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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-0163; Directorate Identifier 2007-NM-046-AD; Amendment 39-15929; AD 2009-12-06]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-300, -400, -500, -600, -700, -700C, -800, and -900 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 737-300, -400, -500, -600, -700, -700C, -800, and -900 series airplanes. This AD requires installing a new circuit breaker, relays, and wiring to allow the flightcrew to turn off electrical power to the in-flight entertainment (IFE) systems and other non-essential electrical systems through a switch in the flight compartment, and doing other specified actions. This AD results from an IFE systems review. We are issuing this AD to ensure that the flightcrew is able to turn off electrical power to IFE systems and other non-essential electrical systems through a switch in the flight compartment. The flightcrew's inability to turn off power to IFE systems and other non-essential electrical systems during a non-normal or emergency situation could result in the inability to control smoke or fumes in the airplane flight deck or cabin.

DATES: This AD is effective July 16, 2009.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of July 16, 2009.

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>.

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: Joe Salameh, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone 425-917-6454; fax 425-917-6590.

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 certain Boeing Model 737-300, -400, -500, -600, -700, -700C, -800, and -900 series airplanes. That NPRM was published in the Federal Register on November 7, 2007 (72 FR 62802). That NPRM proposed to require installing a new circuit breaker, relays, and wiring to allow the flightcrew to turn off electrical power to the in-flight entertainment (IFE) systems and other non-essential electrical systems through a switch in the flight compartment, and doing other specified actions.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received from the six commenters.

Request To Exclude Certain Airplanes From the Applicability

Mr. Ian S. Murton requests that we revise paragraph (c)(2) of the applicability of the NPRM to exclude Model 737-700 series airplanes having variable numbers (V/Ns) YB101 through YB114 inclusive. These airplanes are listed in the effectivity of Boeing Service Bulletin 737-24-1147, Revision 1, dated March 1, 2007, which is referenced in paragraph (c)(2) of the NPRM. As justification, the commenter states that the operator of these airplanes has owned the airplanes since delivery from Boeing, and that IFE systems are not installed on these airplanes. The commenter also states that the operator took possession of the airplane having V/N YB114 18 months after Boeing issued the original issue of Boeing Service Bulletin 737-24-1147, dated November 20, 2003, and that the operator decided not to accomplish the actions specified in that service bulletin. The commenter would like to know how the proposed requirements of the NPRM would affect this range of airplanes. The commenter also states that perhaps the applicability of the NPRM should be amended to include only airplanes that have the IFE systems installed.

We disagree with revising the applicability of this AD because we have determined that the unsafe condition exists on the airplanes identified in the Boeing service bulletins that are referenced in paragraph (c) of this AD. The effectivities of those service bulletins are based upon the delivered configuration of the airplanes. Boeing has confirmed that it installed IFE systems on airplanes having V/Ns YB101 through YB114 inclusive. If the IFE systems were either removed after delivery, or have never been installed contrary to the effectivity of Boeing Service Bulletin 737-24-1147, Revision 1, dated March 1, 2007, then under the provisions of paragraph (k) of this AD, we will consider requests for approval of an alternative method of compliance (AMOC) if sufficient data are submitted to substantiate that the design change is not necessary. We have not changed the AD in this regard.

Request To Exclude Certain Boeing Business Jets From the Applicability

Boeing Executive Flight Operations requests that we revise paragraph (c) of the applicability of the NPRM to exclude certain Boeing business jets (BBJs) equipped with a passenger entertainment switch (PES), certified under a Supplemental Type Certificate (STC). If these airplanes are not excluded from the applicability, then the commenter requests that the FAA provide additional detail on what specific interior systems or equipment need to have a means of disconnection, so that operators can accurately petition and apply for an AMOC. The commenter states that Boeing delivered these airplanes without an interior to a customized completion center, where they were modified to a custom interior specification and design that are certified by an STC.

According to the commenter, many of the BBJ interior installations incorporate either a PES, or load shed switching, that will remove power from the interior equipment and systems, as required by sections 25.1309, 25.1351, 25.1353, and 25.1355 of the Federal Aviation Regulations (14 CFR 25.1309, 14 CFR 25.1351, 14 CFR 25.1353, and 14 CFR 25.1355). The commenter also states that Boeing Service Bulletin 737-24-1147, Revision 1, dated March 1, 2007, does not consider the BBJ and BBJ2 configurations separate from commercial airline interior configurations and does not provide enough details as to what systems or equipment need to be isolated with the PES disconnects.

We disagree with revising the applicability of this AD because we have determined that the unsafe condition exists on the airplanes identified in the Boeing service bulletins that are referenced in paragraph (c) of this AD. The effectivities of those service bulletins are based upon the delivered configuration of the airplanes.

The "load shed switching" function is for an overload condition during normal operation where power will be removed from non-essential systems, such as galley, IFE systems, etc. This AD, however, has a different purpose, which is to independently remove power from the IFE systems and other non-essential equipment in case of emergency, according to FAA Policy Memorandum PS-ANM100-2000-00105, "Interim Policy Guidance for Certification of In-Flight Entertainment Systems on Title 14 CFR Part 25 Aircraft," dated September 18, 2000. Policy Memorandum PS-ANM100-2000-00105 specifies that there should be a manual main shutoff switch within reach of flight or cabin crews to be used in case of emergency to shut off all non-essential power. FAA Policy Memorandum ANM-01-111-165, "Policy Statement on Certification of Power Supply Systems for Portable Electronic Devices (PES) on Part 25 Airplanes," dated March 18, 2005, covers the PES power removal switch as well.

Under the provisions of paragraph (k) of this AD, we will consider requests for approval of an AMOC if sufficient data are submitted to substantiate that an alternate design change would provide an acceptable level of safety. We have not changed the AD in this regard.

Requests To Allow Certain Service Bulletins as AMOCs

Aircraft Maintenance Engineering Services SARL requests that we consider the following service information as AMOCs to the proposed requirements of the NPRM:

- Lufthansa Technik Engineering Bulletin 737-EB24-0073, Revision 01, for addressing the unsafe condition on the Model 737-700 series airplane having serial number (S/N) 29972.
- Lufthansa Technik Engineering Bulletin 737-EB24-0088, Revision 01, for addressing the unsafe condition on the Model 737-800 series airplane having S/N 32438.
- Raytheon Service Bulletin 737IGW-24-1, dated August 11, 2000, for addressing the unsafe condition on the Model 737-700 series airplane having S/N 28976.

The commenter states that these bulletins address the intent of Boeing Service Bulletin 737-24-1147, Revision 1, dated March 1, 2007. The Lufthansa Technik engineering bulletins provide procedures for installing a cut-off switch in the P5 panel to interrupt electrical power to the IFE system. The Raytheon service bulletin provides procedures for installing a flight compartment switch for removing power from the IFE systems and other non-essential systems. The procedures in the

Raytheon service bulletin were accomplished in accordance with STC ST09106AC-D, issued July 6, 2000.

We disagree because an AMOC can be granted only after an AD has been issued. In addition, we have not included the Lufthansa and Raytheon service bulletins as a method of compliance within this AD; we do not consider it appropriate to include various provisions in an AD applicable only to individual airplane serial numbers or to a single operator's unique use of an affected airplane. Once we issue this AD, the commenter may request approval of an AMOC under the provisions of paragraph (k) of this AD. Sufficient data must be 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 Revise Paragraph (f) of the NPRM

Boeing requests that we delete the last sentence of paragraph (f) of the NPRM, which states: "Concurrently Modify P5-13 Module Assembly on Model 737-300 Series Airplanes." Boeing states that the sentence is redundant and confusing because the concurrent requirements are addressed by paragraph (h) of the NPRM, and that those requirements only apply to a certain group of airplanes.

We disagree because the phrase that the commenter refers to is not a sentence in paragraph (f) of the NPRM. That phrase is the heading for paragraph (g) of the NPRM, which gives the concurrent requirements. No change to the AD is necessary in this regard.

Request To Extend the Compliance Time

The Air Transport Association, on behalf of its member American Airlines, requests that we extend the compliance time from 60 to 72 months. American Airlines states that it is requesting this extension to align the compliance time with its heavy maintenance program and to avoid an unnecessary financial burden. American Airlines states that incorporating the modification requires extensive "power off A/C time," and that this can be accommodated only at a heavy C check, which is scheduled by most in the industry at 72-month intervals. American Airlines also states that the proposed 60-month compliance time will have a substantial impact by requiring the unscheduled removal of its airplanes from service. American Airlines estimates that 14 of its affected airplanes will require special scheduling and out-of-service time, which equates to about 42 days for an additional cost impact of \$600,000.

We disagree with extending the compliance time. In developing an appropriate compliance time for this action, we considered the safety implications, parts availability, and normal maintenance schedules for the timely accomplishment of the modification. In consideration of these items, we have determined that a 60-month compliance time will ensure an acceptable level of safety. However, according to the provisions of paragraph (k) of this AD, we might approve requests to adjust the compliance time if the request includes data that prove that the new compliance time would provide an acceptable level of safety. We have not changed the AD in this regard.

Change Made to Paragraph (i) of This AD

We have revised paragraph (i) of this AD to specify that the requirements of that paragraph apply to " * * * Groups 3 through 139. * * *" In the NPRM, we inadvertently specified that the proposed requirements would apply to Groups 1 through 139. This change agrees with paragraph 1.B. of Boeing Service Bulletin 737-24-1147, Revision 1, dated March 1, 2007.

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 change described previously. We also

determined that this change will not increase the economic burden on any operator or increase the scope of the AD.

Costs of Compliance

There are about 1,617 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs, at an average labor rate of \$80 per hour, for U.S. operators to comply with this AD.

Estimated Costs						
Model	Action	Work hours	Parts	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
737-300, -400, and -500 series airplanes	Installation of circuit breaker, relays, and wiring	Up to 31	Up to \$2,925	\$5,405	1	\$5,405
737-300 series airplanes	Concurrent modification of P5-13 module assembly	1	\$2,327	\$2,407	1	\$2,407
737-600, -700, -700C, -800, and -900 series airplanes	Installation of circuit breaker, relays, and wiring	Up to 52	Up to \$10,968	\$15,128	586	\$8,865,008
	Concurrent modification of P5-13 module assembly	4	\$9,241	\$9,561	586	\$5,602,746
737-800 series airplanes	Installation of wiring for the No. 4 VDU	12	\$3,372	\$4,332	2	\$8,664

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), 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.

You can find our regulatory evaluation and the estimated costs of compliance in the AD Docket.

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 AD:



2009-12-06 Boeing: Amendment 39-15929. Docket No. FAA-2007-0163; Directorate Identifier 2007-NM-046-AD.

Effective Date

(a) This airworthiness directive (AD) is effective July 16, 2009.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the Boeing airplanes identified in paragraphs (c)(1) and (c)(2) of this AD, certificated in any category.

(1) Model 737-300, -400, and -500 series airplanes, as identified in Boeing Service Bulletin 737-24-1145, dated March 4, 2004.

(2) Model 737-600, -700, -700C, -800, and -900 series airplanes, as identified in Boeing Service Bulletin 737-24-1147, Revision 1, dated March 1, 2007.

Unsafe Condition

(d) This AD results from an in-flight entertainment (IFE) systems review. We are issuing this AD to ensure that the flightcrew is able to turn off electrical power to IFE systems and other non-essential electrical systems through a switch in the flight compartment. The flightcrew's inability to turn off power to IFE systems and other non-essential electrical systems during a non-normal or emergency situation could result in the inability to control smoke or fumes in the airplane flight deck or cabin.

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.

Install Circuit Breaker, Relays, and Wiring on Model 737-300, -400, and -500 Series Airplanes

(f) For Model 737-300, -400, and -500 series airplanes: Within 60 months after the effective date of this AD, install a new circuit breaker, relays, and wiring to allow the flightcrew to turn off electrical power to the IFE systems through the IFE/galley switch and do all other specified actions as applicable, by accomplishing all the applicable actions specified in the Accomplishment Instructions of Boeing Service Bulletin 737-24-1145, dated March 4, 2004.

Concurrently Modify P5-13 Module Assembly on Model 737-300 Series Airplanes

(g) For Model 737-300 series airplanes identified as Group 6 airplanes in Boeing Service Bulletin 737-24-1145, dated March 4, 2004, and equipped with P5-13 module assembly part number (P/N) 69-37321-81: Prior to or concurrently with accomplishing the actions required by paragraph (f) of this AD, replace the lightplate assembly of the P5-13 module assembly with a new lightplate assembly and reidentify and test the modified P5-13 module assembly, in accordance with the Accomplishment Instructions of Boeing Component Service Bulletin 69-37321-31-03, dated August 21, 2003.

Install Circuit Breaker, Relays, and Wiring on Model 737-600, -700, -700C, -800, and -900 Series Airplanes

(h) For Model 737-600, -700, -700C, -800, and -900 series airplanes: Within 60 months after the effective date of this AD, install a new circuit breaker, relays, and wiring, as applicable, to allow the flightcrew to turn off electrical power to the IFE systems and other non-essential electrical systems through a utility switch in the flight compartment, by accomplishing all of the applicable actions specified in Parts 1, 2, or 3 of the Work Instructions of Boeing Service Bulletin 737-24-1147, Revision 1, dated March 1, 2007.

Concurrently Modify P5-13 Module Assembly on Model 737-600, -700, -700C, -800, and -900 Series Airplanes

(i) For Model 737-600, -700, -700C, -800, and -900 series airplanes identified as Groups 3 through 139 inclusive in Boeing Service Bulletin 737-24-1147, Revision 1, dated March 1, 2007, and equipped with P5-13 module assembly P/N 285A1840-3 or -4: Prior to or concurrently with accomplishing the actions required by paragraph (h) of this AD, modify the P5-13 module assembly, in accordance with the Accomplishment Instructions of Boeing Component Service Bulletin 285A1840-24-02, dated August 28, 2003.

Wiring Installation for the Video Display Unit (VDU)

(j) For Model 737-800 series airplanes identified in paragraph 1.A.1. of Boeing Service Bulletin 737-23-1189, dated June 27, 2002: Prior to or concurrently with accomplishing the actions required by paragraph (h) of this AD, install wiring for the No. 4 VDU cluster, an INOP marker, and stow clip at the P6-1 circuit breaker panel; reroute certain wiring for the No. 4 VDU cluster between stations 685 and 767; and do a continuity test of the newly installed and rerouted wiring; in accordance with the Accomplishment Instructions of Boeing Service Bulletin 737-23-1189, dated June 27, 2002.

Alternative Methods of Compliance (AMOCs)

(k)(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. Send information to Attn: Joe Salameh, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle ACO, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone 425-917-6454; fax 425-917-6590. Or, e-mail information to 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(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 principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

Material Incorporated by Reference

(1) 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 – Material Incorporated by Reference

Service Information	Revision Level	Date
Boeing Component Service Bulletin 69-37321-31-03	Original	August 21, 2003
Boeing Component Service Bulletin 285A1840-24-02	Original	August 28, 2003
Boeing Service Bulletin 737-23-1189	Original	June 27, 2002
Boeing Service Bulletin 737-24-1145	Original	March 4, 2004
Boeing Service Bulletin 737-24-1147	1	March 1, 2007

(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 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>.

(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 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on June 1, 2009.

Stephen P. Boyd,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.