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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-1271; Directorate Identifier 2010-NM-187-AD; Amendment 39-16667; AD 2011-09-05]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Model 777-200, -300, and -300ER Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD requires installing an auto shutoff feature for the center override/jettison fuel pumps, and installing power control circuitry for the center override/jettison and main jettison fuel pumps. This AD also requires installing new software in the electrical load management system (ELMS) electronics units in certain power management panels; installing airplane information management system 2 (AIMS-2) software in the AIMS-2 hardware; and making certain wiring changes. This AD was prompted by results from fuel system reviews conducted by the manufacturer. We are issuing this AD to prevent potential ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

DATES: This AD is effective May 26, 2011.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of May 26, 2011.

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. For GE Aviation service information identified in this AD, contact GE Aviation, Customer Services–Clearwater, P.O. Box 9013, Clearwater, Florida 33758; telephone 727-539-1631; fax 727-539-0680; e-mail cs.support@ge.com. You may review copies of the referenced 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.

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: Georgios Roussos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; phone: 425-917-6482; fax: 425-917-6590; e-mail: Georgios.Roussos@faa.gov.

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 the specified products. That NPRM published in the Federal Register on December 30, 2010 (75 FR 82337). That NPRM proposed to require installing an auto shutoff feature for the center override/jettison fuel pumps, and installing power control circuitry for the center override/jettison and main jettison fuel pumps. That NPRM also proposed to require installing new software in the electrical load management system (ELMS) electronics units in certain power management panels; installing airplane information management system 2 (AIMS-2) software in the AIMS-2 hardware; and making certain wiring changes.

Comments

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

Request To Delay Issuance of AD To Specify Spring Washers Instead of Conical Springs

Japan Airlines (JAL) requested that we delay issuance of the AD until GE Aviation Service Bulletins 5000ELM-28-456 and 6000ELM-28-457, both Revision 1, both dated January 7, 2010, are revised to correct Figure 8. JAL stated that Figure 8 shows conical springs rather than spring washers in the diagram. JAL stated that without this change, operators will be required to request an alternate method of compliance (AMOC).

We disagree with delaying issuance of this AD. However, we agree that clarification is needed in regard to the use of spring washers. Certain airplanes may use spring washers in lieu of conical springs in their relay assembly. Both the conical springs and spring washers are retained from the existing relay assembly to be used with the new relay. Either one of them is considered acceptable for use. New paragraph (m) has been added to the AD to identify the use of spring washers as an acceptable method of compliance if they are part of the existing relay assembly.

Request To Delay Issuance of AD To Specify Label Installation

JAL requested that we delay the issuance of this AD until GE Aviation publishes new revisions to their service information (referenced in the NPRM) to add another procedure to install labels or separate the labels from the conversion kit. JAL explained that when it receives the labels as part of

the conversion kit, the remaining shelf life of the labels is not adequate to allow the labels to be installed on the airplanes. JAL is concerned that, unless the service information is revised, these issues could delay incorporation of this AD or result in multiple AMOC requests.

We disagree with the request to delay this AD until GE Aviation issues revised service information. However, we agree with JAL's concerns about the shelf life of the labels possibly affecting operators' ability to comply with this AD within the required compliance times. This AD requires all actions, including labeling, in the Accomplishment Instructions of GE Aviation Service Bulletins 5000ELM-28-456 and 6000ELM-28-457, both Revision 1, both dated January 7, 2010, to be accomplished. We have added paragraph (n) to this AD to provide an optional method of labeling.

Conclusion

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

- Are consistent with the intent that was proposed in the NPRM for correcting 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 the AD.

Costs of Compliance

We estimate that this AD affects 2 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
Installation: Groups 1 and 2, Configuration 2	149 work-hours X $85 per hour = $12,665	$15,719	$28,384	$56,768
Installation: Groups 1 and 2, Configuration 1	2 work-hours X $85 per hour = $170	$15,719	$15,889	$31,778
Concurrent requirement: Install ELMS software	3 work-hours X $85 per hour = $255	$0	$255	$510
Concurrent requirement: Upgrade AIMS-2 software	Up to 2 work-hours X $85 per hour = Up to $170	$0	Up to $170	Up to $340
Concurrent requirement: P110 wiring changes	3 work-hours X $85 per hour = $255	$1,164	$1,419	$2,838
Concurrent requirement: P210 wiring changes	3 work-hours X $85 per hour = $255	$1,164	$1,419	$2,838

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):

2011-09-05 The Boeing Company: Amendment 39-16667; Docket No. FAA-2010-1271; Directorate Identifier 2010-NM-187-AD.

Effective Date

(a) This AD is effective May 26, 2011.

Affected ADs

(b) None.

Applicability

(c) The Boeing Company Model 777-200, -300, and -300ER series airplanes; certificated in any category; as identified in Boeing Service Bulletin 777-28A0047, Revision 5, dated September 20, 2010.

Subject

(d) Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 28, Fuel.

Unsafe Condition

(e) This AD was prompted by results from fuel system reviews conducted by the manufacturer. We are issuing this AD to prevent potential ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

Compliance

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

Installation

(g) For airplanes in Groups 1 and 2, Configuration 2, as identified in Boeing Service Bulletin 777-28A0047, Revision 5, dated September 20, 2010: Within 36 months after the effective date of this AD, install a new P301 panel on the left side of the airplane, install a new P302 panel on the right side of the airplane, and change the wiring, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-28A0047, Revision 5, dated September 20, 2010, except as required by paragraphs (m) and (n) of this AD.

(h) For airplanes in Groups 1 and 2, Configuration 1, as identified in Boeing Service Bulletin 777-28A0047, Revision 5, dated September 20, 2010: Within 36 months after the effective date of this AD, perform bonding resistance measurements and rework the airplane installation as applicable,

depending on airplane configuration, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-28A0047, Revision 5, dated September 20, 2010.

Concurrent Requirements

(i) Prior to or concurrently with accomplishing the requirements of paragraph (g) of this AD, do the actions specified in paragraphs (i)(1), (i)(2), (i)(3), and (i)(4) of this AD.

(1) Install new software in the electrical load management system (ELMS) electronics units in the P110, P210, and P310 power management panels, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-28A0040, Revision 1, dated March 18, 2010.

(2) Install airplane information management system 2 (AIMS-2) software in the AIMS-2 hardware, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-31-0097, Revision 3, dated February 22, 2007.

(3) Modify the P110 left power management panel by incorporating wiring changes, in accordance with the Accomplishment Instructions of GE Aviation Service Bulletin 5000ELM-28-456, Revision 1, dated January 7, 2010, except as provided by paragraphs (m) and (n) of this AD.

(4) Modify the P210 right power management panel by incorporating wiring changes, in accordance with the Accomplishment Instructions of GE Aviation Service Bulletin 6000ELM-28-457, Revision 1, dated January 7, 2010, except as provided by paragraphs (m) and (n) of this AD.

Credit for Actions Accomplished in Accordance With Previous Service Information

(j) Installations done before the effective date of this AD in accordance with Boeing Alert Service Bulletin 777-28A0040, dated April 13, 2007, are acceptable for compliance with the requirements of paragraph (i)(1) of this AD.

(k) Installations done before the effective date of this AD in accordance with Boeing Service Bulletin 777-28A0047, Revision 3, dated June 11, 2009; or Revision 4, dated May 20, 2010; are acceptable for compliance with the requirements of paragraphs (g) and (h) of this AD.

(l) Installations done before the effective date of this AD in accordance with Boeing Special Attention Service Bulletin 777-31-0097, dated March 30, 2006; Revision 1, dated August 10, 2006; or Revision 2, dated October 26, 2006; are acceptable for compliance with the requirements of paragraph (i)(2) of this AD.

Optional Methods of Compliance With Certain Actions

(m) Where paragraph 2.A.(16) and Figure 8 of GE Aviation Service Bulletins 5000ELM-28-456 and 6000ELM-28-457, both Revision 1, both dated January 7, 2010, identify the installation of conical springs for the relay to relay base fixing, installation of spring washers is an acceptable method of compliance when they are part of the existing relay assembly.

(n) Where paragraphs 2.A.(24) and 2.A.(25) of GE Aviation Service Bulletins 5000ELM-28-456 and 6000ELM-28-457, both Revision 1, both dated January 7, 2010, specify the installation of a label to identify work carried out and to identify the appropriate service bulletin, an acceptable method of compliance is to use a suitable method to indelibly mark the appropriate service bulletin number on the reworked panel. Boeing Standard BAC5307 may be used as an additional source of guidance for part marking.

Alternative Methods of Compliance (AMOCs)

(o)(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 e-mailed 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.

Related Information

(p) 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, Washington 98057-3356; phone: 425-917-6482; fax: 425-917-6590; e-mail: Georgios.Roussos@faa.gov.

Material Incorporated by Reference

(q) You must use the applicable service information contained in table 1 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

Table 1–All Material Incorporated by Reference

Document	Revision	Date
Boeing Service Bulletin 777-28A0047	5	September 20, 2010
Boeing Service Bulletin 777-28A0040	1	March 18, 2010
Boeing Special Attention Service Bulletin 777-31-0097	3	February 22, 2007
GE Aviation Service Bulletin 5000ELM-28-456	1	January 7, 2010
GE Aviation Service Bulletin 6000ELM-28-457	1	January 7, 2010

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

(2) For Boeing 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. For GE Aviation service information identified in this AD, contact GE Aviation, Customer Services–Clearwater, P.O. Box 9013, Clearwater, Florida 33758; telephone 727-539-1631; fax 727-539-0680; e-mail cs.support@ge.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 an NARA facility, 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 April 12, 2011.

Ali Bahrami,

Manager, Transport Airplane Directorate,

Aircraft Certification Service.