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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2010-1199; Directorate Identifier 2010-NM-225-AD; Amendment 39-16818; AD 2011-20-07]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding an existing airworthiness directive (AD) for the products listed above. That AD currently requires replacement of the power control relays in the P91 and P92 power distribution panels for the fuel boost and override pumps with new, improved relays having a ground fault interrupter (GFI) feature, or installation and maintenance of universal fault interrupters (UFIs) using a certain supplemental type certificate. This new AD continues to require the actions of the existing AD and also specifies which relays may be replaced by GFIs or UFIs. This AD was prompted by a need to clarify which relays may be replaced by installation of UFIs. We are issuing this AD to prevent pump housing burn-through due to electrical arcing, which could create a potential ignition source inside a fuel tank. This condition, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

**DATES:** This AD is effective November 4, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of September 22, 2010 (75 FR 50859, August 18, 2010).

**ADDRESSES:** 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 TDG Aerospace information identified in this AD, contact TDG Aerospace, Inc., 545 Corporate Drive, Escondido, California 92029; telephone 760-466-1040; fax 760-466-1038; Internet http://www.tdgaerospace.com; e-mail info@tdgaerospace.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 supersede airworthiness directive (AD) 2010-17-05, Amendment 39-16395 (75 FR 50859, August 18, 2010). That AD applies to the specified products. The NPRM published in the Federal Register on December 20, 2010 (75 FR 79317). That NPRM proposed to continue to require replacement of the power control relays in the P91 and P92 power distribution panels for the fuel boost and override pumps with new, improved relays having a ground fault interrupter (GFI) feature, or installation and maintenance of universal fault interrupters (UFIs) using a certain supplemental type certificate. That NPRM also proposed to specify which relays may be replaced by GFIs or UFIs.

**Actions Since NPRM Was Issued**

We have been informed that referring to TDG Aerospace UFIs, as provided in paragraph (g)(2)(ii) of the NPRM (75 FR 79317, December 20, 2010), violates Office of the Federal Register (OFR) regulations (1 CFR part 51) for approval of optional materials "incorporated by reference" in rules. We have revised paragraph (g)(2)(ii) of this AD to specify that installation of TDG Aerospace UFIs, as provided in that paragraph, must be done in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. We have also added Note 2 to this AD to specify that additional guidance on installing TDG Aerospace UFIs can be found in TDG Aerospace Supplemental Type Certificate (STC) ST02076LA.

**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.

**Request To Allow Credit for Accomplishment of STC**

Continental Airlines (CAL) requested that paragraph (h) of the proposed AD (75 FR 79317, December 20, 2010) be revised to add credit for work done according to STC ST02076LA prior to the effective date of the AD. CAL claimed that operators who accomplished that STC before the effective date of the AD would be required to request an AMOC to show compliance with the proposed AD and get credit for those actions. CAL pointed out that paragraph (h) of the proposed AD provides credit for accomplishment of Boeing Alert Service Bulletin 737-28A1201, dated February 19, 2007.

We agree to provide clarification. Paragraph (h) of the proposed AD (75 FR 79317, December 20, 2010) (paragraph (j) in this final rule) provided credit for an earlier revision of the service information required in paragraph (g) of this AD. There is no earlier version of STC ST02076LA, which was issued on October 26, 2007, that operators might have used to accomplish actions required by this AD. Paragraph (f) of this AD provides relief to operators that might have accomplished the actions required in this AD before the effective date of this AD (i.e., used Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009, before the effective date of the AD). However, because STC ST02076LA is no longer provided as a means of compliance within the text of the AD, operators are required to apply for an AMOC if they want credit for work done according to that STC. We have not changed the AD in this regard.

**Request To Revise Previous AD Instead of Supersede**

All Nippon Airways (ANA) suggested that we revise AD 2010-17-05, Amendment 39-16395 (75 FR 50859, August 18, 2010), instead of issuing a new AD. ANA believed that correcting the STC number from STC ST02079LA to STC ST02076LA did not require issuing a new AD.

We agree to provide clarification. The incorrect STC number was not the primary reason to issue a new AD to supersede AD 2010-17-05, Amendment 39-16395 (75 FR 50859, August 18, 2010). Paragraph (f) of AD 2010-17-05 allowed actions accomplished according to STC ST02079LA to be acceptable for all power control relays. However, installation and maintenance of UFIs using STC ST02076LA may be an acceptable method of compliance for the center tank override pumps only. Such a change to paragraph (f) of AD 2010-17-05 to restrict the use of STC ST02076LA to installation and maintenance of UFIs on only the center tank override fuel pumps requires a new AD. We have not changed this AD in this regard.

**Request To Modify Panels While the Panels Are Off the Airplane**

American Airlines (AA) requested that the proposed AD be revised to allow modification of the P91 and P92 panels (replacing the power control relays for the fuel boost pumps and override pumps) while the panels are removed and reworked outside the airplane. AA noted that the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009, specify accomplishing the modification of the panels while the panels are still installed on the airplane. AA explained that allowing the panels to be modified or reworked outside the airplane will allow better access to the relay installation locations.

We agree. The P91 and P92 power distribution panels are "line replaceable units," and reworking those panels in a shop environment instead of on the airplane may provide better access to the panels and control of the applicable modifications. We have added paragraph (h) to this AD to provide this alternative.

**Request To Allow Alternative Means To Identify Modified Panels**

AA requested that we allow use of a locally manufactured label that includes an indelible means of marking the modified P91 and P92 panels in lieu of the part marking process specified in Note (a) in Figures 1 and 2 of Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009. AA explained that the note describes a process to use laser-etched identification labels, which involves submitting a digital photograph of the existing identification label and ordering a new label from Honeywell.

We agree. The intent of this AD is to provide procedures to verify the changes to the panels, not to specify the part marking method. While part marking of the panels is needed for configuration control, the AD was not intended to specify the exact method of part marking. We have added paragraph (i) to this AD to specify that any industry-accepted method of marking the part number is acceptable for compliance.

**Request To Clarify Note 1**

Delta Air Lines (DAL) requested that the Note specified in the proposed AD (75 FR 79317, December 20, 2010) be revised to clarify that the Honeywell service bulletins have no bearing on the installation of the TDG Aerospace UFI relays. DAL noted that the note is not applicable if an operator complies with paragraph (g)(2)(ii) of the proposed AD. DAL suggested that the following phrase be added to the end of the sentence: "as given in paragraphs (g)(1) and (g)(2)(i)."

We agree that Note 1 of this AD does not apply to the TDG Aerospace installation of UFI relays using STC ST02076LA referenced in paragraph (g)(2)(ii) of the proposed AD (75 FR 79317, December 20, 2010) (referenced in Note 2 of this AD). However, we do not agree to revise Note 1 of this AD as suggested. As it is written, Note 1 of this AD already states that Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009, references Honeywell Service Bulletins 1151932-24-61 and 1151934-24-62, both Revision 5, both dated May 25, 2009, as additional sources of guidance for replacing the power control relays in the P91 and P92 panels. There is no mention of STC ST02076LA in that note. Because that STC is not referenced in that note, that STC does not provide for Honeywell Service Bulletins 1151932-24-61 and 1151934-24-62, both Revision 5, both dated May 25, 2009, to be used as additional sources of guidance, and Note 1 of this AD does not apply to paragraph (g)(2)(ii) of this AD. We have not revised this AD in this regard.

**Request To Provide Contact Information for STC Holder**

DAL requested that the contact information for TDG Aerospace be included in paragraph (k) of the proposed AD (75 FR 79317, December 20, 2010) because STC ST02076LA is an acceptable method of compliance for certain requirements of this AD. DAL noted that paragraph (k) of the proposed AD provides contact information for Boeing service information, but did not provide contact information for the TDG Aerospace STC ST02076LA.

We agree partially. We do not agree to revise paragraph (k) of the proposed AD (75 FR 79317, December 20, 2010), because that paragraph is not restated in this final rule. However, we do agree to provide contact information for TDG Aerospace. We have revised the ADDRESSES section of this AD to include this contact information.

**Request To Revise a Word**

Boeing requested a change to a word in paragraph (h) of the proposed AD (75 FR 79317, December 20, 2010) (paragraph (j) in this final rule) from "is" to "were" in the phrase " is used as an additional * * *."

We agree. We revised paragraph (j) of this AD as requested.

**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 minor changes:

Are consistent with the intent that was proposed in the NPRM (75 FR 79317, December 20, 2010) 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 754 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 of GFI relays (retained actions from existing AD) | 8 work-hours X $85 per hour = $680 | $11,010 | $11,690 | $8,814,260 |

The new requirements of this AD add no additional economic burden.

**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),

(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 removing airworthiness directive (AD) 2010-17-05, Amendment 39-16395 (75 FR 50859, August 18, 2010), and adding the following new AD:

**2011-20-07 The Boeing Company:** Amendment 39-16818; Docket No. FAA-2010-1199; Directorate Identifier 2010-NM-225-AD.

**Effective Date**

(a) This airworthiness directive (AD) is effective November 4, 2011.

**Affected ADs**

(b) This AD supersedes AD 2010-17-05, Amendment 39-16395 (75 FR 50859, August 18, 2010).

**Applicability**

(c) This AD applies to The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009.

**Subject**

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

**Unsafe Condition**

(e) This AD was prompted by fuel system reviews conducted by the manufacturer. We are issuing this AD to prevent pump housing burn-through due to electrical arcing, which could create a potential ignition source inside a fuel tank. This condition, 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.

**Replacement or Installation**

(g) Within 60 months after the effective date of this AD, do the actions required in paragraphs (g)(1) and (g)(2) of this AD.

(1) Replace the power control relays that are located in the R18, R19, R20, and R21 positions in the P91 and P92 power distribution panels for the fuel boost pumps with new, improved relays, part number KDAG-X4F-001, having a ground fault interrupter (GFI) feature, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009, except as provided in paragraphs (h) and (i) of this AD.

(2) Replace the power control relays that are located in the R54 and R55 positions in the P91 and P92 power distribution panels for the fuel override pumps, in accordance with the actions required in paragraph (g)(2)(i) or (g)(2)(ii) of this AD.

(i) Replace with new, improved relays, part number KDAG-X4F-001, having a GFI feature, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009, except as provided in paragraphs (h) and (i) of this AD.

(ii) Install and maintain TDG Aerospace universal fault interrupters (UFIs) in accordance with a method approved by the Manager, Seattle Aircraft Certification Office, FAA.

Note 1: Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009, refers to Honeywell Service Bulletin 1151932-24-61 and Honeywell Service Bulletin 1151934-24-62, both Revision 5, both dated May 25, 2009, as additional sources of guidance for replacement of the power control relays in the P91 and P92 power distribution panels.

Note 2: Guidance on installing TDG Aerospace universal fault interrupters (UFIs) can be found in Supplemental Type Certificate ST02076LA.

(h) Where Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009, specifies accomplishing actions in the P91 and
P92 power distribution panels while those panels are installed on the airplane, this AD does not require that the panels are on the airplane while the actions are accomplished. This AD allows the actions on the P91 and P92 panels to be accomplished while those panels are removed from the airplane.

Note 3: Section 24-21-21, "Power Distribution Panel," of the Practices and Procedures section of the Boeing 737-600-700-800-900 Aircraft Maintenance Manual may be used as an additional source of guidance on removing and reinstalling the P91 and P92 power distribution panels.

(i) Where Note (a) in Figures 1 and 2 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009, specifies procedures for marking the part numbers of the panels, this AD does not require a specific method for marking. Operators are allowed to use any industry-accepted method.

**Credit for Actions Accomplished in Accordance With Previous Service Information**

(j) Actions done before the effective date of this AD in accordance with Boeing Alert Service Bulletin 737-28A1201, dated February 19, 2007, are acceptable for compliance with the requirements of paragraphs (g)(1) and (g)(2)(i) of this AD, provided that Revision 5 of Honeywell Service Bulletins 1151932-24-61 and 1151934-24-62, both dated May 25, 2009, were used as an additional source of guidance.

**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. 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 Principal Maintenance Inspector or Principal Avionics Inspector, as appropriate, or lacking a principal inspector, your local Flight Standards District Office.

**Related Information**

(l) 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**

(m) You must use Boeing Alert Service Bulletin 737-28A1201, Revision 1, dated May 28, 2009, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register previously approved the incorporation by reference of this service information on September 22, 2010 (75 FR 50859, August 18, 2010).

(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.

(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 September 20, 2011.
Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.