

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0275; Directorate Identifier 2009-NM-231-AD; Amendment 39-16344; AD 2010-14-01]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400F, 747SR, and 747SP Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400F, 747SR, and 747SP series airplanes. This AD requires reworking or replacing certain duct assemblies in the environmental control system (ECS). This AD results from reports of duct assemblies in the ECS with burned Boeing Material Specification (BMS) 8-39 polyurethane foam insulation. This proposed AD also results from a report from the airplane manufacturer that airplanes were assembled with duct assemblies in the ECS wrapped with BMS 8-39 polyurethane foam insulation, a material of which the fire retardant properties deteriorate with age. We are issuing this AD to prevent a potential electrical arc from igniting the BMS 8-39 polyurethane foam insulation on the duct assemblies of the ECS, which could propagate a small fire and lead to a larger fire that might spread throughout the airplane through the ECS.

DATES: This AD is effective August 5, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of August 5, 2010.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail me.boecom@boeing.com; 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 (telephone 800-647-5527) is the 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: Sue McCormick, Aerospace Engineer, Cabin Safety and Environmental Systems Branch, ANM-150S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (303) 342-1082; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to certain Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400F, 747SR, and 747SP series airplanes. That NPRM was published in the Federal Register on April 12, 2010 (75 FR 18446). That NPRM proposed to require reworking or replacing certain duct assemblies in the environmental control system (ECS).

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received. The Boeing Company concurs with the contents of the NPRM, and Delta Airlines states that it is not affected by the NPRM.

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.

Costs of Compliance

There are about 558 airplanes of the affected design in the worldwide fleet. The average labor rate is \$85 per work-hour. The following table provides the estimated costs for U.S. operators to comply with this AD.

Estimated Costs					
Action	Work hours	Parts cost, per airplane	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Duct assembly rework, specified in Boeing Service Bulletin 747-21A2421	8 per duct (average of 130 ducts per airplane)	\$12,305 (average)	\$100,705 (average)	185	\$18,630,425

Duct assembly rework or replacement, specified in Boeing Service Bulletin 747-21A2422	1 per duct (1 duct per airplane)	The manufacturer states that it will supply required parts to the operators at no cost.	\$85	Up to 168	Up to \$14,280
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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), 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.

You can find our regulatory evaluation and the estimated costs of compliance in the AD Docket.

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 AD:



2010-14-01 The Boeing Company: Amendment 39-16344. Docket No. FAA-2010-0275; Directorate Identifier 2009-NM-231-AD.

Effective Date

(a) This airworthiness directive (AD) is effective August 5, 2010.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the airplanes specified in paragraphs (c)(1) and (c)(2) of this AD, certificated in any category.

(1) The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747SR, and 747SP series airplanes identified in Boeing Service Bulletin 747-21A2421, Revision 2, dated December 19, 2006.

(2) The Boeing Company Model 747-100, 747-100B, 747-200B, 747-200C, 747-200F, 747-300, 747-400F, 747SR, and 747SP series airplanes identified in Boeing Service Bulletin 747-21A2422, Revision 2, dated November 16, 2006.

Subject

(d) Air Transport Association (ATA) of America Code 21: Air conditioning.

Unsafe Condition

(e) This AD results from reports of duct assemblies in the environmental control system (ECS) with burned Boeing Material Specification (BMS) 8-39 polyurethane foam insulation. This AD also results from a report from the airplane manufacturer that airplanes were assembled with duct assemblies in the ECS wrapped with BMS 8-39 polyurethane foam insulation, a material of which the fire retardant properties deteriorate with age. We are issuing this AD to prevent a potential electrical arc from igniting the BMS 8-39 polyurethane foam insulation on the duct assemblies of the ECS, which could propagate a small fire and lead to a larger fire that could spread throughout the airplane through the ECS.

Compliance

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

ECS Duct Assembly Rework or Replacement

(g) Within 72 months after the effective date of this AD, rework or replace the applicable duct assemblies in the ECS specified in and in accordance with the Accomplishment Instructions and Appendices A through F of Boeing Service Bulletin 747-21A2421, Revision 2, dated December 19, 2006 (for Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747SR, and 747SP series airplanes); and the Accomplishment Instructions and Appendices A through C of Boeing Service Bulletin 747-21A2422, Revision 2, dated November 16, 2006 (for Model 747-100, 747-100B, 747-200B, 747-200C, 747-200F, 747-300, 747-400F, 747SR, and 747SP series airplanes).

Parts Installation

(h) As of the effective date of this AD, no person may install an ECS duct assembly with BMS 8-39 polyurethane foam insulation on any airplane.

Alternative Methods of Compliance (AMOCs)

(i)(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. Send information to ATTN: Sue McCormick, Aerospace Engineer, Cabin Safety and Environmental Systems Branch, ANM-150S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (303) 342-1082; fax (425) 917-6590. Or, e-mail information to 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

Material Incorporated by Reference

(j) You must use Boeing Service Bulletin 747-21A2421, Revision 2, dated December 19, 2006; or Boeing Service Bulletin 747-21A2422, Revision 2, dated November 16, 2006; as applicable; to do the actions required by this AD, unless the AD specifies otherwise.

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

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

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

(4) 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on June 17, 2010.
Robert D. Breneman,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.