are presented that would justify a shorter compliance time, we may consider further rulemaking on this issue. However, we have not changed the AD in this regard.

Request To Correct Discrepancies

An email thread between ST Aerospace and The Boeing Company was forwarded to the FAA by The Boeing Company as an ex parte request that we reference a pending service bulletin revision planned by The Boeing Company. The pending service bulletin will address discrepant quantities of nut plates and types of fasteners called out in Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011, which affects certain airplanes operated by ST Aerospace.

We disagree that a change to the AD is needed, because the ST Aerospace configuration affects a very small number of the airplanes listed in Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011. Furthermore, doing the actions specified in Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011, addresses the identified unsafe condition. Operators are allowed to use different types of fasteners, as specified in Note 7. of paragraph 3.A., "Accomplishment Instructions," of Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011. However, if an operator has a different airplane configuration that might use a different quantity of nut plates than what is specified in Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011, they may request an alternative method of compliance (AMOC) in accordance with paragraph (i) of the final rule. In addition, if a later revision of the referenced service bulletin is issued, affected operators may request approval to use a later revision as an AMOC, under the provisions of paragraph (i) of the final rule. We have not changed the AD in this regard.

Changes to the AD

Boeing has issued Information Notice 747-25A3555 IN 04, dated February 10, 2012, to inform operators of airplanes in groups 1, 2 and 3 of incorrect applicability tags specified in Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011. We have included this corrected information in new paragraph (h) of this AD, and changed the subsequent paragraph identifiers accordingly.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the SNPRM (77 FR 13043, March 5, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the SNPRM (77 FR 13043, March 5, 2012).

Costs of Compliance

We estimate that this AD affects 71 airplanes of U.S. registry.
We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Install brackets	19 work-hours × \$85 per hour = \$1,615	Up to \$2,408 ¹	Up to \$4,023 ¹	Up to \$285,633. ¹
Add overcoat	63 work hours × \$85 per hour = \$5,355	\$1,731 (\$577 × 3)	\$7,086	\$503,106.
Install optional MEC drip shield drain system.	22 work hours × \$85 per hour = \$1,870	Up to \$8,982 ¹	Up to \$10,852 ¹	Up to \$770,492. ¹

¹ Depending on work package.

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.

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):



2012-15-10 The Boeing Company: Amendment 39-17139; Docket No. FAA-2010-0480; Directorate Identifier 2010-NM-035-AD.

(a) Effective Date

This AD is effective September 11, 2012.

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 747-400 and 747-400D series airplanes; certificated in any category; as identified in Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 25, Equipment/Furnishings.

(e) Unsafe Condition

This AD was prompted by a report of an in-flight multi-power system loss of the 1, 2, and 3 alternating current electrical power systems located in the main equipment center (MEC). We are issuing this AD to prevent water penetration into the MEC, which could result in loss of flight critical systems.

(f) Compliance

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

(g) Modification

Except as required by paragraph (h) of this AD, do the actions specified in either paragraph (g)(1) or (g)(2) of this AD.

(1) Within 24 months after the effective date of this AD, install aluminum reinforcing brackets on the MEC drip shield gutter, in accordance with Work Package 1 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011; and add a reinforcing fiberglass overcoat to the top surface of the MEC drip shield, including doing a general visual inspection for cracking and holes in the top surface of the MEC drip shield, and doing all applicable corrective actions, in accordance with Work Package 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011. Do all applicable corrective actions before further flight after doing the general visual inspection.

(2) Do the actions specified in paragraphs (g)(2)(i) and (g)(2)(ii) of this AD.

(i) Within 24 months after the effective date of this AD, install aluminum reinforcing brackets on the MEC drip shield gutter, in accordance with Work Package 1 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011; and install a MEC drip shield drain system, in accordance with Work Package 2 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011.

(ii) Within 96 months after the effective date of this AD, add a reinforcing fiberglass overcoat to the top surface of the MEC drip shield, including doing a general visual inspection for cracking and holes in the top surface of the MEC drip shield, and doing all applicable corrective actions, in accordance with Work Package 3 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011. Do all applicable corrective actions before further flight after doing the general visual inspection.

(h) Exceptions

(1) Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011, states that Figures 7 and 8 apply to airplanes in Groups 1 and 3; however, Figures 7 and 8 apply to Group 2 airplanes.

(2) Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011, states that Figures 9 and 10 apply to airplanes in Group 2; however, Figures 9 and 10 apply to Groups 1 and 3 airplanes.

(3) Where Paragraph 1., "Kits/Parts," of Paragraph 2.C., "Parts Necessary for Each Airplane," of Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011, states that Groups 1 and 3 airplanes require top kits 015U1854-1 and 015U1854-2, Groups 1 and 3 airplanes require top kits 015U1854-3 and 015U1854-4.

(4) Where Paragraph 1., "Kits/Parts," of Paragraph 2.C., "Parts Necessary for Each Airplane," of Boeing Alert Service Bulletin 747-25A3555, Revision 1, dated July 27, 2011, states that Group 2 airplanes require top kits 015U1854-3 and 015U1854-4, Group 2 airplanes require top kits 015U1854-1 and 015U1854-2.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), 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 ACO, send it to the attention of the person identified in the Related Information section 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.

(j) Related Information

For more information about this AD, contact Francis Smith, Aerospace Engineer, Cabin Safety and Environmental Systems Branch, ANM-150S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6596; fax: 425-917-6590; email: francis.smith@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 747-25A3555, Revision 1, dated July 27, 2011.

(ii) Reserved.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

(4) You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may also review copies of the 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 Renton, Washington, on July 20, 2012.

Kalene C. Yanamura,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.