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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2009-0866; Directorate Identifier 2009-NM-074-AD; Amendment 39-16317; AD 2010-11-12]**

**RIN 2120-AA64**

#### **Airworthiness Directives; McDonnell Douglas Corporation Model MD-11 and MD-11F Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD), which applies to certain Model MD-11 and MD-11F airplanes. That AD currently requires a one-time inspection to determine if metallic transitions are installed on wire harnesses of the tail tank fuel transfer pumps, and to determine if damaged wires are present; and repair, if necessary. That AD also requires repetitive inspections of the repaired area; and a permanent modification of the wire harnesses if metallic transitions are not installed, which would terminate the repetitive inspections. This new AD requires modifying the case grounding for the alternate fuel pump of the tail tank, the leak detection thermal switch grounding for the number 2 engine, and wire braid grounding in the empennage and number 2 engine inlet. This AD also removes one airplane from the applicability of the existing AD. This AD results from reports that the wire assembly for the alternate fuel pump is missing a case ground wire, and the lightning protection wire braid for wire assemblies located in the empennage and number 2 engine inlet are grounded improperly. We are issuing this AD to prevent insufficient grounding of the fuel pump, which in combination with an electrical failure within the fuel pump and a compromised electrical bond could cause a fuel tank ignition, resulting in consequent fire or explosion.

**DATES:** This AD becomes effective July 6, 2010.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of July 6, 2010.

On January 18, 2000 (64 FR 69389, December 13, 1999), the Director of the Federal Register approved the incorporation by reference of certain other publications listed in the AD.

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, 3855 Lakewood Boulevard, MC D800-0019, Long Beach,

California 90846-0001; telephone 206-544-5000, extension 2; fax 206-766-5683; e-mail dse.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:** Samuel Lee, Aerospace Engineer, Propulsion Branch, ANM-140L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5262; fax (562) 627-5210.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that supersedes AD 99-25-14, amendment 39-11457 (64 FR 69389, December 13, 1999). The existing AD applies to certain Model MD-11 and MD-11F airplanes. That NPRM was published in the Federal Register on September 18, 2009 (74 FR 47900). That NPRM proposed to continue to require a one-time inspection to determine if metallic transitions are installed on wire harnesses of the tail tank fuel transfer pumps, and to determine if damaged wires are present; and repair, if necessary. That NPRM also proposed to continue to require repetitive inspections of the repaired area; and a permanent modification of the wire harnesses if metallic transitions are not installed, which would terminate the repetitive inspections. That NPRM also proposed to require modifying the case grounding for the alternate fuel pump of the tail tank, the leak detection thermal switch grounding for the number 2 engine, and wire braid grounding in the empennage and number 2 engine inlet. That NPRM also proposed to remove one airplane from the applicability of the existing AD.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comment received from the commenter. The commenter, FedEx Express, agrees with the requirements of the proposed AD.

### **Request To Change Proposed Costs of Compliance**

FedEx Express requests that the costs for concurrently required actions be included in the proposed Costs of Compliance. FedEx Express states that the estimated costs need to be revised since concurrent requirements are included in Boeing Alert Service Bulletin MD11-28A140, dated November 6, 2008, which is cited in the NPRM as the appropriate guidance for modifying the case grounding, leak detention thermal switch grounding, and wire braid grounding. That service bulletin specifies that McDonnell Douglas Service Bulletin MD11-28-102, Revision 01, dated June 23, 1999, must be done before or at the same time as Boeing Alert Service Bulletin MD11-28A140.

FedEx Express states that McDonnell Douglas Service Bulletin MD11-28-102, Revision 01, dated June 23, 1999, constitutes terminating action for AD 99-25-14, and it takes 28.8 hours for Group 1 (12 airplanes) and 40.4 hours for Group 2 (1 airplane). FedEx Express states that,

considering all U.S.-registered airplanes are in Group 1 (9 airplanes), this will cost \$20,736 in labor with no cost for parts.

FedEx Express states that Boeing Alert Service Bulletin MD11-28A140 specifies that it takes 18.5 hours for Group 1 (12 airplanes) and 24.5 hours for Group 2 (1 airplane). FedEx Express asserts that, considering all U.S.-registered airplanes are in Group 1 (9 airplanes), this will cost \$13,320 for labor and \$11,232 for parts.

FedEx Express states that the proposed AD will cost approximately \$34,056 in labor and \$11,232 in parts with a total cost of \$45,288. Therefore, FedEx Express asserts the estimated cost for the proposed AD should be stated as: Rework (required by AD 99-25-14) \$20,736 and Modification (new proposed action) \$24,552, resulting in a total fleet cost (U.S.-registered airplanes) of \$45,288.

We disagree with FedEx Express's request to include McDonnell Douglas Service Bulletin MD11-28-102, Revision 01, dated June 23, 1999, in the Costs of Compliance section of this AD. The costs in AD 99-25-14 only specify the cost for the inspection, and not the modification. The modification specified in that service bulletin is an "on-condition" requirement in existing AD 99-25-14. The modification is considered on-condition for airplanes that are not equipped with metallic transitions as specified in paragraph (g)(2) of this AD. The economic analysis of an AD is limited to the cost of actions that are actually required and it does not consider the costs of "on-condition" actions (that is, actions needed to correct an unsafe condition) because, regardless of AD direction, those actions would be required to correct an unsafe condition identified in an airplane and ensure operation of that airplane in an airworthy condition, as required by the Federal Aviation Regulations. We have not changed the final rule regarding this issue.

### **Explanation of Change Made To This AD**

We have revised this AD to identify the legal name of the manufacturer as published in the most recent type certificate data sheet for the affected airplane models.

### **Explanation of Change Made to Service Bulletin Citations**

We have revised this AD to provide full service bulletin citations throughout this AD.

### **Conclusion**

We have carefully reviewed the available data, including the comment 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.

### **Explanation of Changes to Costs of Compliance**

Since issuance of the NPRM, we have increased the labor rate used in the Costs of Compliance from \$80 per work-hour to \$85 per work-hour. The Costs of Compliance information, below, reflects this increase in the specified hourly labor rate.

We have revised the cost of parts from \$80 to \$0 in the section "Inspection (required by AD 99-25-14)" in this AD. In the NPRM, we inadvertently included a cost of \$80 in the parts column of the "Estimated Costs" table.

### **Costs of Compliance**

There are about 13 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for U.S. operators to comply with this AD.

### Estimated Costs

Action	Work hours	Average labor rate per hour	Parts	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Inspection (required by AD 99-25-14)	1	\$85	\$0	\$85, per inspection cycle	9	\$765, per inspection cycle
Modification (new required action)	16	\$85	\$1,248	\$2,608	9	\$23,472

### 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 removing amendment 39-11457 (64 FR 69389, December 13, 1999) and by adding the following new airworthiness directive (AD):



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**2010-11-12 McDonnell Douglas Corporation:** Amendment 39-16317. Docket No. FAA-2009-0866; Directorate Identifier 2009-NM-074-AD.

**Effective Date**

- (a) This AD becomes effective July 6, 2010.

**Affected ADs**

- (b) This AD supersedes AD 99-25-14, Amendment 39-11457.

**Applicability**

(c) This AD applies to McDonnell Douglas Corporation Model MD-11 and MD-11F airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin MD11-28A140, dated November 6, 2008.

**Subject**

- (d) Air Transport Association (ATA) of America Code 28: Fuel.

**Unsafe Condition**

(e) This AD results from reports that the wire assembly for the alternate fuel pump is missing a case ground wire, and the lightning protection wire braid for wire assemblies located in the empennage and number 2 engine inlet are grounded improperly. The Federal Aviation Administration is issuing this AD to prevent insufficient grounding of the fuel pump, which in combination with an electrical failure within the fuel pump and a compromised electrical bond could cause a fuel tank ignition, resulting in consequent fire or explosion.

**Compliance**

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

**Restatement of Requirements of AD 99-25-14 with No Changes**

**Inspection and Corrective Actions**

(g) Within 30 days after January 18, 2000 (the effective date of AD 99-25-14), perform a one-time visual inspection of the wire harnesses of the tail tank fuel transfer pumps to determine if metallic transitions are installed, and to determine if damaged wires are present, in accordance with McDonnell Douglas Alert Service Bulletin MD11-28A101, dated August 24, 1998.

(1) If all metallic transitions are installed, no further action is required by paragraph (g) of this AD.

(2) If metallic transitions are not installed, accomplish the following:  
 (i) Prior to further flight, accomplish the temporary repair in accordance with condition 2 of McDonnell Douglas Alert Service Bulletin MD11-28A101, dated August 24, 1998;  
 (ii) Repeat the visual inspection thereafter at intervals not to exceed 2 years; and  
 (iii) Within 5 years after January 18, 2000, permanently modify the wire harnesses in accordance with McDonnell Douglas Service Bulletin MD11-28-102, Revision 01, dated June 23, 1999. Accomplishment of this modification constitutes terminating action for the repetitive inspection requirements of this AD.

Note 1: Modification of the wire harnesses accomplished prior to January 18, 2000, in accordance with McDonnell Douglas Service Bulletin MD11-28-102, dated January 29, 1999, is considered acceptable for compliance with the modification required by paragraph (g)(2)(iii) of this AD.

**New Requirements of This AD**

**Modification**

(h) Within 72 months after the effective date of this AD, modify the case grounding for the alternate fuel pump of the tail tank, the leak detection thermal switch grounding for the number 2 engine, and wire braid grounding in the empennage and number 2 engine inlet, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin MD11-28A140, dated November 6, 2008.

**Alternative Methods of Compliance (AMOCs)**

(i)(1) The Manager, Los Angeles 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: Samuel Lee, Aerospace Engineer, Propulsion Branch, ANM-140L, FAA, Los Angeles ACO, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5262; fax (562) 627-5210.

(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**

(j) 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 – All Material incorporated by reference**

<b>Document</b>	<b>Revision</b>	<b>Date</b>
Boeing Alert Service Bulletin MD11-28A140	Original	November 6, 2008
McDonnell Douglas Alert Service Bulletin MD11-28A101	Original	August 24, 1998
McDonnell Douglas Service Bulletin MD11-28-102	Revision 01	June 23, 1999

(1) The Director of the Federal Register approved the incorporation by reference of Boeing Alert Service Bulletin MD11-28A140, dated November 6, 2008, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The Director of the Federal Register previously approved the incorporation by reference of McDonnell Douglas Alert Service Bulletin MD11-28A101, dated August 24, 1998; and McDonnell Douglas Service Bulletin MD11-28-102, Revision 01, dated June 23, 1999; on January 18, 2000 (64 FR 69389, December 13, 1999).

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, 3855 Lakewood Boulevard, MC D800-0019, Long Beach, California 90846-0001; telephone 206-544-5000, extension 2; fax 206-766-5683; e-mail [dse.boecom@boeing.com](mailto:dse.boecom@boeing.com); Internet <https://www.myboeingfleet.com>.

(4) 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.

(5) 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](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on May 14, 2010.

Ali Bahrami,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.