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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2007-28662; Directorate Identifier 2007-NM-014-AD; Amendment 39-15415; AD 2008-06-03]**

**RIN 2120-AA64**

**Airworthiness Directives; Boeing Model 737-600, -700, -700C, -800 and -900 Series Airplanes; and Model 757-200, -200PF, -200CB, and -300 Series Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Boeing airplanes, identified above. This AD requires inspecting to determine if certain motor-operated shutoff valve actuators for the fuel tanks are installed, and related investigative and corrective actions if necessary. This AD also requires revising the Airworthiness Limitations (AWLs) section of the Instructions for Continued Airworthiness to incorporate AWL No. 28-AWL-21, No. 28-AWL-22, and No. 28-AWL-24 (for Model 737-600, -700, -700C, -800 and -900 series airplanes); and No. 28-AWL-23, No. 28-AWL-24, and No. 28-AWL-25 (for Model 757-200, -200PF, -200CB, and -300 series airplanes). This AD results from a design review of the fuel tank systems. We are issuing this AD to prevent electrical energy from lightning, hot shorts, or fault current from entering the fuel tank through the actuator shaft, which could result in fuel tank explosions and consequent loss of the airplane.

**DATES:** This AD becomes effective April 16, 2008.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of April 16, 2008.

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

#### **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:** Judy Coyle, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6497; fax (425) 917-6590.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to certain Boeing Model 737-600, -700, -700C, -800 and -900 series airplanes; and Model 757-200, -200PF, -200CB, and -300 series airplanes. That NPRM was published in the Federal Register on July 10, 2007 (72 FR 37484). That NPRM proposed to require inspecting to determine if certain motor-operated shutoff valve actuators for the fuel tanks are installed, and related investigative and corrective actions if necessary. That NPRM also proposed to require revising the Airworthiness Limitations (AWLs) section of the Instructions for Continued Airworthiness to incorporate AWL No. 28-AWL-21, No. 28-AWL-22, and No. 28-AWL-24 (for Model 737-600, -700, -700C, -800 and -900 series airplanes), and No. 28-AWL-23, No. 28-AWL-24, and No. 28-AWL-25 (for Model 757-200, -200PF, -200CB, and -300 series airplanes).

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

### **Request To Revise References to Maintenance Planning Data (MPD) Documents**

Boeing requests that we revise the applicable areas in the NPRM that discuss the revision levels of the Boeing 737 and 757 MPD documents. Boeing states that the references in the NPRM should be clarified for the following reasons:

- Revision May 2006 of the Boeing 737-600/700/700C/700IGW/800/900 MPD did not add AWLs (Airworthiness Limitations) 28-AWL-21, -22, and -24. Instead, AWLs 28-AWL-21 and -22 were added at Revision January 2006; AWL 28-AWL-24 was added at Revision October 2006.
- Revision October 2006 of the Boeing 737-600/700/700C/700IGW/800/900 MPD revised AWL 28-AWL-21.
- Revision October 2006 of the Boeing 757 MPD added AWL 28-AWL-25; AWLs 28-AWL-23 and -24 were added at Revision February 2006 of the Boeing 757 MPD.
- Revision January 2007 of the Boeing 757 MPD revised AWL 28-AWL-24.

Boeing points out that the clarifications affect references in both the "Relevant Service Information" section, and paragraph (h) of the NPRM, and requests that we revise the AD to make the clarifications.

We agree that the references need to be clarified for the reasons Boeing stated. We have made the following changes to the AD as Boeing outlined in its comment:

- We have changed paragraph (h)(1) of the AD to refer to Revision November 2006 R1 of the Boeing 737-600/700/700C/700IGW/800/900 MPD rather than to Revision May 2006.
- We have changed paragraph (h)(2) of the AD to refer to Revision January 2007 of the Boeing 757 MPD rather than to Revision October 2006.

However, we have not changed the "Relevant Service Information" section of the NPRM because that section of the preamble does not reappear in the final rule.

### **Request To Change Wording in Note 1 of the NPRM**

Boeing requests that we change the wording in Note 1 of the NPRM as follows:

- Change "new inspections and maintenance actions" to include the words "according to paragraph (h)" after "actions."
- Change "the operator must request approval for revision to the airworthiness limitations" to "the operator must request approval for deviation from the airworthiness limitations."
- Remove "as applicable" from the last sentence of the note and change the paragraph reference from paragraph (h) to paragraph (i).

Boeing explains that the current wording is difficult to follow.

We partially agree. We have clarified the paragraph reference from paragraph (h) to paragraph (i). However, we do not agree to revise the note further. Boeing submitted a similar comment to another NPRM (Docket No. FAA-2006-26710), and the note in this AD is based on that comment. No additional change is necessary. In addition, we have used this note in several similar ADs and have not received any comments from operators requesting clarification. We have not changed this AD in this regard.

### **Request To Have AD Address Part Number (P/N) S343T003-39 Actuators**

AirTran Airways notes that the motor-operated shutoff valves are rotatable parts which can be moved from airplane to airplane. AirTran states that the NPRM does not address P/N S343T003-39 actuators that may have been installed on airplanes outside of the applicability range of the service bulletins referred to in the NPRM.

We infer that AirTran would like us to prohibit installation of P/N S343T003-39 actuators on any airplane. We disagree. No P/N S343T003-39 actuator is approved to replace either a P/N S343T003-56 or P/N S343T003-66 actuator. Should we determine that P/N S343T003-39 is installed and unsafe on other airplanes, we might consider additional rulemaking. We have not changed the AD in this regard.

### **Request To Have AD Address P/N S343T003-56 Actuators**

AirTran requests that the AD allow for installation of either a P/N S343T003-56 or P/N S343T003-66 actuator in the AD. AirTran explains that Boeing considers P/N S343T003-56 fully interchangeable with P/N S343T003-66 and states that installing a P/N S343T003-56 actuator should meet the intent of the AD.

We disagree; the two actuators are not fully interchangeable, but rather only in one direction. If an airplane currently has a P/N S343T003-56 actuator installed, then an operator can install a P/N S343T003-66 actuator; if an airplane has a P/N S343T003-66 actuator currently installed, then it is not possible to install a P/N S343T003-56 actuator. However, if an operator has a P/N S343T003-56 actuator currently installed, no action is required by this AD. This AD addresses airplanes that currently have a P/N S343T003-39 actuator installed. The P/N S343T003-56 actuator has not been approved as a field replacement for the P/N S343T003-39. However, under the provisions of paragraph (i) of the AD, we will consider requests for approval of an alternative method of compliance if sufficient data are submitted to substantiate that the design change would provide an acceptable level of safety. We have not changed the AD in this regard.

## Request To Reconsider Mandating Installation of P/N S343T003-66 Actuators

Boeing requested an ex parte meeting with the FAA to discuss the new motor-operated valves, which Boeing states have reliability issues in service. Boeing states that these issues could affect the FAA's decision to mandate the installation fleet-wide.

During the meeting, held October 10, 2007, Boeing reviewed problems with the actuators and the design changes made since 2005. The Special Federal Aviation Regulation (SFAR) 88 review determined that the electrical switches for P/N S343T003-39 actuators were not isolated from the actuator shaft that enters the tank. During a lightning, hot short, or fault current event, it is possible that electrical energy could enter the fuel tank through the actuator shaft. The new P/N S343T003-56 actuator added an isolation feature, but created nuisance failure indications on the flight deck. Boeing then developed the P/N S343T003-66 actuator to correct the indication problem. The P/N S343T003-66 actuator reduced the number of events, but operators are still experiencing dispatch delays and unscheduled removals. Boeing also pointed out problems with the P/N S343T003-66 actuators on other Boeing airplane models, though not to the extent seen on Boeing Model 737 airplanes. Boeing is in the process of re-designing the actuator, an effort that will take approximately 12 months. Boeing specifies that the isolation feature is not affected by the indication problems, and that the valves are opening and closing as commanded.

We disagree with the request to reconsider mandating the installation of P/N S343T003-66 actuators. The problems with the P/N S343T003-66 actuators that Boeing pointed out do not constitute a new unsafe condition. We consider that to delay this particular AD action in order to wait for the re-designed actuator would be inappropriate, since we have determined that an unsafe condition exists and that replacement of certain parts must be accomplished to ensure continued safety. Therefore, no change has been made to the AD in this regard. However, when a new actuator is developed, approved, and available, we might consider additional rulemaking then.

### Conclusion

We have carefully reviewed the available data, including 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 will neither increase the economic burden on any operator nor increase the scope of the AD.

### Costs of Compliance

There are about 2,916 airplanes of the affected design in the worldwide fleet. This AD affects about 1,406 airplanes of U.S. registry. The average labor rate is \$80 per work hour. The table titled "Estimated Costs" provides costs to comply with this AD.

Estimated Costs

Action	Work hours	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Inspection for motor operated valve actuators	1	\$80	1,406	\$112,480
AWL revisions	3	\$240	1,406	\$337,440

## **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.

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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

## **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 Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):



**2008-06-03 Boeing:** Amendment 39-15415. Docket No. FAA-2007-28662; Directorate Identifier 2007-NM-014-AD.

**Effective Date**

(a) This AD becomes effective April 16, 2008.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to Boeing Model 737-600, -700, -700C, -800 and -900 series airplanes; and Boeing Model 757-200, -200PF, -200CB, and -300 series airplanes; certificated in any category; as identified in Boeing Alert Service Bulletins 737-28A1207, dated February 15, 2007, and 757-28A0088, dated January 25, 2007.

Note 1: This AD requires revisions to certain operator maintenance documents to include new inspections and maintenance actions. Compliance with these limitations is required by 14 CFR 43.16 and 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these limitations, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 43.16 and 91.403(c), the operator must request approval for revision to the airworthiness limitations (AWLs) in the Boeing 737-600/700/700C/700IGW/800/900 Maintenance Planning Data (MPD) Document D626A001-CMR and the Boeing 757 MPD Document D622N001-9, as applicable, according to paragraph (i) of this AD.

**Unsafe Condition**

(d) This AD results from a design review of the fuel tank systems. We are issuing this AD to prevent electrical energy from lightning, hot shorts, or fault current from entering the fuel tank through the actuator shaft, which could result in fuel tank explosions and consequent loss of the airplane.

**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.

**Service Bulletin Reference**

(f) The term "service bulletin," as used in this AD, means the Accomplishment Instructions of the following service bulletins, as applicable:

(1) For Model 737-600, -700, -700C, -800 and -900 series airplanes: Boeing Alert Service Bulletin 737-28A1207, dated February 15, 2007; and

(2) For Model 757-200, -200PF, -200CB, and -300 series airplanes: Boeing Alert Service Bulletin 757-28A0088, dated January 25, 2007.

### **Inspection and Related Investigative/Corrective Actions**

(g) Within 60 months after the effective date of this AD: Inspect the applicable motor-operated valves (MOVs) to determine whether an MOV with the affected part number identified in the Accomplishment Instructions of the applicable service bulletin is installed. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the part can be conclusively determined from that review. Do all applicable related investigative and corrective actions before further flight. Do all actions in accordance with the Accomplishment Instructions of the applicable service bulletin.

### **Revision of AWLs Section**

(h) Concurrently with the actions specified in paragraph (g) of this AD: Revise the AWLs section of the Instructions for Continued Airworthiness by incorporating the information specified in paragraphs (h)(1) and (h)(2) of this AD, as applicable. Accomplishing the revision in accordance with a later revision of the MPD document is an acceptable method of compliance if the revision is approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA.

(1) Section F., "AIRWORTHINESS LIMITATIONS—FUEL SYSTEM AWLs," of Boeing 737-600/700/700C/700IGW/800/900 MPD Document D626A001-CMR, Section 9, Revision November 2006 R1, into the MPD to incorporate AWL No. 28-AWL-21, No. 28-AWL-22, and No. 28-AWL-24.

(2) Section G., "AIRWORTHINESS LIMITATIONS—FUEL SYSTEM AWLs," of Boeing 757 MPD Document D622N001, Section 9, Revision January 2007, into the MPD Document to incorporate AWL No. 28-AWL-23, No. 28-AWL-24, and No. 28-AWL-25.

### **Alternative Methods of Compliance (AMOCs)**

(i)(1) The Manager, Seattle ACO, FAA, has the authority to approve AMOCs for this AD, if requested in accordance with 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**

(j) You must use the service information listed in Table 1 of this AD to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of these documents in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington; or 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>.

**Table 1 – Material Incorporated by Reference**

<b>Service Information</b>	<b>Revision</b>	<b>Date</b>
Boeing 737-600/700/700C/700IGW/800/900 Maintenance Planning Data Document D626A001-CMR, Section 9	November 2006 R1	November 2006
Boeing 757 Maintenance Planning Data Document D622N001, Section 9	January 2007	January 2007
Boeing Alert Service Bulletin 737-28A1207	Original	February 15, 2007
Boeing Alert Service Bulletin 757-28A0088	Original	January 25, 2007

Issued in Renton, Washington, on February 28, 2008.  
Ali Bahrami,  
Manager, Transport Airplane Directorate, Aircraft Certification Service.  
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