

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2008-1199; Directorate Identifier 2008-NM-207-AD; Amendment 39-15781; AD 2008-24-51]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Boeing Model 737-600, -700, -700C, -800, and -900 Series Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule; request for comments.

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**SUMMARY:** This document publishes in the Federal Register an amendment adopting airworthiness directive (AD) 2008-24-51 that was sent previously to all known U.S. owners and operators of Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes by individual notices. This AD requires accomplishing a wiring test of the autoshutoff system to verify continuity and a visual verification that the wiring is correctly installed; doing corrective actions, if necessary; and doing a functional test of the autoshutoff system, and applicable maintenance actions. This AD is prompted by a report of a failure of the left-hand fuel pump of the center wing tank to shut off after being selected "OFF" by the flightcrew during flight on a Boeing Model 737-700 series airplane. Subsequent to that report, the failure was found on two additional airplanes. We are issuing this AD to prevent extended dry-running of the fuel pump, which could lead to localized overheating of parts inside the fuel pump, and which could produce an ignition source inside the fuel tank.

**DATES:** This AD becomes effective March 2, 2009 to all persons except those persons to whom it was made immediately effective by emergency AD 2008-24-51, issued November 18, 2008, which contained the requirements of this amendment.

The incorporation by reference of certain publications listed in the AD is approved by the Director of the Federal Register as of March 2, 2009.

We must receive comments on this AD by April 27, 2009.

**ADDRESSES:** You may send comments 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: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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](mailto:me.boecom@boeing.com); Internet <https://www.myboeingfleet.com>.

For the Federal Aviation Administration Master Minimum Equipment List for Boeing 737 100/200/300/400/500/600/700/800/900 specified in this AD, contact the FAA, Flight Standards Division, Seattle Aircraft Evaluation Group, 1601 Lind Avenue, SW., Renton, Washington 98057. For information on the availability of this material at the FAA, call 425-917-6600 or fax 425-917-6638.

## **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 street address for the Docket Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Samuel Spitzer, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6510; fax (425) 917-6590.

**SUPPLEMENTARY INFORMATION:** On November 18, 2008, we issued emergency AD 2008-24-51, which applies to Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes.

## **Background**

We received a report of failure of the left-hand fuel pump of the center wing tank (CWT) to shut off after being selected "OFF" by the flightcrew during flight on a Boeing Model 737-700 series airplane. Subsequent to that report, the failure was found on two additional airplanes. Information indicates that the autoshutoff system appears to function normally; however, when the flightcrew manually turns off the CWT pump switches, that action turns off the right-hand pump, but re-energizes the left-hand pump due to incorrect wiring. The low-pressure lights turn off, incorrectly indicating to the flightcrew that power to both pumps has been removed. The failure condition results in continual running of the left-hand fuel pump without indication to the flightcrew, which could lead to localized overheating of parts inside the fuel pump, and which could produce an ignition source inside the fuel tank.

Investigation revealed that incorrect wiring could occur on airplanes on which an autoshutoff system was installed in accordance with Boeing Alert Service Bulletin 737-28A1206. Functional tests conducted in accordance with that service bulletin are not adequate to detect the incorrect wiring condition.

We approved installation of the autoshutoff system as an alternative method of compliance to AD 2002-24-51, amendment 39-12992 (68 FR 10, January 2, 2003). That AD was issued to address reports indicating that two fuel tank pumps showed evidence of extreme localized overheating of parts in the priming and vapor pump section of the fuel pump. That AD required revising the airplane flight manual to require the flightcrew to maintain certain minimal fuel levels in the center fuel tanks.

## **Relevant Service Information**

We have reviewed Boeing Alert Service Bulletin 737-28A1248, Revision 1, dated January 9, 2008. This service bulletin describes procedures for installing a power failed 'ON' protection system (i.e., uncommanded pump 'ON' protection system) for the center tank fuel boost pump.

## **FAA's Determination and Requirements of This AD**

Since the unsafe condition described is likely to exist or develop on other airplanes of the same type design, we issued emergency AD 2008-24-51 to prevent extended dry-running of the fuel pump, which could lead to localized overheating of parts inside the fuel pump, and which could produce an ignition source inside the fuel tank. The AD requires accomplishing a wiring test of the autoshutoff system to verify continuity and a visual verification that the wiring is correctly installed; doing corrective actions, if necessary; and doing a functional test of the autoshutoff system, and applicable maintenance actions. These maintenance actions, which are specified in Chapter 28, Section 28-22 of the Boeing 737-600/700/800/900 Fault Isolation Manual, Document D633A103, Revision 37, dated October 15, 2008, include (but are not limited to) doing a fault isolation procedure, checks of the left center wing tank boost pump functions, relays and wiring checks, and repairs.

We found that immediate corrective action was required; therefore, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual notices issued on November 18, 2008, to all known U.S. owners and operators of Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes. These conditions still exist, and the AD is hereby published in the Federal Register as an amendment to section 39.13 of the Federal Aviation Regulations (14 CFR 39.13) to make it effective to all persons.

## **Interim Action**

This AD is considered to be interim action. The inspection report that is required by this AD will enable the manufacturer to obtain better insight into the nature, cause, and extent of the failure of the left-hand fuel pump of the CWT to shut off after being selected "OFF" by the flightcrew, and eventually to develop final action to address the unsafe condition. Once final action has been identified, we might consider further rulemaking.

In addition, for airplanes on which the uncommanded pump "ON" protection system is installed in accordance with Boeing Alert Service Bulletin 737-28A1248, we are considering further rulemaking that might require additional testing.

## **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not provide you with notice and an opportunity to provide your comments before it becomes effective. However, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2008-1199; Directorate Identifier 2008-NM-207-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this 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 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 have determined that 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.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If this emergency regulation is later deemed significant under DOT Regulatory Policies and Procedures, we will prepare a final regulatory evaluation and place it in the AD Docket. See the ADDRESSES section for a location to examine the regulatory evaluation, if filed.

## **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):



**2008-24-51 Boeing:** Amendment 39-15781. Docket No. FAA-2008-1199; Directorate Identifier 2008-NM-207-AD.

### **Effective Date**

(a) This AD becomes effective March 2, 2009, to all persons except those persons to whom it was made immediately effective by emergency AD 2008-24-51, issued on November 18, 2008, which contained the requirements of this amendment.

### **Affected ADs**

(b) None.

### **Applicability**

(c) This AD applies to Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes, certificated in any category; on which Boeing Alert Service Bulletin 737-28A1206 has been accomplished.

### **Unsafe Condition**

(d) This AD results from a report of a failure of the left-hand fuel pump of the center wing tank (CWT) to shut off after being selected "OFF" by the flightcrew during flight on a Boeing Model 737-700 series airplane. Subsequent to that report, the failure was found on two additional airplanes. The failure condition results in continual running of the pump without indication to the flightcrew. We are issuing this AD to prevent extended dry-running of the fuel pump, which could lead to localized overheating of parts inside the fuel pump, and which could produce an ignition source inside the fuel tank.

### **Compliance**

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

### **Test**

(f) Within 48 clock-hours after the effective date of this AD, or prior to further flight, whichever occurs later: Except as provided by paragraphs (g) and (h) of this AD, do the autoshutoff system wiring test specified in paragraphs (f)(1) through (f)(10) of this AD.

(1) Remove electrical power from the airplane.

(2) Open the following circuit breakers, and install collars and 'DO-NOT-CLOSE' tags on the circuit breakers.

(i) Circuit breaker (CB) C3012, XFR BUS 2 SECT 2, on the P92 panel.

(ii) CB C3002, XFR BUS 1 SECT 2, on the P91 panel.

(iii) CB C1639, Fuel Auto S/O BST PUMP CTR TNK L AC, on the P6-3 panel.

(3) Verify continuity between TB5060F in terminal 5 and the bus side terminal of CB C1639 in the P6-3 circuit breaker panel.

(4) Check that wire number W0040-6402-14 is installed in terminal 5 of TB5060F.

(5) If, during the action required by paragraph (f)(3) of this AD, there is no continuity; or if, during the check required by paragraph (f)(4) of this AD, the wire is found not installed in TB5060F terminal 5: Before further flight, trace wire W0040-6402-14 from CB C1639 and re-terminate the other end of the wire to TB5060F terminal 5. After re-terminating the wire, before further flight, do the actions specified in paragraphs (f)(3) and (f)(4) of this AD.

(6) Remove the tags and collars from the following circuit breakers and close the circuit breakers.

(i) CB C3012, XFR BUS 2 SECT 2, on the P92 panel.

(ii) CB C3002, XFR BUS 1 SECT 2, on the P91 panel.

(iii) CB C1639, Fuel Auto S/O BST PUMP CTR TNK L AC, on the P6-3 panel.

(7) Supply electrical power to the airplane.

(8) Verify the voltage at CB C1639 is 115 volts alternating current 5 volts.

(9) If the voltage is not within the limits specified in paragraph (f)(8) of this AD, before further flight, repeat the actions required by paragraphs (f)(1) through (f)(8) of this AD.

(10) Test the autoshutoff system as follows:

(i) On P5-4 panel, switch Bus Transfer to OFF.

(ii) Using only one power source (auxiliary power unit (APU) or an engine generator), power only AC Bus 1 with no power to AC Bus 2.

(iii) Do the "Center Tank Boost Pump Auto Shutoff Functional Test" in accordance with paragraphs 9.A. through 9.G. of Task 28-22-00-720-805 of the Boeing 737-600/700/800/900 Aircraft Maintenance Manual, Document D633A101, Revision 37, dated October 15, 2008. Accomplishment of paragraphs 9.H. and 9.I. of the functional test should not be accomplished.

(iv) If the autoshutoff test fails the test required by paragraph (f)(10)(iii) of this AD: Within 48 clock-hours after the effective date of this AD, or before further flight, whichever occurs later, do either paragraph (f)(10)(iv)(A) or (f)(10)(iv)(B) of this AD.

(A) Do all applicable maintenance actions in accordance with Chapter 28, Section 28-22, of the Boeing 737-600/700/800/900 Fault Isolation Manual, Document D633A103, Revision 37, dated October 15, 2008, and repeat the action required by paragraph (f)(10)(iii) of this AD.

(B) Deactivate the left-hand fuel pump of the CWT as specified in paragraph (g) of this AD.

### **Optional Deactivation/Reactivation**

(g) Deactivation of the left-hand fuel pump of the CWT and operation in accordance with Item 28-02, 'Fuel Boost Pumps (Center Tank), of the Federal Aviation Administration Master Minimum Equipment List for Boeing 737 100/200/300/400/500/600/700/800/900, Revision 52, dated April 29, 2008, may be accomplished in lieu of the requirements of paragraph (f) of this AD until the left-hand fuel pump of the CWT is reactivated. If the pump is deactivated, dispatch under this configuration is allowed for 10 days. For airplanes on which the left-hand fuel pump of the CWT is deactivated under the provision of this paragraph: Prior to further flight after reactivating the pump, do the autoshutoff system wiring test and applicable corrective actions specified in paragraphs (f)(1) through (f)(10) of this AD.

### **Optional Installation**

(h) Accomplishing the installation of the power failed 'ON' protection system (i.e., uncommanded pump "ON" protection system) for the center tank fuel boost pump in accordance with Boeing Alert Service Bulletin 737-28A1248, dated December 21, 2006; or Revision 1, dated January 9, 2008; terminates the autoshutoff system wiring test required by paragraphs (f) and (g) of this AD.

## Reporting

(i) Submit a report of the findings (both positive and negative) of the actions required by paragraph (f) of this AD to Boeing via e-mail at RSE.BOECOM@BOEING.COM; or via fax at (206) 766-5682; at the applicable time specified in paragraph (i)(1) or (i)(2) of this AD. The report must include: a description of the test failure; a description of the action taken to correct the failure; the total number of flight cycles/flight hours accumulated on the airplane at the time of inspection; and the date of accomplishment of Boeing Alert Service Bulletin 737-28A1206 and total number of flight hours/flight cycles accumulated on the airplane on the date of accomplishment of that service bulletin. Under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq. ), the Office of Management and Budget (OMB) has approved the information collection requirements contained in this AD and has assigned OMB Control Number 2120-0056.

(1) If the test is done after the effective date of this AD: Submit the report within 10 days after accomplishing the test.

(2) If the test was accomplished prior to the effective date of this AD: Submit the report within 10 days after the effective date of this AD.

## Alternative Methods of Compliance (AMOCs)

(j)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, ATTN: Samuel Spitzer, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6510; fax (425) 917-6590; has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

(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 appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

## Material Incorporated by Reference

(k) You must use the documents specified in Table 1 of this AD, as applicable, to do the actions required by this AD, unless the AD specifies otherwise. If you accomplish the optional actions specified by this AD, you must use the documents specified in Table 2 of this AD, as applicable, to do the optional actions specified by this AD, unless the AD specifies otherwise.

**Table 1--Documents Incorporated by Reference for the Required Actions Specified in This AD**

Document	Page title/description	Page number(s)	Revision level	Date
Task 28-22-00-720-805 of the Boeing 737-600/700/800/900 Aircraft Maintenance Manual (AMM), Document.	AMM Part II, Practices and Procedures Title Page.	None shown	None noted*	October 15, 2008.

D633A101, Revision 37, dated October 15, 2008	AMM Part II, Practices and Procedures Transmittal Letter.	1	37	October 15, 2008.
	AMM Part II, Practices and Procedures Effective Pages.	1–3	None noted*	October 15, 2008.
	AMM Chapter 28, 28-Effective Pages.	1–10	None noted*	October 15, 2008.
	Task 28–22–00–702–805 of AMM Section 28–22.	531–536	None noted*	February 15, 2008.
Chapter 28, Section 28–22, of the Boeing 737–600/700/800/900 Fault Isolation Manual (FIM), Document D633A103, Revision 37, dated October 15, 2008.	FIM Title Page	None shown	None noted*	October 15, 2008.
	FIM Transmittal Letter	1	37	October 15, 2008.
	FIM Effective Pages	1–3	None noted*	October 15, 2008.
	FIM Chapter 28 Effective Pages	1–2	None noted*	October 15, 2008.
	FIM Section 28–22	201–292	None noted*	February 15, 2008.

(\*Only the Transmittal Letters for Boeing 737-600/700/800/900 AMM, Document D633A101, Revision 37; and Boeing 737-600/700/800/900 FIM, Document D633A103, Revision 37; contain the revision level of these documents.)

**Table 2–Documents Incorporated by Reference for the Optional Actions Specified in This AD**

Document	Page title/description	Page number(s)	Revision level	Date
Boeing Alert Service Bulletin 737–28A1248, dated December 21, 2006.	All	1–115	Original	December 21, 2006.
Boeing Alert Service Bulletin 737–28A1248, Revision 1, dated January 9, 2008.	All	1–119	1	January 9, 2008.
Department of Transportation, Federal Aviation Administration Master Minimum Equipment List (MMEL) for Boeing 737 100/200/300/400/500/600/700/800/900, Revision 52, dated April 29, 2008.	MMEL Title Page	None shown ...	52	April 29, 2008.
	MMEL Contents	I	52	April 29, 2008.
	MMEL Item 28–02, ‘Fuel Boost Pumps (Center Tank)’.	28–2, 28–3	52	April 29, 2008.

(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 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 the Federal Aviation Administration Master Minimum



Equipment List for Boeing 737 100/200/300/400/500/600/700/800/900 specified in this AD, contact the FAA, Flight Standards Division, Seattle Aircraft Evaluation Group, 1601 Lind Avenue, SW., Renton, Washington 98057. For information on the availability of this material at the FAA, call 425-917-6600 or fax 425-917-6638.

(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 or 425-227-1152.

(4) You may also review copies of the service information 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](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on December 18, 2008.

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Assistant Manager, Transport Airplane Directorate,  
Aircraft Certification Service.