

[Federal Register: January 2, 2003 (Volume 68, Number 1)]  
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[DOCID:fr02ja03-14]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. 99-NM-90-AD; Amendment 39-13001; AD 2002-26-13]**

**RIN 2120-AA64**

**Airworthiness Directives; McDonnell Douglas Model DC-9-11, -12, -13, -14, -15, and -15F Airplanes; Model DC-9-21 Airplanes; Model DC-9-31, -32, -32 (VC-9C), -32F, -32F (C-9A, C-9B), -33F, -34, and -34F Airplanes; Model DC-9-41 Airplanes; Model DC-9-51 Airplanes; Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) Airplanes; and Model MD-88 Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to certain McDonnell Douglas airplanes, that requires replacement of certain power relays, and subsequent repetitive cleaning, inspecting, repairing, and testing of certain replaced power relays. This amendment is prompted by reports indicating that the alternating current (AC) cross-tie relay shorted out internally, which caused severe smoke and burn damage to the relay, aircraft wiring, and adjacent panels. The actions specified by this AD are intended to prevent internal arcing of the left and right generator power relays, auxiliary power relays, and external power relays, and consequent smoke and/or fire in the cockpit and cabin.

**DATES:** Effective February 6, 2003.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of February 6, 2003.

**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:** Elvin Wheeler, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5344; 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 airplanes was published as a second supplemental notice of proposed rulemaking (NPRM) in the Federal Register on July 1, 2002 (67 FR 44119). That action proposed to require replacement of certain power relays, and subsequent repetitive cleaning, inspecting, repairing, and testing of certain replaced power relays.

## **Comments**

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

## **Request To Reduce the Compliance Time**

One commenter, the National Transportation Safety Board (NTSB), agrees with the proposed replacement and repetitive maintenance requirements. However, the commenter does not agree with the proposed 24-month compliance time, because it "is a longer compliance time than is either necessary or prudent." The commenter states that it was informed by the FAA that the originally proposed 12-month compliance time was extended to 24 months because of the limited supply of replacement relays and the absence of any reports of failure of the power relays having part number (P/N) 914F567-3 in the six positions (left and right generator power, auxiliary power, and external power). The commenter notes that the power relay manufacturer has recommended replacement of P/N 914F567-3 power relays in those six positions and the cross-tie position (total of seven positions) since 1976.

From this comment, we infer that the commenter requests that the compliance time be reduced from the proposed 24 months to 12 months. We do not agree. Concerning the power relay manufacturer's 1976 recommendation, Sundstrand (Westinghouse) has re-reviewed all field data for power relays having P/N 914F567-3. It concluded that, in its opinion, the identified unsafe condition exists in the cross-tie position only. The power relays installed at the AC cross-tie position are more susceptible to phase-to-phase short than the other six positions (left and right generator power, auxiliary power, and external power) due to the installation orientation in an airplane. Its horizontal orientation allows for the buildup of conductive particle material between phase-to-phase circuits. Sundstrand (Westinghouse) also recommended that we not issue an AD for power relays having P/N 914F567-3 that are in the left and right generator power, auxiliary power, and external power positions. Due to the lower likelihood of a short circuit resulting in internal arcing, we have determined that a 24-month compliance time is appropriate to address the identified unsafe condition.

However, as discussed in the preamble of the second supplemental NPRM, we have determined that the potential for an electrical short still exists when a power relay, Sundstrand (Westinghouse) P/N 914F567-3, is installed in those six positions, though not as likely as in the cross-tie position. The accumulation of conductive particle material on any power relays, Sundstrand (Westinghouse) P/N 914F567-3, can build an electrical path to its adjacent terminal and cause a phase-to-phase short circuit. Such a short circuit will result in internal arcing of the power relays and consequent smoke and/or fire in the cockpit and cabin. This final rule addresses that potential unsafe condition by replacing the generator power relays, auxiliary power relays, and external power relays having Sundstrand (Westinghouse) P/N 914F567-3 with a Sundstrand (Westinghouse) P/N 9008D09 series or 914F567-4, and periodically removing the build-up of conductive particle material from the generator power relays, auxiliary power relays, and external power relays, having Sundstrand (Westinghouse) P/N 914F567-4.

## **Explanation of Change to Applicability**

We have revised the applicability of the existing AD to identify model designations as published in the most recent type certificate data sheet for the affected models.

## **Conclusion**

After careful review of the available data, including the comment noted above, we have determined that air safety and the public interest require the adoption of the rule with the change previously described. We have determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Cost Impact**

There are approximately 1,991 Model DC-9-11, -12, -13, -14, -15, and -15F airplanes; Model DC-9-21 airplanes; Model DC-9-31, -32, -32 (VC-9C), -32F, -32F (C-9A, C-9B), -33F, -34, and -34F airplanes; Model DC-9-41 airplanes; Model DC-9-51 airplanes; Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) airplanes; and Model MD-88 airplanes; of the affected design in the worldwide fleet. The FAA estimates that 1,219 airplanes of U.S. registry will be affected by this AD, that it will take approximately 2 work hours per airplane to accomplish the required inspection, and that the average labor rate is \$60 per work hour. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$146,280, or \$120 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.

### **§ 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 "www.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).

**2002-26-13 McDonnell Douglas:** Amendment 39-13001. Docket 99-NM-90-AD.

**Applicability:** This AD applies to the following airplanes, certificated in any category, as listed in Boeing Alert Service Bulletin DC9-24A191, Revision 01, dated January 9, 2002:

## McDonnell Douglas Model

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DC-9-11, DC-9-12, DC-9-13, DC-9-14, DC-9-15, and DC-9-15F airplanes

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DC-9-21 airplanes

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DC-9-31, DC-9-32, DC-9-32 (VC-9C), DC-9-32F, DC-9-32F (C-9A, C-9B), DC-9-33F, DC-9-34, and DC-9-34F airplanes

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DC-9-41 airplanes

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DC-9-51 airplanes

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DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) airplanes

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MD-88 airplanes

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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 (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.

To prevent internal arcing of the left and right generator power relays, auxiliary power relays, and external power relays, and consequent smoke and/or fire in the cockpit and cabin, accomplish the following:

### Inspection

(a) Within 24 months after the effective date of this AD, perform a one-time inspection of the left and right generator power relays, auxiliary power relays, and external power relays, to determine if Sundstrand (Westinghouse) part number (P/N) 914F567-3 or -4 is installed, per Boeing Alert Service Bulletin DC9-24A191, Revision 01, dated January 9, 2002.

**Replacement or Modification/Reidentification of Any Generator Power Relay, Auxiliary Power Relay, or External Power Relay, P/N 914F567-3**

(b) If any generator power relay, auxiliary power relay, or external power relay, Sundstrand (Westinghouse) P/N 914F567-3, is found installed during the inspection required by paragraph (a) of this AD, within 24 months after the effective date of this AD, do either action specified in paragraph (b)(1) or (b)(2) of this AD per the Accomplishment Instructions of Boeing Alert Service Bulletin DC9-24A191, Revision 01, dated January 9, 2002.

(1) Replace power relay having Sundstrand (Westinghouse) P/N 914F567-3 with either a serviceable power relay having Sundstrand (Westinghouse) P/N 9008D09 series or 914F567-4.

(2) Modify the power relay, Sundstrand (Westinghouse) P/N 914F567-3, to a -4 configuration.

**Maintenance or Replacement of Any Generator Power Relay, Auxiliary Power Relay, or External Power Relay, P/N 914F567-4**

(c) If any generator power relay, auxiliary power relay, or external power relay, Sundstrand (Westinghouse) P/N 914F567-4, is found installed during the inspection required by paragraph (a) of this AD, clean, inspect, repair, and test the relay, or replace the power relay with a serviceable power relay having Sundstrand (Westinghouse) P/N 9008D09 series or 914F567-4; per Boeing Alert Service Bulletin DC9-24A191, Revision 01, dated January 9, 2002; at the time specified in paragraph (c)(1) of this AD, except as provided by paragraph (c)(2) of this AD.

(1) Within 7,000 flight hours after installation of the generator power relay, auxiliary power relay, or external power relay, Sundstrand (Westinghouse) P/N 914F567-4, or within 24 months after the effective date of this AD, whichever occurs later.

(2) For airplanes on which the flight hours since installation of any generator power relay, auxiliary power relay, or external power relay, Sundstrand (Westinghouse) P/N 914F567-4, cannot be determined: Within 24 months after the effective date of this AD.

**Repetitive Maintenance of Generator Power Relay, Auxiliary Power Relay, or External Power Relay, Sundstrand (Westinghouse) P/N 914F567-4**

(d) Before or upon the accumulation of 7,000 flight hours on any generator power relay, auxiliary power relay, or external power relay, Sundstrand (Westinghouse) P/N 914F567-4 since accomplishing the action(s) required by either paragraph (b) or (c) of this AD, as applicable, clean, inspect, repair, and test; per Boeing Alert Service Bulletin DC9-24A191, Revision 01, dated January 9, 2002. Thereafter, repeat these actions at intervals not to exceed the accumulation of 7,000 flight hours on the power relay.

**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 2:** 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) The actions shall be done in accordance with Boeing Alert Service Bulletin DC9-24A191, Revision 01, dated January 9, 2002. 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**

(h) This amendment becomes effective on February 6, 2003.

Issued in Renton, Washington, on December 23, 2002.

Vi L. Lipski,  
Manager, Transport Airplane Directorate, Aircraft Certification Service.  
[FR Doc. 02-32865 Filed 12-31-02; 8:45 am]  
BILLING CODE 4910-13-U