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[Page 44035-44039]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

**[Docket No. 2000-NM-191-AD; Amendment 39-12402; AD 2001-17-11]
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 an inspection to detect arcing damage of the electrical cables leading to the hydraulic pump terminal strips and the surrounding structure in the wheel well area of the right main landing gear (MLG); and corrective actions, if necessary. This AD also requires replacement of a certain terminal strip with a new terminal strip, and removal of the applicable nameplate in the wheel well of the right MLG. For certain airplanes, this AD also requires, as an alternative, an inspection of the terminal strip to determine if the correct washer is installed, and replacement of the incorrect washer with a new washer. This action is necessary to prevent arcing damage to the terminal strips and damage to the adjacent structure of the wheel well area of the right MLG, which could result in a fire in the wheel well of the right MLG. This action is intended to address the identified unsafe condition.

DATES: Effective September 26, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of September 26, 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: Data and Service Management, Dept. C1-L5A (D800-0024). 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; 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 MD-11 series airplanes was published in the Federal Register on February 20, 2001 (66 FR 10846). That action proposed to require an inspection to detect arcing damage of the electrical cables leading to the hydraulic pump terminal strips and the surrounding structure in the wheel well area of the right main landing gear (MLG); and corrective actions, if necessary. That action also proposed to require replacement of a certain terminal strip with a new terminal strip, and removal of the applicable nameplate in the wheel well of the right MLG.

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.

Address Change for Obtaining Service Information

The airplane manufacturer states that the referenced department name, number, and mail code of the address for obtaining service information are incorrect in the notice of proposed rulemaking (NPRM). The correct address is Boeing Commercial Aircraft Group, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1-L5A (D800-0024). The airplane manufacturer requests that the NPRM be revised accordingly. The FAA agrees and has revised this address in the final rule.

Delay Issuance of Final Rule

One commenter requests that the final rule not be issued until Boeing has issued Revision 01 of McDonnell Douglas Alert Service Bulletin MD11-24A186. The commenter states that the NPRM cannot be complied with as written due to "problems" with McDonnell Douglas Alert Service Bulletin MD11-24A186, dated October 4, 2000 (original version), which is referenced in the NPRM as the appropriate source of service information for accomplishing certain proposed actions.

Since issuance of the NPRM, the FAA has reviewed and approved Revision 01 of McDonnell Douglas Alert Service Bulletin MD11-24A186, dated May 16, 2001. For certain airplanes, the revised service bulletin describes the following procedures:

1. Replacing a certain terminal strip;
2. Removing the applicable nameplate in the right MLG wheel well;
3. Sealing the screw heads of any replaced terminal strip;
4. Performing an inspection to detect arcing damage of the electrical cables leading to the hydraulic pump terminal strips and the surrounding structure in the wheel well area of the right MLG, and replacing any damaged component with a new component or repairing the damaged component.

For certain other airplanes, the revised service bulletin describes procedures for an inspection of the terminal strip to determine if the correct washer is installed, and replacement of any incorrect washer with a new washer.

Accomplishment of the actions specified in the service bulletin is intended to adequately address the identified unsafe condition. We find that these actions are an acceptable alternative method of compliance (AMOC) with the actions specified in the original version of service bulletin and specified by the NPRM. Therefore, we have revised the final rule to include these actions as an option to complying with the requirements of paragraphs (a) and (b) of this AD, as applicable.

Request for Various Changes to Requirements of the NPRM and Service Bulletin

Because of the "problems" with the McDonnell Douglas Alert Service Bulletin MD11-24A186, dated October 4, 2000 (original version), the commenter also requests that the NPRM be changed as follows:

1. Allow re-identification of the terminal strip (specified in the General Notes of the referenced service bulletin) per operator standard practices.

2. Revise paragraph (a)(2) of the NPRM to include a statement that, "if the damaged strip is S3-261, replace it per [paragraph (b)(1) of the AD]." The commenter provided no justification.

3. Include a defined repair, developed by Boeing, in paragraph (a)(5) of the NPRM for cases where the Structural Repair Manual (SRM) does not cover the damage. The commenter states that accomplishing the repair required by paragraph (a)(5) of the NPRM can lead to extended unscheduled airplane downtime due to the unknown damage and unknown repair procedure. The commenter also states that requiring approval of a repair by the Aircraft Certification Office (ACO) will not be practical. Damage to airplanes that is not covered in the SRM is commonly encountered and is addressed by the airline's FAA-approved engineering support process.

4. Revise paragraph (b)(1) of the NPRM to require replacement of the installed t-strip with a new terminal strip, part number (P/N) HS27212-3-4, no matter what the base thickness, stud, and terminal sizes are. The commenter states that measuring the base thickness, stud, and terminal sizes of the terminal strips to determine whether or not to replace the strip will cause confusion, and possibly result in the affected terminal strips being left on the airplane.

5. Sealing screw heads of replaced terminal strips (paragraph 3.B.6 of the referenced service bulletin) should be done per Boeing Standard Wiring Practices Manual (SWPM) (Document D6-82481) Chapter 20-20-03, paragraphs 2.B.(1) through (3) and paragraph 3.B. (reference Boeing TWX DAL-ATL-01-01462H, dated April 6, 2001). The commenter states that the referenced Douglas Process Specification (DPS) is not a practical source document for maintenance instructions, because it references many other DPSs, which would complicate compliance.

6. Performing the continuity test (part of the closing actions) should be done per Wiring Diagram Manual (WDM) 29-21-01, not per WDM 24-51-09, as referenced. The commenter provided no justification.

The FAA does not agree with the commenter's request to allow re-identification of the terminal strip per operator standard practices. Because the commenter provided no justification, we have no knowledge about the specifics of the commenter's "operator's standard practices." Therefore, no change to the final rule is necessary with regard to this point. However, paragraph (d) of the final rule does provide operators the opportunity to apply for an alternative method of compliance, such as the use of "operator's standard practices."

The FAA does not agree with the commenter's request to include a statement that, "if the damaged strip is S3-261, replace it per [paragraph (b)(1) of the AD]." Although the commenter's suggested wording may eliminate a step in the work instructions, we have determined that the procedures specified in the revised service bulletin address this concern.

The FAA does not agree with the commenter's request to include a defined repair, developed by Boeing, in paragraph (a)(5) of the NPRM for cases where the SRM does not cover the damage. We find that repair of damaged structure is necessary, since such damage could lead to further unsafe conditions. Also, if the service bulletin does not cover every aspect of the structural repair, we cannot rely on an unknown engineering support process of the airlines. However, we have issued a notice (N 8110.72, dated March 30, 1998), which provides guidance for delegating authority to certain type certificate holder structural designated engineering representatives (DER) to approve alternative methods of compliance for AD-required repairs and modifications of individual airplanes. We are currently working with Boeing, Douglas Products Division (DPD), to develop the implementation process for delegation of approval of AMOCs in accordance with that notice. Once this process is implemented, approval authority for alternative methods of compliance can be delegated without revising the AD.

The FAA partially agrees with the commenter's request to revise paragraph (b)(1) of the final rule to require replacement of the installed t-strip with a new terminal strip, P/N HS27212-3-4, no matter what the base thickness, stud, and terminal sizes are. We do not agree to revise paragraph (b)(1) of the final rule. However, we have revised the final rule (paragraph (c)(1)(i)) to include an option to replace the installed t-strip no matter what the base thickness, stud, and terminal sizes are (as referenced in Revision 01 of the service bulletin described above).

The FAA agrees with the commenter's request that the sealing of screw heads of the replaced terminal strips (paragraph 3.B.6 of the referenced service bulletin) should be done per Boeing SWPM Chapter 20-20-03. We have included the correct reference to SWPM Chapter 20-20-03 in new paragraph (c)(1)(i) of the final rule. Revision 01 of the service bulletin (described above) incorrectly references Chapter 20-20-02 of the Boeing SWPM for accomplishing the sealing of the screw heads.

The FAA agrees with the commenter that the continuity test (part of the closing actions) should be done per WDM 29-21-01, not per WDM 24-51-09, as referenced in the NPRM. This change has been made in Revision 01 of the service bulletin (described above).

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 191 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, that it will take approximately 1 work hour per airplane to accomplish the required actions, and that the average labor rate is \$60 per work hour. Required parts will cost approximately \$25 per airplane. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$5,100, or \$85 per airplane.

The cost impact figure discussed above is 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.

Sec. 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).

2001-17-11 McDonnell Douglas: Amendment 39-12402. Docket 2000-NM-191-AD.

Applicability: Model MD-11 series airplanes, as listed in McDonnell Douglas Alert Service Bulletin MD11-24A186, dated October 4, 2000; 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 (d) 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 arcing damage to the terminal strips and damage to the adjacent structure of the wheel well area of the right main landing gear (MLG), which could result in a fire in the wheel well of the right MLG, accomplish the following:

Inspection and Corrective Actions, If Necessary

(a) Except as provided by paragraph (c) of this AD: Within 18 months after the effective date of this AD, do a general visual inspection to detect arcing damage of the electrical cables leading to the hydraulic pump terminal strips and the surrounding structure in the wheel well area of the right MLG, per McDonnell Douglas Alert Service Bulletin MD11-24A186, dated October 4, 2000.

Note 2: For the purposes of this AD, a general visual inspection is defined as "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or drop-light, and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

(1) If no arcing or structure damage is detected during the general visual inspection, before further flight, do the actions specified in paragraph (b) of this AD.

(2) If any arcing damage is detected on any terminal strip, before further flight, replace the damaged terminal strip with a like part, and seal the screw heads of any replaced terminal strip, per the service bulletin.

(3) If any arcing damage is detected on any cable and the damage within the limits specified in the service bulletin, before further flight, repair the arcing damage per the service bulletin, and do the actions specified in paragraph (b) of this AD.

(4) If any arcing damage is detected on any cable and the damage beyond the limits specified in the service bulletin, before further flight, replace the damaged cable with a new cable per the service bulletin, and do the actions specified in paragraph (b) of this AD.

(5) If any structure damage is detected, before further flight, do the actions specified in paragraphs (a)(5)(i) and (a)(5)(ii) of this AD.

(i) Repair the damaged structure per the service bulletin; except if the type of structural material that has been affected is not covered in the Structural Repair Manual (SRM), repair per a method approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA.

(ii) Do the actions specified in paragraph (b) of this AD.

Follow-on Replacement and Removal of Nameplate, If Necessary

(b) Except as provided by paragraph (c) of this AD: Do the actions specified in paragraphs (b)(1) and (b)(2) of this AD per McDonnell Douglas Alert Service Bulletin MD11-24A186, October 4, 2000.

(1) Replace any terminal strip identified in Table 1 of this AD with a base thickness of 0.445 inches or less that have 1/4-inch or larger studs and/or 4 through 000 gauge size terminal lugs with a new terminal strip. Table 1 is as follows:

Item No.	System	Location
S3-261	Aux hydraulic pump 1.	Wheel well of the right MLG (looking forward).

(2) Remove the applicable nameplate in the wheel well of the right MLG.

Alternative Actions for Requirements of Paragraphs (a) and (b) of This AD

(c) In lieu of the requirements of paragraphs (a) and (b) of this AD, as applicable, within 18 months after the effective date of this AD, do the actions specified in paragraph (c)(1) or (c)(2) of this AD, as applicable.

(1) For Group 1 airplanes identified in McDonnell Douglas Alert Service Bulletin MD11-24A186, Revision 01, dated May 16, 2001: Do the actions specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this AD, per McDonnell Douglas Alert Service Bulletin MD11-24A186, Revision 01, dated May 16, 2001.

(i) Replace any terminal strip identified in Table 1 of this AD, remove the applicable nameplate in the right MLG wheel well per the service bulletin, and seal the screw heads of any replaced terminal strip per Chapter 20-20-03 of the Boeing Standard Wiring Practices Manual (SWPM).

Note 3: McDonnell Douglas Alert Service Bulletin MD11-24A186, Revision 01, dated May 16, 2001, incorrectly references Chapter 20-20-02 of the Boeing SWPM for accomplishing the sealing of the screw heads; the correct reference is Chapter 20-20-03 of the Boeing SWPM. Where there are differences between the referenced service bulletin and the AD, the AD prevails.

(ii) Do a general visual inspection to detect arcing damage of the electrical cables leading to the hydraulic pump terminal strips and the surrounding structure in the wheel well area of the right MLG, per the service bulletin. If any damage is detected, before further flight, replace damaged component with a new component or repair the damaged component per the service bulletin; except if the type of

structural material that has been affected is not covered in the SRM, repair per a method approved by the Manager, Los Angeles ACO, FAA.

(2) For Group 2 airplanes identified in McDonnell Douglas Alert Service Bulletin MD11-24A186, Revision 01, dated May 16, 2001: Do a general visual inspection of the terminal strip to determine if the correct washer is installed, per the service bulletin. If incorrect washer is installed, before further flight, replace washer with a new washer, per the service bulletin.

Alternative Methods of Compliance

(d) 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 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 4: 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

(e) 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

(f) Except as provided by paragraphs (a)(5)(i), (c)(1)(i), and (c)(1)(ii) of this AD, the actions shall be done in accordance with McDonnell Douglas Alert Service Bulletin MD11-24A186, dated October 4, 2000; or McDonnell Douglas Alert Service Bulletin MD11-24A186, Revision 01, dated May 16, 2001. 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: Data and Service Management, Dept. C1-L5A (D800-0024). 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

(g) This amendment becomes effective on September 26, 2001.

Issued in Renton, Washington, on August 14, 2001.

Vi L. Lipski,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01-20938 Filed 8-21-01; 8:45 am]

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