



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-7527; Directorate Identifier 2015-NM-094-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 777-200, -200LR, -300, and -300ER series airplanes. This proposed AD was prompted by a report indicating that the manufacturer discovered locations where the control components and wiring of the left and right engine fuel spar valves do not have adequate physical separation to meet the redundant system separation requirements. This proposed AD would require modifying the wiring, and installing a new relay bracket and new location for the relay on the left and right engine fuel spar valves. This proposed AD would also require an inspection to identify the part number of the motor operated valve (MOV) actuators for the left and right engine fuel spar valves; replacement of specified MOV actuators with new MOV actuators; certain bonding resistance measurements; and applicable corrective actions. We are proposing this AD to prevent loss of control of both the left and right engine fuel spar valves during a single event, such as local wire bundle damage or a wire bundle fire, which could cause both engines to shut down or result in the inability to control an engine fire.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed 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>. You may view this 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-7527.

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-2015-7527; 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Georgios Roussos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft

Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone: 425-917-6482; fax: 425-917-6590; email: georgios.roussos@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2015-7527; Directorate Identifier 2015-NM-094-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received a report indicating that the manufacturer discovered locations where the control components and wiring of the left and right engine fuel spar valve do not have adequate physical separation to meet the redundant system separation requirements. The control relays for both the left and right engine fuel spar valves are located in the same panel, and the left and right fuel spar valve control wiring is routed in common wire bundles and share the same electrical connectors. This condition, if not corrected, could result in loss of control of both the left and right engine fuel spar valves during a single event, such as local wire bundle damage or a wire bundle fire, which could cause both engines to shut down or result in the inability to control an engine fire.

Related Service Information under 1 CFR part 51

We reviewed Boeing Special Attention Service Bulletin 777-28-0061, Revision 2, dated May 4, 2015. The service information describes procedures for modifying the wiring, and installing a new relay bracket and new location for the relay on the left and right engine fuel spar valves.

We have also reviewed Boeing Service Bulletin 777-28A0034, Revision 3, dated September 25, 2015. The service information describes procedures for an inspection of the MOV actuators of the left and right engine fuel spar valves for part number (P/N) MA20A1001-1, replacement of MOV actuators, measurement of the electrical resistance of the bond from the adapter plate to the airplane structure, and applicable corrective actions.

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 of this NPRM.

Other Relevant Rulemaking

AD 2013-05-03, Amendment 39-17375 (78 FR 17290, March 21, 2013), was issued for certain Model 777-200, -200LR, -300, and -300ER series airplanes.

AD 2013-05-03 requires an inspection to identify the part number of the MOV actuators of the main and center fuel tanks; replacing certain MOV actuators with new MOV actuators; and measuring the electrical resistance of the bond from the adaptor plate to the airplane structure, and doing corrective actions if necessary. AD 2013-05-03 refers to Boeing Service Bulletin 777-28A0034, Revision 2, dated September 20, 2010, as the appropriate source of service information for accomplishing the required actions.

In addition, AD 2015-19-01, Amendment 39-18264 (80 FR 55521, September 16, 2015), requires revising the maintenance or inspection program to add a new airworthiness limitation for a repetitive inspection of the fuel spar valve.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously.

Costs of Compliance

We estimate that this proposed AD affects 133 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Installation and modification	119 work-hours X \$85 per hour = \$10,115	Up to \$3,780 depending on airplane configuration	Up to \$13,895 depending on airplane configuration	Up to \$1,848,035 depending on airplane configuration
Inspection of MOV Actuators [concurrent requirements]	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$11,305

We estimate the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need these replacements:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Replacement of MOV actuators for the left and right engine fuel spar valves.	Up to 105 work-hours X \$85 per hour = \$8,925	Up to \$10,954	Up to \$19,879
Bonding resistance measurements	1 work-hour X \$85 per hour = \$85	\$0	\$85

We have received no definitive data on the costs of the corrective actions for the bonding resistance measurement in this proposed 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.

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

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the 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.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

The Boeing Company: Docket No. FAA-2015-7527; Directorate Identifier 2015-NM-094-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

The Boeing Company Model 777-200, -200LR, -300, and -300ER series airplanes, certificated in any category, as identified in Boeing Special Attention Service Bulletin 777-28-0061, Revision 2, dated May 4, 2015.

(d) Subject

Air Transport Association (ATA) of America Code 2822, Fuel Boost Pump.

(e) Unsafe Condition

This AD was prompted by a report indicating that the manufacturer discovered locations where the control components and wiring of the left and right engine fuel spar valves do not have adequate physical separation to meet the redundant system separation requirements. We are issuing this AD to prevent loss of control of both the left and right engine fuel spar valves during a single event, such as local wire bundle damage or a wire bundle fire, which could cause both engines to shut down or result in the inability to control an engine fire.

(f) Compliance

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

(g) Installation and Modification

Within 60 months after the effective date of this AD, modify the wiring and install a new relay bracket and new location for the relay on the left and right engine fuel spar valves, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-28-0061, Revision 2, dated May 4, 2015.

(h) Concurrent Requirements

(1) Prior to or concurrently with accomplishing the requirements of paragraph (g) of this AD: Do an inspection of the motor operated valve (MOV) actuators of the left and right engine fuel spar valves for part number (P/N) MA20A1001-1, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-28A0034, Revision 3,

dated September 25, 2015. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number can be conclusively determined from that review.

(2) If any MOV actuator having P/N MA20A1001-1 is found during the inspection required by paragraph (h)(1) of this AD, prior to or concurrently with accomplishing the requirements of paragraph (g) of this AD, replace the MOV actuator with either a new or serviceable MOV actuator having P/N MA30A1001, MA30A1017, MA20A2027, or with an MOV actuator that meets the criteria specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this AD; and, as applicable, measure the electrical resistance of the bond from the adapter plate to the airplane structure and, before further flight, do all applicable corrective actions. All actions specified in this paragraph for the left and right engine fuel spar valves must be done in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-28A0034, Revision 3, dated September 25, 2015.

(i) The replacement MOV actuator must be a Boeing part that is approved after the issuance of Boeing Service Bulletin 777-28A0034, Revision 3, dated September 25, 2015, by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to approve the part.

(ii) The replacement MOV actuator must be fully interchangeable with the part specified in Boeing Service Bulletin 777-28A0034, Revision 3, dated September 25, 2015.

(i) Credit for Previous Actions

(1) This paragraph provides credit for the requirements of paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 777-28-0061, dated October 25, 2010; or Boeing

Special Attention Service Bulletin 777-28-0061, Revision 1, dated January 26, 2012; as applicable; which are not incorporated by reference in this AD.

(2) This paragraph provides credit for the requirements of paragraph (h) of this AD, if those actions were performed before April 25, 2013 (the effective date of AD 2013-05-03, Amendment 39-17375 (78 FR 17290, March 21, 2013), using Boeing Alert Service Bulletin 777-28A0034, dated August 2, 2007; or Boeing Alert Service Bulletin 777-28A0034, Revision 1, dated May 20, 2010; except that the replacement of MOV actuators of the left and right engine fuel spar valves must also include cap sealing the bonding jumper, as described in Boeing Service Bulletin 777-28A0034, Revision 2, dated September 20, 2010; and provided that the replacement is an MOV actuator identified in paragraph (i)(2)(i) or (i)(2)(ii) of this AD. Boeing Alert Service Bulletin 777-28A0034, dated August 2, 2007; and Boeing Alert Service Bulletin 777-28A0034, Revision 1, dated May 20, 2010; are not incorporated by reference in this AD.

(i) An MOV actuator that has P/N MA30A1001, MA30A1017, or MA20A2027.

(ii) An MOV actuator that has a part number other than P/N MA20A1001-1 and meets the criteria specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this AD.

(3) This paragraph provides credit for the requirements of paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin 777-28A0034, Revision 2, dated September 20, 2010, which was incorporated by reference in AD 2013-05-03, Amendment 39-17375 (78 FR 17290, March 21, 2013).

(j) 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 paragraph (k)(1) 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, 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.

(k) Related Information

(1) For more information about this AD, contact Georgios Roussos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone: 425-917-6482; fax: 425-917-6590; email: georgios.roussos@faa.gov.

(2) 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>. You may view this 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.

Issued in Renton, Washington, on December 11, 2015.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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