

[Federal Register: March 31, 2004 (Volume 69, Number 62)]
[Rules and Regulations]
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[DOCID:fr31mr04-10]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 99-NM-255-AD; Amendment 39-13549; AD 2004-07-05]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model DC-9-10, DC-9-20, DC-9-30, DC-9-40, and DC-9-50 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to certain McDonnell Douglas Model DC-9-10, DC-9-20, DC-9-30, DC-9-40, and DC-9-50 series airplanes, and C-9 (military) airplanes, that currently requires repetitive ultrasonic or magnetic particle inspections to detect cracking of the engine pylon aft upper spar straps (caps); and if necessary, replacement of the strap with a new strap, or modification of the engine pylon rear spar straps, which constitutes terminating action for the repetitive inspections. This amendment requires new, improved repetitive ultrasonic inspections, and corrective actions if necessary. This amendment also requires, among other items, a terminating action for the repetitive inspection requirements. The actions specified by this AD are intended to detect and correct fatigue cracking, which could result in major damage to the adjacent structure of the pylon aft upper spar cap, and consequent reduced structural integrity of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective May 5, 2004.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of May 5, 2004.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplanes, 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: Wahib Mina, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5324; fax (562) 627-5210.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 78-01-16, amendment 39-3117 (43 FR 1300, January 9, 1978), which is applicable to certain McDonnell Douglas Model DC-9-10, DC-9-20, DC-9-30, DC-9-40, and DC-9-50 series airplanes, was published as a supplemental notice of proposed rulemaking (NPRM) in the Federal Register on December 22, 2003 (68 FR 71040). That action proposed to continue to require repetitive ultrasonic or magnetic particle inspections to detect cracking of the engine pylon aft upper spar straps (caps); and if necessary, replacement of the strap with a new strap, or modification of the engine pylon rear spar straps, which constitutes terminating action for the repetitive inspections. The action also proposed to require new, improved repetitive ultrasonic inspections, and corrective actions if necessary. The action also proposed to require, among other items, a terminating action for the repetitive inspection requirements and to add airplanes to the applicability.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were submitted in response to the proposal or the FAA's determination of the cost to the public.

Conclusion

The FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Cost Impact

There are approximately 577 Model DC-9-10, DC-9-20, DC-9-30, DC-9-40, and DC-9-50 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 350 airplanes of U.S. registry will be affected by this AD.

The ultrasonic inspection that is currently required by AD 78-01-16, and retained in this AD, takes approximately 3 work hours per airplane to accomplish, at an average labor rate of \$65 per work hour. Based on these figures, the cost impact of this currently required action on U.S. operators is estimated to be \$195 per airplane, per inspection cycle.

The new ultrasonic inspection that is required by this AD will take approximately 4 work hours per airplane to accomplish, at an average labor rate of \$65 per work hour. Based on these figures, the cost impact of the new ultrasonic inspection required by this AD on U.S. operators is estimated to be \$260 per airplane, per inspection cycle.

The new modification of the rear spar upper strap (cap) that is required by this AD will take between approximately 349 and 412 work hours to accomplish (depending on the configuration of the affected airplane), at an average labor rate of \$65 per work hour. The cost of required parts will be between approximately \$1,865 and \$7,947 per airplane. Based on these figures, the cost impact of the new modification required by this AD on U.S. operators is estimated to be between \$24,550 and \$34,727 per airplane.

For certain airplanes, the repetitive visual inspections of the upper rear spar (cap) for bearing migration and correct pin staking will take approximately 20 work hours per airplane to accomplish, at an average labor rate of \$65 per work hour. Based on these figures, the cost impact of that inspection required by this AD on U.S. operators is estimated to be \$1,300 per airplane, per inspection cycle.

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.

Should an operator elect to accomplish the optional magnetic particle inspection that will be provided by this AD action, it will take approximately 7 work hours to accomplish it, at an average labor rate of \$65 per work hour. Based on these figures, the cost impact of this action on U.S. operators will be \$455 per airplane, per inspection cycle.

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 removing amendment 39-3117 (43 FR 1300, January 9, 1978), and by adding a new airworthiness directive (AD), amendment 39-13549, to read as follows:

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).

2004-07-05 McDonnell Douglas: Amendment 39-13549. Docket 99-NM-255-AD. Supersedes AD 78-01-16, Amendment 39-3117.

Applicability: Model DC-9-10, DC-9-20, DC-9-30, DC-9-40, and DC-9-50 series airplanes, as listed in Boeing Service Bulletin DC9-54-031, Revision 05, dated April 25, 2003; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To detect and correct fatigue cracking, which could result in major damage to the adjacent structure of the pylon aft spar upper cap, and consequent reduced structural integrity of the airplane; accomplish the following:

Restatement of Certain Requirements of AD 78-01-16, Amendment 39-3117

Compliance Times

(a) For airplanes that have accumulated 35,000 or more total landings as of February 13, 1978 (the effective date of AD 78-01-16): Within 600 landings after February 13, 1978, unless already accomplished within the last 1,800 landings, and thereafter at intervals not to exceed 2,400 landings, accomplish the actions specified in paragraph (f) of this AD.

(b) For airplanes that have accumulated between 30,000 and 34,999 total landings inclusive, as of February 13, 1978: Within 900 landings after February 13, 1978, unless already accomplished within the last 1,500 landings, and thereafter at intervals not to exceed 2,400 landings, accomplish the actions specified in paragraph (f) of this AD.

(c) For airplanes that have accumulated between 25,000 and 29,999 total landings inclusive, as of February 13, 1978: Within 1,200 landings after February 13, 1978, unless already accomplished within the last 1,200 landings, and thereafter at intervals not to exceed 2,400 landings, accomplish the actions specified in paragraph (f) of this AD.

(d) For airplanes that have accumulated between 15,000 and 24,999 total landings inclusive, as of February 13, 1978: Within 2,000 landings after February 13, 1978, unless already accomplished within the last 400 landings, and thereafter at intervals not to exceed 2,400 landings, accomplish the actions specified in paragraph (f) of this AD.

(e) For airplanes that have accumulated less than 15,000 total landings as of February 13, 1978: Within 2,000 landings after the accumulation of 15,000 total landings, and thereafter at intervals not to exceed 2,400 landings, accomplish the actions specified in paragraph (f) of this AD.

Repetitive Inspections and Corrective Actions

(f) For airplanes having fuselage numbers 1 through 851 inclusive: At the times specified in paragraphs (a) through (e) of this AD, except as provided by paragraph (l) of this AD, perform an ultrasonic inspection of the engine pylon aft upper spar straps (caps), part number (P/N) 9958154-5/-6 or P/N 9958154-37/-38, to detect cracking; in accordance with paragraph 2.B of McDonnell Douglas DC-9 Alert Service Bulletin A54-31, Revision 1, dated December 22, 1976; or in accordance with a method approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA.

(1) If there is evidence of cracking, the magnetic particle inspection specified in paragraph 2.C of the service bulletin may be used to confirm the evidence of cracking.

(2) If any cracking is detected, prior to further flight, accomplish either paragraph (f)(2)(i) or (f)(2)(ii) of this AD in accordance with the service bulletin.

(i) Replace the strap with a new strap, P/N 9958154-5/-6 or P/N 9958154-37/-38, and repeat the inspection thereafter at intervals not to exceed 15,000 landings. Or,

(ii) Modify the engine pylon rear spar straps (caps) in accordance with McDonnell Douglas DC-9 Service Bulletin 54-31, dated August 24, 1976. Accomplishment of the modification constitutes terminating action for the repetitive inspection requirements specified only in paragraph (f)(2)(i) of this AD.

Note 1: Modification of the engine pylon rear spar straps (caps) accomplished prior to the effective date of this AD in accordance with McDonnell Douglas DC-9 Alert Service Bulletin A54-31, Revision 2, dated December 22, 1977; Revision 3, dated June 20, 1986; Revision 4, dated March 26, 1987; Revision 5, dated March 25, 1991; or Revision 6, dated November 23, 1992; is considered acceptable for compliance with the requirements of paragraph (f)(2)(ii) of this AD.

Note 2: Ultrasonic or magnetic particle inspection of the engine pylon aft upper spar straps (caps) accomplished prior to the effective date of this AD in accordance with McDonnell Douglas DC-9 Alert Service Bulletin A54-31, Revision 2, dated December 22, 1977; Revision 3, dated June 20, 1986; Revision 4, dated March 26, 1987; Revision 5, dated March 25, 1991; or Revision 6, dated November 23, 1992; is considered acceptable for compliance with the inspection requirements of paragraph (f) of this AD, as applicable.

New Requirements of This AD

Ultrasonic Inspections

(g) For airplanes on which the modification/replacement specified in paragraph (n) of this AD has not been accomplished, and on which the spar strap replacement specified in paragraph (f)(2)(i) of this AD has not been accomplished: Except as provided by paragraph (m) of this AD, perform an ultrasonic inspection of the engine pylon aft upper spar straps (caps) to detect cracking, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin DC9-54A031, Revision 09, September 3, 2002; at the time specified in paragraph (g)(1), (g)(2), (g)(3), or (g)(4) of this AD, as applicable. Accomplishment of the ultrasonic inspection constitutes terminating action for the repetitive inspection requirements of paragraphs (a) through (f), including paragraph (f)(2)(i) of this AD.

(1) For airplanes that have accumulated less than 25,000 total landings as of the effective date of this AD: After the accumulation of 15,000 total landings but before the accumulation of 25,000 total landings, or within 2,000 landings or 6 months after the effective date of this AD, whichever occurs latest.

(2) For airplanes that have accumulated 25,000 to 29,999 total landings as of the effective date of this AD: Within 1,200 landings or 6 months after the effective date of this AD, whichever occurs later.

(3) For airplanes that have accumulated 30,000 to 34,999 total landings as of the effective date of this AD: Within 900 landings or 6 months after the effective date of this AD, whichever occurs later.

(4) For airplanes that have accumulated 35,000 or more total landings as of the effective date of this AD: Within 600 landings or 6 months after the effective date of this AD, whichever occurs later.

(h) For airplanes on which the modification/replacement specified in paragraph (n) of this AD has not been accomplished, and on which the spar strap replacement specified in paragraph (f)(2)(i) of this AD has been accomplished: Except as provided by paragraph (m) of this AD, perform an ultrasonic inspection of the engine pylon aft upper spar straps (caps) to detect cracking, in accordance with Boeing Alert Service Bulletin DC9-54A031, Revision 09, dated September 3, 2003; at the time specified in paragraph (h)(1), (h)(2), (h)(3), or (h)(4) of this AD, as applicable. Accomplishment of the ultrasonic inspection constitutes terminating action for the repetitive inspection requirements of paragraphs (a) through (f) of this AD.

(1) For airplanes that have accumulated less than 25,000 total landings since installation of the new spar strap (cap): After the accumulation of 15,000 landings since installation of the new spar strap (cap) but before the accumulation of 25,000 landings since installation of the new spar strap (cap), or within 2,000 landings or 6 months after the effective date of this AD, whichever occurs latest.

(2) For airplanes that have accumulated between 25,000 and 29,999 landings since installation of the new spar strap (cap): Within 1,200 landings or 6 months after the effective date of this AD, whichever occurs later.

(3) For airplanes that have accumulated between 30,000 and 34,999 landings since installation of the new spar strap (cap): Within 900 landings or 6 months after the effective date of this AD, whichever occurs later.

(4) For airplanes that have accumulated 35,000 or more landings since installation of the new spar strap (cap): Within 600 landings or 6 months after the effective date of this AD, whichever occurs later.

Note 3: Ultrasonic or magnetic particle inspection of the engine pylon aft upper spar straps (caps) accomplished prior to the effective date of this AD per Boeing Alert Service Bulletin DC9-54A031, Revision 07, dated August 26, 1999; or Revision 08, dated January 31, 2000; is considered acceptable for compliance with the requirements of paragraph (g) or (h) of this AD, as applicable.

If No Cracking Is Detected—Repetitive Inspections

(i) If no cracking is detected during the ultrasonic inspection required by paragraph (g) or (h) of this AD, before further flight, reapply sealant that was removed to accomplish those inspections, per Boeing Alert Service Bulletin DC9-54A031, Revision 09, dated September 3, 2002. Thereafter, repeat the inspection specified in paragraph (g) or (h) of this AD, as applicable, at intervals not to exceed 2,400 landings until the modification of the rear spar upper strap (cap) specified in paragraph (n) of this AD has been accomplished.

If Cracking Is Suspected

(j) If any evidence of cracking is suspected during any inspection required by paragraph (g) or (h) of this AD, before further flight, confirm the existence of cracking by accomplishing the actions specified in paragraph (m) of this AD.

If Cracking Is Detected

(k) If any cracking is detected during any inspection required by paragraph (g) or (h) of this AD, before further flight, modify the rear spar upper strap (cap) in accordance with paragraph (n) of this AD. Accomplishment of the modification constitutes terminating action for the requirements of paragraphs (g) and (h) of this AD.

Inspection for Migration of Bearings

(l) For airplanes identified as Group 12 airplanes in Boeing Service Bulletin DC9-54-031, Revision 05, dated April 25, 2003, on which the modification specified in paragraph (n) of this AD has not been accomplished: Perform a general visual inspection for migration of the bearings and the correct pin staking, per the service bulletin at the time specified in paragraph (g) or (h) of this AD, as applicable.

Note 4: 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 from within touching distance unless otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or droplight 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 none of the bearings have migrated and the pin staking is correct, repeat the general visual inspection at intervals not to exceed 2,400 landings until the straps are modified per Boeing Service Bulletin DC9-54-031, Revision 05, dated April 25, 2003.

(2) If any bearing has migrated or the pin staking is incorrect, before further flight, accomplish the modification specified in paragraph (n) of this AD. Accomplishment of that modification constitutes terminating action for the repetitive inspection requirements of this AD.

Acceptable Method of Compliance

(m) At the times specified in the applicable paragraph of this AD, it is permissible to perform a magnetic particle inspection of the engine pylon aft upper spar strap (cap) for cracks in lieu of accomplishing the ultrasonic inspection required by paragraph (g) or (h) of this AD; in accordance with Boeing Alert Service Bulletin DC9-54A031, Revision 09, dated September 3, 2002.

(1) If no cracking is detected, before further flight, replace the bearing on the spar strap (cap) with a new annular groove bearing, in accordance with the service bulletin. Thereafter, repeat the inspection specified in paragraph (g) or (h) of this AD, as applicable, at intervals not to exceed 2,400 landings until the modification of the rear spar upper strap (cap) specified in paragraph (n) of this AD has been accomplished.

(2) If any cracking is detected, before further flight, accomplish the modification of the rear upper spar strap (cap) required by paragraph (n) of this AD.

Terminating Modification

(n) For all airplanes: Prior to the accumulation of 100,000 total landings, or within 6 months after the effective date of this AD, whichever occurs later, modify the rear spar upper strap (cap) in accordance with Boeing Service Bulletin DC9-54-031, Revision 05, dated April 25, 2003.

Accomplishment of the modification described in Revision 05 of that service bulletin constitutes terminating action for the repetitive inspection requirements of this AD.

Compliance With Certain Other Airworthiness Directives

(o) Accomplishment of the modification required by paragraph (n) of this AD constitutes compliance with the following:

(1) The actions specified in McDonnell Douglas DC-9 Service Bulletin 54-27, Revision 4, dated April 2, 1990, that are required by AD 96-10-11, amendment 39-9618 (which references "DC-9/MD80 Aging Aircraft Service Action Requirements Document" (SARD), McDonnell Douglas Report MDC K1572, Revision B, dated January 15, 1993, as the appropriate source of service information for accomplishment of the modification); and,

(2) The requirements of AD 72-09-01, amendment 39-2844 (which references McDonnell Douglas DC-9 Service Bulletin 54-31, dated August 24, 1976; and McDonnell Douglas DC-9 Service Bulletin 54-27, Revision 4, dated April 2, 1990; as appropriate sources of service information for accomplishment of the modification).

Alternative Methods of Compliance

(p)(1) In accordance with 14 CFR 39.19, the Manager, Los Angeles (ACO), FAA, is authorized to approve alternative methods of compliance for this AD.

(2) Alternative methods of compliance, approved previously in accordance with AD 78-01-06, amendment 39-3117, are approved as alternative methods of compliance with the corresponding provisions of this AD.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by a Boeing Company Designated Engineering Representative (DER) who has been authorized by the Manager, Los Angeles ACO, to make such findings.

Incorporation by Reference

(q) Unless otherwise specified in this AD, the actions shall be done in accordance with the applicable service bulletins listed in the following table.

TABLE 1.—APPLICABLE SERVICE BULLETINS

| Service bulletin | Revision level | Date |
|--|----------------|--------------------|
| McDonnell Douglas DC-9 Service Bulletin 54-31 | Original | August 24, 1976. |
| McDonnell Douglas DC-9 Alert Service Bulletin A54-31 | Revision 1 | December 22, 1976. |
| Boeing Alert Service Bulletin DC9-54A031 | Revision 09 | September 3, 2002. |
| Boeing Service Bulletin DC9-54-031 | Revision 05 | April 25, 2003. |

McDonnell Douglas DC-9 Alert Service Bulletin A54-31, Revision 1, dated December 22, 1976, contains the following effective pages:

| Page No. | Revision level shown on page | Date shown on page |
|----------|------------------------------|--------------------|
| 1 | 1 | December 22, 1976. |
| 2-13 | Original | March 15, 1976 |

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 Airplanes, 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

(r) This amendment becomes effective on May 5, 2004.

Issued in Renton, Washington, on March 22, 2004.

Kevin M. Mullin,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04-6953 Filed 3-30-04; 8:45 am]

BILLING CODE 4910-13-P