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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0588; Product Identifier 2017-NM-105-AD; Amendment 39-19328; AD 2018-14-08]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 777-200LR series airplanes. This AD requires revising certain documents to provide revised operating limitations. For certain airplanes, modification of the water and fuel scavenge systems in the fuel tanks, electrical changes in the main equipment center, and installation of new electrical load management system (ELMS2) software is an acceptable alternative to the documents revision. This AD was prompted by reports of unreliable performance of the water and fuel scavenge systems. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective July 27, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of July 27, 2018.

We must receive comments on this AD by August 27, 2018.

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 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-2018-0588.

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-2018-0588; 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 final rule, 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: Kevin Nguyen, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3555; email: Kevin.Nguyen@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

Operators have reported unreliable performance of the water and fuel scavenge systems. During flight, any water in the fuel can sink to the bottom of the fuel tank. This water can enter the fuel scavenge inlets and can then freeze as it travels from the body center fuel tank into the colder fuel scavenge tubes in the left and right cheek center fuel tanks (outboard of the side of body ribs). The frozen water can restrict the flow of scavenge fuel from the center fuel tank to the main fuel tanks, causing the fuel flow to decrease or stop. When this occurs, as much as 700 pounds of fuel can remain unavailable during flight. If the flightcrew is not aware that this fuel is unavailable and the fuel quantity decreases to the quantity of the unavailable fuel, then fuel exhaustion will occur, which could lead to subsequent power loss of all engines due to loss of capability to scavenge fuel in the center fuel tank.

Related Rulemaking

We issued AD 2016-11-03, Amendment 39-18530 (81 FR 34867, June 1, 2016) (“AD 2016-11-03”), that applied to certain Boeing Model 777-200LR series airplanes equipped with or without auxiliary fuel tanks. For airplanes with auxiliary fuel tanks, variable numbers WD049-WD053 inclusive only, AD 2016-11-03 requires modification of the water and fuel scavenge systems after removal of the auxiliary fuel tanks. This AD requires incorporation of revised operating limitations for those airplanes, which terminates the associated requirements of AD 2016-11-03. This AD also provides the option of modifying the water and fuel scavenge systems in the fuel tanks, making electrical changes in the main equipment center, and installing new ELMS2 software after removal of the auxiliary fuel tanks. Either compliance method terminates the requirements of paragraphs (g), (h), and (i) of AD 2016-11-03 for those airplanes.

Additionally, paragraph (g) of this AD requires a revision to certain documents to provide revised operating limitations for airplane variable numbers WD011 through WD015 inclusive and WD016 through WD018 inclusive. These airplanes are not affected by AD 2016-11-03, which refers to Boeing Special Attention Service Bulletin 777-28-0078, Revision 1, dated April 27, 2015, for the applicability.

Airplane variable numbers WD011 through WD015 inclusive are included in the effectivity of Boeing Special Attention Service Bulletin 777-28-0078, Revision 3, dated December 19, 2017;

therefore, this AD provides a modification of the water and fuel scavenge systems in the fuel tanks, electrical changes in the main equipment center, and installation of new ELMS2 software as an acceptable alternative to the documents revision. However, there is no approved service information for airplane variable numbers WD016 through WD018 inclusive for the modification of the water and fuel scavenge systems in the fuel tanks, electrical changes in the main equipment center, and installation of new ELMS2 software; therefore, there is no alternative to the documents revision specified in this AD for these airplanes.

Related Service Information Under 1 CFR Part 51

We reviewed Boeing Special Attention Service Bulletin 777-28-0078, Revision 3, dated December 19, 2017. The service information describes procedures for the removal of the auxiliary fuel tanks and modification of the water and fuel scavenge systems in the fuel tanks, electrical changes in the main equipment center, and installation of new ELMS2 software. 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.

FAA's Determination

We are issuing 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.

AD Requirements

This AD requires revising certain documents to provide revised operating limitations. For certain airplanes, this AD provides for the optional accomplishment of the actions specified in the service information described previously, as an acceptable alternative to the documents revision.

FAA's Justification and Determination of the Effective Date

There are currently no domestic operators of this product. Therefore, we find that notice and opportunity for prior public comment are unnecessary and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2018-0588 and Product Identifier 2017-NM-105-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this final rule. We will consider all comments received by the closing date and may amend this final rule 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 final rule.

Costs of Compliance

Currently, there are no affected U.S.-registered airplanes. If an affected airplane is imported and placed on the U.S. Register in the future, we provide the following cost estimates to comply with this AD:

Estimated Costs for Required Actions

Action	Labor cost	Parts cost	Cost per product
Revise operating limitations	1 work-hour × \$85 per hour = \$85	\$0	\$85

Estimated Costs for Optional Actions

Action	Labor cost	Parts cost	Cost per product
Modification	Up to 253 work-hours × \$85 per hour = up to \$21,505	\$66,960	Up to \$88,465.

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 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):



FAA
Aviation Safety

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2018-14-08 The Boeing Company: Amendment 39-19328; Docket No. FAA-2018-0588; Product Identifier 2017-NM-105-AD.

(a) Effective Date

This AD is effective July 27, 2018.

(b) Affected ADs

This new AD affects AD 2016-11-03, Amendment 39-18530 (81 FR 34867, June 1, 2016) (“AD 2016-11-03”).

(c) Applicability

This AD applies to The Boeing Company Model 777-200LR series airplanes, certificated in any category, variable numbers (V/Ns) WD011 through WD015 inclusive, WD016 through WD018 inclusive, and WD049 through WD053 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 28, Fuel.

(e) Unsafe Condition

This AD was prompted by reports of unreliable performance of the water and fuel scavenge systems. We are issuing this AD to prevent fuel exhaustion and subsequent power loss of all engines due to loss of access to fuel in the center fuel tank.

(f) Compliance

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

(g) Revision to Operating Limitations

Except as provided by paragraph (h) of this AD: Within 36 months after the effective date of this AD, revise the applicable section of the documents specified in paragraphs (g)(1) and (g)(2) of this AD to include the information specified in figure 1 to the introductory text of paragraph (g) of this AD.

Figure 1 to the introductory text of paragraph (g) of this AD:
Operating limitation for carrying additional reserve fuel

(Required by AD 2018-14-08)

When center tank fuel is required for the mission, an additional 700 lbs. (320 kg) of reserve fuel must be added to the center tank fuel load.

(1) Insert the information specified in figure 1 to the introductory text of paragraph (g) of this AD into the “Fuel-System–Loading” section of the “Certificate Limitations” section of the FAA-approved Boeing Model 777 Airplane Flight Manual.

(2) Insert the information specified in figure 1 to the introductory text of paragraph (g) of this AD into the “Loading Limitations” section of the “Fuel Loading Procedures” section of the “Fuel Management” section of the FAA-approved Boeing Model 777 Weight and Balance Control and Loading Manual.

(h) Optional Terminating Action for V/Ns WD049-WD053 Inclusive and WD011-WD015 Inclusive

For airplane V/Ns WD049 through WD053 inclusive, and WD011 through WD015 inclusive: Accomplishment of the actions specified in paragraphs (h)(1) and (h)(2) of this AD terminates the requirements of paragraph (g) of this AD.

(1) Remove the auxiliary fuel tanks in accordance with step 1. of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-28-0078, Revision 3, dated December 19, 2017.

(2) Modify the water and fuel scavenge systems in the fuel tanks, make electrical changes in the main equipment center, and install new electrical load management system (ELMS2) software, by doing all applicable actions identified as “RC” (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-28-0078, Revision 3, dated December 19, 2017.

(i) Credit for Previous Actions

(1) This paragraph provides credit for the actions specified in paragraphs (h)(1) and (h)(2) of this AD, if those actions were performed before the effective date of this AD using Boeing Special Attention Service Bulletin 777-28-0078, Revision 2, dated October 5, 2016.

(2) This paragraph provides credit for airplane V/Ns WD049 through WD053 inclusive for the actions specified in paragraphs (h)(1) and (h)(2) of this AD, if those actions were performed before the effective date of this AD using April 27, 2015; or Boeing Special Attention Service Bulletin 777-28-0078, Revision 1, dated April 27, 2015.

(j) Parts Installation Prohibition

After completion of the actions specified in paragraph (h) of this AD, no person may install an auxiliary fuel tank on that airplane.

(k) Terminating Action for AD 2016-11-03 for V/Ns WD049-WD053 Inclusive

Accomplishment of the actions required by paragraph (g) or (h) of this AD terminates the requirements of paragraphs (g), (h), and (i) of AD 2016-11-03 for that airplane, V/Ns WD049 through WD053 inclusive only.

(l) 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 (m) 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, 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.

(4) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (l)(4)(i) and (l)(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.

(m) Related Information

For more information about this AD, contact Kevin Nguyen, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3555; email: Kevin.Nguyen@faa.gov.

(n) 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 Special Attention Service Bulletin 777-28-0078, Revision 3, dated December 19, 2017.

(ii) Reserved.

(3) For 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 June 29, 2018.
Jeffrey E. Duven,
Director, System Oversight Division,
Aircraft Certification Service.