

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 75620 12/4/2000]

[Docket No. 2000-NM-36-AD; Amendment 39-12022; AD 2000-24-15]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model MD-11 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain McDonnell Douglas Model MD-11 series airplanes, that requires a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in various areas of the airplane; and corrective actions, if necessary. This amendment is necessary to prevent electrical arcing and/or heat damaged wires due to improper wire installations during manufacture and/or maintenance of the airplane, and consequent fire and smoke in various areas of the airplane. This amendment is intended to address the identified unsafe condition.

DATES: Effective January 8, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 8, 2001.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Aircraft Group, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Technical Publications Business Administration, Dept. C1-L51 (2-60). This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Brett Portwood, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5350; fax (562) 627-5210.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to certain McDonnell Douglas Model MD-11 series airplanes was published in the **Federal Register** on July 27, 2000 (65 FR 46218). That action proposed to require a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in various areas of the airplane; and corrective actions, if necessary.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Request for Reporting Requirement

One commenter requests that the FAA add a reporting requirement for the inspection findings. The commenter states that serious reporting is not possible using the reporting sheet attached to the referenced Boeing service bulletin. The commenter believes that it is important to collect the details

of the inspection results using a database.

The FAA does not concur. The FAA understands the need to collect useful data in a consistent, detailed manner when investigating possible wiring service difficulties. However, the FAA has already conducted an extensive investigation of the wiring on McDonnell Douglas Model MD-11 series airplanes. As part of the investigation, the FAA has performed its own inspections on numerous in-service and in-production airplanes. The FAA has analyzed the data from the inspections and incorporated follow-on actions as part of a comprehensive corrective action plan; this AD is part of that plan. Therefore, the FAA has determined that the need for a reporting requirement for the required inspections to detect and correct minor wiring discrepancies in various areas of the airplane is not necessary.

Revise Corrective Action

One commenter notes that paragraph (c) of the NPRM reads, “If no gap between the wire bundle and blanket can be seen when pressure is applied to the blanket, before further flight, reposition wires or clamps so that a gap can be seen when pressure is applied to the blanket.” The commenter asks, “Will this requirement be valid for all the wire gauges in every area? Does this requirement replace the existing DPS 1.834-7, Par. 4.1.12.1?”

From these questions, the FAA infers that the commenter is requesting that the scope of the corrective action specified in paragraph (c) of the NPRM apply only to wiring that is routed over structural frames. The FAA concurs. In its attempt to provide instructions for accomplishing certain corrective actions, which were not provided in the referenced service bulletin (discussed in the preamble of the NPRM), the FAA did not carry forward the scope of the test requirement into the corrective action specified in paragraph (c) of the AD. For clarification purposes, the FAA has revised paragraph (c) of the final rule to read, “If no gap between the wire bundle and blanket can be seen where the wiring is routed over structural frames...”

Actions Since Issuance of the NPRM

The FAA has reviewed and approved the following service bulletins:

Service Bulletin	Revision Level	Date
McDonnell Douglas Service Bulletin MD11-24-171	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-170	Revision 01	November 6, 2000
Boeing Service Bulletin MD11-24-167, including Appendix	Revision 01	November 6, 2000
Boeing Service Bulletin MD11-24-165, including Appendix	Revision 01	November 6, 2000
Boeing Service Bulletin MD11-24-163, including Appendix	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-188	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-161	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-162	Revision 01	November 6, 2000

The procedures described in these service bulletins are identical to those described in the original issue of the service bulletins (which were referenced in the NPRM as the appropriate sources of service information for doing the proposed actions), but contain certain editorial changes. No additional work is necessary on airplanes changed per the original issue of the service bulletins. Therefore, the FAA has revised the final rule to include Revision 01 of these service bulletins as additional sources of service information.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes

previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 182 Model MD-11 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 60 airplanes of U.S. registry will be affected by this AD.

It will take approximately 10 work hours per airplane to accomplish each of the six inspections specified in paragraphs (a)(1), (a)(2), (a)(3), (a)(4), (a)(5), and (a)(6) of this AD, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of these indicated inspections required by this AD on U.S. operators is estimated to be \$216,000, or \$3,600 per airplane.

It will take approximately 5 work hours per airplane to accomplish the inspection specified in paragraph (a)(7) of this AD, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of this indicated inspection required by this AD on U.S. operators is estimated to be \$18,000, or \$300 per airplane.

It will take approximately 12 work hours per airplane to accomplish the inspection specified in paragraph (a)(8) of this AD, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of this indicated inspection required by this AD on U.S. operators is estimated to be \$43,200, or \$720 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption “ADDRESSES.”

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2000-24-15 MCDONNELL DOUGLAS: Amendment 39-12022. Docket 2000-NM-36-AD.

Applicability: Model MD-11 series airplanes, manufacturer's fuselage numbers 0447 through 0449 inclusive, 0451 through 0464 inclusive, 0466 through 0489 inclusive, 0491 through 0517 inclusive, 0519 through 0552 inclusive, 0554 through 0556 inclusive, 0557, 0558 through 0633 inclusive, and 0635; certificated in any category.

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 (e) 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.

Note 2: The FAA recommends that the actions required by this AD be accomplished immediately after accomplishing the replacement of metallized polyethyleneterephthalate (MPET) insulation blankets, as required by AD 2000-11-02, amendment 39-11750 (65 FR 34341, May 26, 2000).

To prevent electrical arcing and/or heat damaged wires due to improper wire installations during manufacture and/or maintenance of the airplane, and consequent fire and smoke in various areas of the airplane, accomplish the following:

One-Time Detailed Visual Inspection

(a) Within 5 years after the effective date of this AD, accomplish the actions specified in paragraphs (a)(1), (a)(2), (a)(3), (a)(4), (a)(5), (a)(6), (a)(7), and (a)(8) of this AD, as applicable.

(1) For all airplanes: Perform a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in the center and aft cargo compartments from stations Y=1521.000 to Y=2007.000, in accordance with paragraph 3.B., "Work Instructions," of the Accomplishment Instructions of McDonnell Douglas Service Bulletin MD11-24-171, dated April 4, 2000, or Revision 01, dated November 6, 2000.

Note 3: For the purposes of this AD, a detailed visual 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.”

(2) For all airplanes: Perform a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in the forward cargo compartment from stations Y=595.000 to Y=6-73.500, in accordance with the paragraph 3.B., “Work Instructions,” of the Accomplishment Instructions of McDonnell Douglas Service Bulletin MD11-24-170, dated April 12, 2000, or Revision 01, dated November 6, 2000.

(3) For all airplanes: Perform a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in the forward passenger compartment from stations Y=5-11.000 to Y=2007.000, in accordance with the paragraph 3.B., “Work Instructions,” of the Accomplishment Instructions of McDonnell Douglas Service Bulletin MD11-24-167, dated April 4, 2000, or Boeing Service Bulletin MD11-24-167, Revision 01, including Appendix 1, dated November 6, 2000.

(4) For all airplanes: Perform a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in the forward passenger compartment from stations Y=756.000 to Y=1501.000, in accordance with the paragraph 3.B., “Work Instructions,” of the Accomplishment Instructions of McDonnell Douglas Service Bulletin MD11-24-165, dated April 4, 2000, or Boeing Service Bulletin MD11-24-165, Revision 01, including Appendix, dated November 6, 2000.

(5) For all airplanes: Perform a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in the forward passenger compartment from stations Y=465.000 to Y=755.000, in accordance with the paragraph 3.B., “Work Instructions,” of the Accomplishment Instructions of McDonnell Douglas Service Bulletin MD11-24-163, dated April 4, 2000, or Boeing Service Bulletin MD11-24-163, Revision 01, including Appendix 1, dated November 6, 2000.

(6) For all airplanes: Perform a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in the flight compartment and forward drop ceilings areas from stations Y=275.000 to Y=464.000, in accordance with the paragraph 3.B., “Work Instructions,” of the Accomplishment Instructions of McDonnell Douglas Service Bulletin MD11-24-188, dated April 28, 2000, or Revision 01, dated November 6, 2000.

(7) For airplanes having manufacturer’s fuselage numbers 0447 through 0449 inclusive, 0451 through 0464 inclusive, 0466 through 0489 inclusive, 0491 through 0517 inclusive, 0519 through 0552 inclusive, 0554 through 0556 inclusive, 0557, 0558 through 0633 inclusive: Perform a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in the center accessory compartment from stations Y=6-50.000 to Y=1179.000, in accordance with the paragraph 3.B., “Work Instructions,” of the Accomplishment Instructions of McDonnell Douglas Service Bulletin MD11-24-161, dated April 10, 2000, or Revision 01, dated November 6, 2000.

(8) For airplanes having manufacturer’s fuselage numbers 0447 through 0449 inclusive, 0451 through 0464 inclusive, 0466 through 0489 inclusive, 0491 through 0517 inclusive, 0519 through 0552 inclusive, 0554 through 0556 inclusive, 0557, 0558 through 0633 inclusive: Perform a one-time detailed visual inspection to detect discrepancies of all electrical wiring installations in the main avionics compartment from stations Y=275.000 to Y=464.000, in accordance with the paragraph 3.B., “Work Instructions,” of the Accomplishment Instructions of McDonnell Douglas Service Bulletin MD11-24-162, dated April 10, 2000, or Revision 01, dated November 6, 2000.

Corrective Action

(b) If any discrepancy is detected during the inspection required by paragraph (a)(1), (a)(2), (a)(3), (a)(4), (a)(5), (a)(6), (a)(7), or (a)(8) of this AD, before further flight, accomplish the

applicable corrective action(s) in accordance with the Accomplishment Instructions of the following applicable service bulletins, except as provided in paragraphs (c) and (d) of this AD, as applicable:

- (1) McDonnell Douglas Service Bulletin MD11-24-171, dated April 4, 2000, or Revision 01, dated November 6, 2000;
- (2) McDonnell Douglas Service Bulletin MD11-24-170, dated April 12, 2000, or Revision 01, dated November 6, 2000;
- (3) McDonnell Douglas Service Bulletin MD11-24-167, dated April 4, 2000;
- (4) Boeing Service Bulletin MD11-24-167, dated April 4, 2000, Revision 01, including Appendix, dated November 6, 2000;
- (5) McDonnell Douglas Service Bulletin MD11-24-165, dated April 4, 2000;
- (6) Boeing Service Bulletin MD11-24-165, Revision 01, including Appendix, dated November 6, 2000;
- (7) McDonnell Douglas Service Bulletin MD11-24-163, dated April 4, 2000;
- (8) Boeing Service Bulletin MD11-24-163, Revision 01, including Appendix 1, dated November 6, 2000;
- (9) McDonnell Douglas Service Bulletin MD11-24-188, dated April 28, 2000, or Revision 01, dated November 6, 2000;
- (10) McDonnell Douglas Service Bulletin MD11-24-161, dated April 10, 2000, or Revision 01, dated November 6, 2000; or
- (11) McDonnell Douglas Service Bulletin MD11-24-162, dated April 10, 2000, or Revision 01, dated November 6, 2000.

Note 4: Where there are differences between the AD and the referenced service bulletins, the AD prevails.

(c) If no gap between the wire bundle and blanket can be seen where the wiring is routed over the structural frames when pressure is applied to the blanket, before further flight, reposition wires or clamps so that a gap can be seen when pressure is applied to the blanket.

(d) If any screw terminal of the flag lug bus bar is loose, before further flight, retorque to 10 to 11 inch-pounds.

Alternative Methods of Compliance

(e) 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, Los Angeles 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, Los Angeles ACO.

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

Special Flight Permits

(f) 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

(g) Except as provided by paragraphs (c) and (d) of this AD, the actions shall be done in accordance with the following applicable service bulletins:

Service Bulletin	Revision Level	Date
McDonnell Douglas Service Bulletin MD11-24-171	Original	April 4, 2000
McDonnell Douglas Service Bulletin MD11-24-171	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-170	Original	April 12, 2000
McDonnell Douglas Service Bulletin MD11-24-170	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-167	Original	April 4, 2000
Boeing Service Bulletin MD11-24-167, including Appendix	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-165	Original	April 4, 2000;
Boeing Service Bulletin MD11-24-165, including Appendix	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-163	Original	April 4, 2000;
Boeing Service Bulletin MD11-24-163, including Appendix	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-188	Original	April 28, 2000
McDonnell Douglas Service Bulletin MD11-24-188	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-161	Original	April 10, 2000
McDonnell Douglas Service Bulletin MD11-24-161	Revision 01	November 6, 2000
McDonnell Douglas Service Bulletin MD11-24-162	Original	April 10, 2000
McDonnell Douglas Service Bulletin MD11-24-162	Revision 01	November 6, 2000

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Aircraft Group, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Technical Publications Business Administration, Dept. C1-L51 (2-60). Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(h) This amendment becomes effective on January 8, 2001.

FOR FURTHER INFORMATION CONTACT: Brett Portwood, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5350; fax (562) 627-5210.

Issued in Renton, Washington, on November 22, 2000.

Donald L. Riggin, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.