



CIVIL AVIATION AUTHORITY
CZECH REPUBLIC
Airworthiness Division

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AIRWORTHINESS DIRECTIVE

Number: CAA-AD-080/2004

Cancels CAA-AD-036/1999

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BOEING

737-200, -200C, -300, -400, -500

This AD has been issued in accordance with Decision No.: 2/2003 of the Executive Director of the EASA (ADs issued by the state of design are automatically adopted in EU member states).

AIRCRAFT - FUEL TANK - FLOAT SWITCH - INSPECTION

Applicability: Model 737-200, -200C, -300, -400, and -500 series airplanes; on which the center wing tanks are activated; excluding those airplanes equipped with center wing tank volumetric top-off systems, or alternating current (AC) powered center tank float switches; certificated in any category.

Effective date: September 30, 2004

Compliance: Required as indicated FAA AD 2004-15-04.

Remarks: The compliance of this AD must be recorded in Aircraft Logbook, where applicable the requirements of this AD must be integrated into Aircraft Technical Documentation. Address inquiries concerning this AD to: Civil Aviation Authority, Airworthiness Division, Ruzyně Airport, 160 08 Prague 6, Czech Republic, tel.: 420 2 33320922, fax: 420 2 20562270.

Ing. Pavel MATOUŠEK
Director

2004-15-04 Boeing: Amendment 39-13738. Docket 99-NM-78-AD. Supersedes AD 99-05-12, Amendment 39-11060.

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Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (k)(1) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent contamination of the fueling float switch by moisture or fuel, and chafing of the float switch wiring against the fuel tank conduit, which could present an ignition source inside the fuel tank that could cause a fire or explosion, accomplish the following:

Requirements of AD 99-05-12

Compliance Time for Initial Action

(a) For Model 737-200, -300, -400, and -500 series airplanes having line numbers (L/N) 1 through 3108 inclusive: Prior to the accumulation of 30,000 total flight hours, or within 30 days after March 18, 1999 (the effective date of AD 99-05-12, amendment 39-11060), whichever occurs later, accomplish the requirements of paragraph (b) or (c) of this AD.

Initial Inspection: Procedures

(b) Remove the fueling float switch and wiring from the center fuel tank and perform a detailed inspection of the float switch wiring to detect discrepancies (i.e., evidence of electrical arcing, exposure of the copper conductor, presence or scent of fuel on the electrical wires, or worn insulation), in accordance with Part 1 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999. After the effective date of this AD, only Revision 2 may be used.

Note 2: For the purposes of this AD, a detailed inspection is defined as: "An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required."

Initial Inspection: Follow-On Actions

(1) If no discrepancy is detected, prior to further flight, accomplish either paragraph (b)(1)(i) or (b)(1)(ii) of this AD.

(i) Measure the resistance between the wires and the float switch housing, in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999.

(A) If the resistance is less than 200 megohms, prior to further flight, replace the float switch and wiring with a new float switch and wiring, and install double Teflon sleeving over the wiring of the float switch, in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999; or replace the float switch and wiring with a new, improved float switch and wiring in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1141, Revision 2, dated August 21, 2003. After the effective date of this AD, only a new, improved float switch and wiring may be

installed. If a replacement float switch and wiring are not available, prior to further flight, accomplish the requirements specified in paragraphs (c) and (d) of this AD.

(B) If the resistance is greater than or equal to 200 megohms, prior to further flight, blow dirt out of the conduit, install double Teflon sleeving over the wiring of the float switch, and reinstall the existing float switch, in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999.

(ii) Replace the float switch and wiring with a new float switch and wiring, and install double Teflon sleeving over the wiring of the float switch, in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999; or replace the float switch and wiring with a new, improved float switch and wiring in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1141, Revision 2, dated August 21, 2003. After the effective date of this AD, only a new, improved float switch and wiring may be installed. If a replacement float switch and wiring are not available, prior to further flight, accomplish the requirements specified in paragraphs (c) and (d) of this AD.

(2) If any worn insulation is detected, and if no copper conductor is exposed, and if no evidence of arcing is detected; accomplish the requirements specified in either paragraph (b)(1)(i) or (b)(1)(ii) of this AD.

(3) If any electrical arcing or exposed copper conductor is detected, prior to further flight, accomplish either paragraph (b)(3)(i) or (b)(3)(ii) of this AD.

(i) Replace any section of the electrical conduit where the arcing occurred with a new section, in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999; and accomplish the requirements specified in paragraph (b)(1)(ii) of this AD.

(ii) Perform a detailed inspection to detect fuel leaks of the electrical conduit, in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999.

(A) If no fuel leak is detected, prior to further flight, accomplish the requirements specified in paragraph (b)(1)(ii) of this AD. Repeat the inspection required by paragraph (b)(3)(ii) of this AD thereafter at intervals not to exceed 1,500 flight hours, until the replacement required by paragraph (b)(3)(ii)(B) of this AD is accomplished.

(B) If any fuel leak is detected, prior to further flight, replace, with new conduit, any section of the electrical conduit where a leak is found, in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999. Prior to further flight after accomplishment of the replacement, accomplish the requirements specified in paragraph (b)(1)(ii) of this AD. Accomplishment of electrical conduit replacement constitutes terminating action for the repetitive inspection requirements of paragraph (b)(3)(ii)(A) of this AD.

(4) If any presence or scent of fuel on the electrical wires is detected, prior to further flight, locate the source of the leak and replace the damaged conduit with a new conduit, in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999; and accomplish the requirements specified in either paragraph (b)(1)(i) or (b)(1)(ii) of this AD, unless accomplished previously in accordance with paragraph (b)(1), (b)(2), or (b)(3) of this AD.

Deactivation of Float Switch

(c) Accomplish the requirements specified in either paragraph (c)(1) or (c)(2) of this AD, in accordance with Part 2 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999.

(1) Deactivate the center tank float switch (i.e., cut the two wires for the float switch at the splices on the front spar and cap and stow the four wire ends), paint a "Caution" sign that shows a conservative maximum fuel capacity for the center tank on the underside of the right-hand wing near the fueling station door, and install an INOP placard on the fueling panel.

(2) Deactivate the center tank float switch (i.e., cut, stow, and splice the two wires for the float switch at the splices

on the front spar), and paint a "Caution" sign that shows a conservative maximum fuel capacity for the center tank on the underside of the right-hand wing near the fueling station door.

Deactivation of Float Switch: Additional Requirements

(d) For airplanes on which the requirements specified in paragraph (c) of this AD have been accomplished: Accomplish the requirements specified in paragraphs (d)(1), (d)(2), and (d)(3) of this AD.

(1) Operators must ensure that airplane fueling crews are properly trained in accordance with the procedures specified in Boeing Telex M-7200-98-04486, dated December 1, 1998, or procedures approved by the FAA. This one-time training must be accomplished prior to utilizing the procedures specified in paragraph (d)(3) of this AD.

(2) Prior to fueling the airplane, perform a check to verify that the fueling panel center tank quantity indicator is operative. Repeat this check thereafter prior to fueling the airplane. If the fueling panel center tank quantity indicator is not operative, prior to further flight, replace the fueling panel center tank quantity indicator with a serviceable part.

(3) One of the two manual fueling procedures for the center fuel tank must be used for each fueling occurrence, in accordance with Boeing Telex M-7200-98-04486, dated December 1, 1998, or a method approved by the FAA.

Note 3: For the purposes of this AD, the term "the FAA," is defined in paragraph (d) of this AD as "the cognizant Principal Maintenance Inspector (PMI)."

Note 4: Where there are differences between Boeing Alert Service Bulletin 737-28A1132 and this AD, the AD prevails.

Deactivation of Float Switch: Dispatch

(e) Dispatch with the center fuel tank float switch deactivated, in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Revision 1, dated January 15, 1999; or Revision 2, dated June 17, 1999; is allowed until replacement float switches and wiring are available for installation, but not later than the compliance time for the replacement required by paragraph (h) of this AD. Where there are differences between the Master Minimum Equipment List (MMEL) and the AD, the AD prevails.

New Requirements of This AD

Compliance Time for Initial Action for Model 737-200C Series Airplanes

(f) For Model 737-200C series airplanes having L/Ns 1 through 3108 inclusive: Prior to the accumulation of 30,000 total flight hours, or within 30 days after the effective date of this AD, whichever occurs later, accomplish the requirements of paragraph (b) or (c) of this AD. (If the actions specified in paragraph (b) or (c) of this AD have been accomplished before the effective date of this AD, no further action is required by this paragraph.) If the actions required by paragraph (h) of this AD, including the replacement required by paragraph (h)(2) of this AD, are accomplished within the compliance time specified in this paragraph, operators are not required to do paragraph (b) or (c) of this AD.

Replacement of Conduit

(g) For airplanes having L/Ns 1 through 3108 inclusive, on which the inspection required by paragraph (b)(3)(ii) of this AD has been accomplished prior to the effective date of this AD, and on which replacement of conduit specified in paragraph (b)(3)(ii)(B) has not been accomplished: Within 1,500 flight hours or 6 months after the effective date of this AD, whichever occurs first, replace, with new conduit, any section of the electrical conduit where arcing or a leak occurred, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1132, Revision 2, dated June 17, 1999. Such replacement of the conduit constitutes terminating action for the repetitive inspection requirements of paragraph (b)(3)(ii)(A) of this AD.

Replacement of Center and Wing Tank Float Switches

(h) Within 2 years after the effective date of this AD, accomplish paragraphs (h)(1) and (h)(2) of this AD, as applicable. Except as provided by paragraph (j) of this AD, accomplishment of the actions in paragraphs (h)(1) and

(h)(2) of this AD, as applicable, terminates the requirements of this AD.

(1) For all airplanes: In the center fuel tank, replace the existing float switches with new, improved float switches, and install a conduit liner system; and in the wing fuel tanks, replace the existing float switches and conduit assemblies with new, improved float switches and conduit assemblies that include a liner system inside the conduit. Do these replacements in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1141, Revision 2, dated August 21, 2003.

(2) For airplanes subject to the repetitive inspections required by paragraph (b)(3)(ii)(A) of this AD, on which the electrical conduit in the center fuel tank has not been replaced as specified in paragraph (b)(3)(ii)(B) or (g) of this AD: Prior to or concurrently with the replacement of the float switch in the center fuel tank required by paragraph (h)(1) of this AD, replace, with new conduit, any section of the center fuel tank electrical conduit where arcing or a leak occurred, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1132, Revision 2, dated June 17, 1999. Such replacement constitutes terminating action for the repetitive inspection requirements of paragraph (b)(3)(ii)(A) of this AD.

Credit for Previously Accomplished Actions

(i) Replacement of float switches and conduit assemblies, and installations of conduit liner systems, as applicable, accomplished before the effective date of this AD in accordance with Boeing Alert Service Bulletin 737-28A1141, dated September 5, 2002; or Revision 1, dated December 19, 2002; are considered acceptable for compliance with the corresponding action specified in this AD, provided that the requirements of paragraphs (i)(1), (i)(2), and (i)(3) of this AD are met.

(1) The B-nuts on the float switch cable conduit must be torqued to the values specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1141, Revision 2, dated August 21, 2003.

(2) The float switch bonding strap must be installed and securely fastened to the float switch bracket or main structure, as specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1141, Revision 2, dated August 21, 2003.

(3) Lock wire must be installed in the boltheads on the front spar, as specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1141, Revision 2, dated August 21, 2003.

Parts Installation

(j) As of the effective date of this AD, no person may install a float switch having part number F8300-146 on any airplane.

Alternative Method of Compliance

(k)(1) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

(2) Alternative methods of compliance, approved previously in accordance with AD 99-05-12, amendment 39-11060, are approved as alternative methods of compliance with the corresponding requirements of this AD.

Note 5: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Special Flight Permits

(l) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(m) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Boeing Alert Service Bulletin 737-28A1132, Revision 1, dated January 15, 1999; Boeing Alert Service Bulletin 737-28A1132, Revision 2, dated June 17, 1999; Boeing Alert Service Bulletin 737-28A1141, Revision 2, dated August 21, 2003; and Boeing Telex M-7200-98-04486, dated December 1, 1998; as applicable.

(1) The incorporation by reference of Boeing Alert Service Bulletin 737-28A1132, Revision 2, dated June 17, 1999; and Boeing Alert Service Bulletin 737-28A1141, Revision 2, dated August 21, 2003; is approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The incorporation by reference of Boeing Alert Service Bulletin 737-28A1132, dated December 2, 1998; Boeing Alert Service Bulletin 737-28A1132, Revision 1, dated January 15, 1999; and Boeing Telex M-7200-98-04486, dated December 1, 1998; was approved previously by the Director of the Federal Register as of March 18, 1999 (64 FR 10213, March 3, 1999).

(3) Copies may be obtained from Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected 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/code_of_federal_regulations/ibr_locations.html.

Effective Date

(n) This amendment becomes effective on August 31, 2004.

▼ Footer Information

Issued in Renton, Washington, on July 1, 2004.

Kevin M. Mullin,

Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.

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