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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001-NM-275-AD; Amendment 39-13513; AD 2004-05-18]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model MD-90-30 Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to certain McDonnell Douglas Model MD-90-30 airplanes, that currently requires repetitive fluorescent penetrant and magnetic particle inspections to detect fatigue cracking of the main landing gear (MLG) piston, and repair if necessary. This amendment expands the applicability of the existing AD to require the currently required inspections, and corrective actions if necessary, on additional airplanes and MLG piston part numbers, and requires repetitive inspections for evidence of cracking in the paint topcoat of the MLG pistons. This amendment also requires replacement of certain MLG shock strut piston assemblies with new or serviceable improved assemblies, which terminates the requirements of this AD. The actions specified by this AD are intended to prevent fatigue cracking of MLG pistons, which could result in failure of the pistons, and consequent damage to the airplane structure and injury to flightcrew, passengers, or ground personnel. This action is intended to address the identified unsafe condition.

DATES: Effective April 13, 2004.

The incorporation by reference of Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001, as listed in the regulations, is approved by the Director of the Federal Register as of April 13, 2004.

The incorporation by reference of Boeing Service Bulletin MD90-32-031, Revision 01, dated April 25, 2001, as listed in the regulations, was approved previously by the Director of the Federal Register as of June 20, 2002 (67 FR 34823, May 16, 2002).

The incorporation by reference of certain other publications, as listed in the regulations, was approved previously by the Director of the Federal Register as of March 22, 2000 (65 FR 7719, February 16, 2000).

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: Carl Fountain, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5222; fax (562) 627-5210.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 2000-03-08, amendment 39-11567 (65 FR 7719, February 16, 2000), which is applicable to certain McDonnell Douglas Model MD-90-30 airplanes, was published in the Federal Register on October 14, 2003 (68 FR 59139). The action proposed to continue to require repetitive fluorescent penetrant and magnetic particle inspections to detect fatigue cracking of the main landing gear (MLG) piston, and repair if necessary. The action proposed to expand the applicability of the existing AD to require the currently required inspections, and corrective actions if necessary, on additional airplanes and MLG piston part numbers, and to require repetitive inspections for evidence of cracking in the paint topcoat of the MLG pistons. The action also proposed to require replacement of certain MLG shock strut piston assemblies with new or serviceable improved assemblies, which would terminate the requirements of this AD.

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 114 Model MD-90-30 airplanes of the affected design in the worldwide fleet.

In AD 2000-03-08, the FAA estimated that the actions in that AD applied to 15 airplanes of U.S. registry. The actions that are currently required by AD 2000-03-08 take approximately 2 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 currently required actions on U.S. operators is estimated to be \$1,950, or \$130 per airplane, per inspection cycle.

We estimate that 21 airplanes of U.S. registry will be affected by this new AD.

The new inspections required in this AD action will take approximately 2 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 requirements of this AD on U.S. operators is estimated to be \$2,730, or \$130 per airplane.

The replacement of MLG pistons included in this AD is already required by AD 2002-10-03. Therefore, this AD adds no new costs associated with that action. We restate the cost impact estimate in its entirety in this AD for the convenience of affected operators:

The replacement included in this AD action and currently required by AD 2002-10-03 takes approximately 28 work hours per airplane to accomplish, at an average labor rate of \$65 per work hour. Required parts cost approximately \$263,438 per airplane. Based on these figures, the cost impact of this requirement on U.S. operators of airplanes subject to this AD is estimated to be \$5,570,418, or \$265,258 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. The manufacturer may cover the cost of replacement parts associated with this AD, subject to warranty conditions. As a result, the costs attributable to the AD may be less than stated above.

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 39-11567 (65 FR 7719, February 16, 2000), and by adding a new airworthiness directive (AD), amendment 39-13513, 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).

2004-05-18 McDonnell Douglas: Amendment 39-13513. Docket 2001-NM-275-AD. Supersedes AD 2000-03-08, Amendment 39-11567.

Applicability: Model MD-90-30 airplanes listed in Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent fatigue cracking of main landing gear (MLG) pistons, which could result in failure of the pistons, and consequent damage to the airplane structure and injury to flightcrew, passengers, or ground personnel; accomplish the following:

Restatement of Requirements of AD 2000-03-08

Inspection of MLG Piston Part Number 5935347-509

(a) For airplanes listed in McDonnell Douglas Service Bulletin MD90-32-012, Revision 01, dated June 2, 1998: For MLG pistons, part number (P/N) 5935347-509, perform fluorescent penetrant and magnetic particle inspections to detect fatigue cracking of the MLG pistons, in accordance with McDonnell Douglas Service Bulletin MD90-32-012, dated May 19, 1997, or Revision 01, dated June 2, 1998; or Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001; at the later of the times specified in paragraphs (a)(1) and (a)(2) of this AD. Repeat the inspections thereafter at intervals not to exceed 2,500 landings.

(1) Prior to the accumulation of 4,000 total landings; or

(2) Within 2,500 landings or 12 months after March 22, 2000 (the effective date of AD 2000-03-08, amendment 39-11567), whichever is first.

Inspection of MLG Piston Part Numbers 5935347-511 and -513

(b) For airplanes listed in McDonnell Douglas Service Bulletin MD90-32-012, Revision 01, dated June 2, 1998: For MLG pistons, P/Ns 5935347-511 and -513, within 5,000 landings after March 22, 2000, perform fluorescent penetrant and magnetic particle inspections to detect fatigue cracking of the MLG pistons, in accordance with McDonnell Douglas Service Bulletin MD90-32-012, dated May 19, 1997, or Revision 01, dated June 2, 1998; or Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001. Repeat the inspections thereafter at intervals not to exceed 5,000 landings.

Repair

(c) If any crack is found during any inspection required by paragraphs (a), (b), or (f) of this AD: Repair in accordance with a method approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA. For a repair method to be approved by the Manager, Los Angeles ACO, as required by this paragraph, the Manager's approval letter must specifically refer to this AD.

New Requirements of This AD

No Requirement to Submit Information

(d) Although Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001, specifies to submit information to the manufacturer, this AD does not include such a requirement.

Clarification of Inspection Sequence

(e) For inspections accomplished after the effective date of this AD: Where this AD requires fluorescent penetrant and magnetic particle inspections, accomplishment of the fluorescent penetrant inspection must precede accomplishment of the magnetic particle inspection.

Inspection of MLG Piston P/Ns 5935347-1 through -509, -511, and -513; and SR09320081-3 through -13

(f) For any MLG piston having P/N 5935347-1 through -509, -511, or -513; or P/Ns SR09320081-3 through -13: Perform fluorescent penetrant and magnetic particle inspections to detect fatigue cracking of the MLG pistons, in accordance with Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001. Do the initial inspections at the later of the times specified in paragraphs (f)(1) and (f)(2) of this AD, except as provided by paragraph (g) of this AD. Repeat the inspections thereafter at intervals not to exceed 5,000 landings.

- (1) Prior to the accumulation of 4,000 total landings; or
- (2) Within 2,500 landings or 12 months after the effective date of this AD, whichever is first.

MLG Pistons Inspected Per Paragraph (a) or (b) of This AD

(g) MLG pistons having P/N 5935347-509, -511, or -513 that have been inspected as required by paragraph (a) or (b) of this AD, as applicable, are not required to be reinspected per paragraph (f) of this AD.

Repetitive Inspections for Evidence of Cracking and Follow-on Actions

(h) During the first brake change after the effective date of this AD, perform a general visual inspection to find evidence of cracking in the paint topcoat of the MLG piston, per the Accomplishment Instructions of Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001. Repeat this inspection during every brake change.

(1) If any evidence of cracking in the paint topcoat, as described in the service bulletin, is found: Within 7 days or 50 landings after the evidence is found, whichever is first, perform a non-destructive test (NDT) inspection of the MLG piston to determine if there is any cracking.

(2) If any crack is found during the NDT inspection required by paragraph (h)(1) of this AD, before further flight, repair per a method approved by the Manager, Los Angeles ACO. For a repair method to be approved by the Manager, Los Angeles ACO, as required by this paragraph, the Manager's approval letter must specifically refer to this AD.

Note 1: 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."

Inspections Accomplished Per Previous Issue of Service Bulletin

(i) Inspections accomplished before the effective date of this AD per McDonnell Douglas Service Bulletin MD90-32-012, Revision 02, dated June 29, 1999, are considered acceptable for compliance with the corresponding actions specified in this AD.

Replacement of MLG Shock Strut Piston Assemblies

(j) Before the accumulation of 30,000 total landings on the MLG shock strut piston assemblies, or within 5,000 landings after June 20, 2002 (the effective date of AD 2002-10-03, amendment 39-12749), whichever occurs later: Replace the MLG shock strut piston assemblies, left- and right-hand sides, with new or serviceable improved assemblies, per the Accomplishment Instructions of Boeing Service Bulletin MD90-32-031, Revision 01, dated April 25, 2001. If the MLG shock strut piston is not serialized or the number of landings on the piston cannot be conclusively determined, consider the total number of landings on the piston assembly to be equal to the total number of landings accumulated by the airplane with the highest total number of landings in the operator's fleet.

Note 2: Paragraph (a) of AD 2002-10-03, amendment 39-12749, requires the same actions as paragraph (j) of this AD.

Compliance With Requirements of Other ADs

(k) Accomplishment of the replacement required by paragraph (j) of this AD constitutes terminating action for the requirements of this AD and AD 2002-10-03, amendment 39-12749, for the Model MD-90-30 airplanes listed in Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001.

Alternative Methods of Compliance

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

(2) Alternative methods of compliance, approved previously per AD 2000-03-08, amendment 39-11567, are approved as alternative methods of compliance with paragraphs (a), (b), and (c) of this AD.

Incorporation by Reference

(m) Unless otherwise specified in this AD, the actions must be done in accordance with McDonnell Douglas Service Bulletin MD90-32-012, dated May 19, 1997, or McDonnell Douglas Service Bulletin MD90-32-012, Revision 01, dated June 2, 1998; Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001; and Boeing Service Bulletin MD90-32-031, Revision 01, dated April 25, 2001; as applicable.

(1) The incorporation by reference of Boeing Service Bulletin MD90-32-012, Revision 03, dated June 29, 2001, is approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The incorporation by reference of Boeing Service Bulletin MD90-32-031, Revision 01, dated April 25, 2001, was approved previously by the Director of the Federal Register as of June 20, 2002 (67 FR 34823, May 16, 2002).

(3) The incorporation by reference of McDonnell Douglas Service Bulletin MD90-32-012, dated May 19, 1997; and McDonnell Douglas Service Bulletin MD90-32-012, Revision 01, dated June 2, 1998; was approved previously by the Director of the Federal Register as of March 22, 2000 (65 FR 7719, February 16, 2000).

(4) 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

(n) This amendment becomes effective on April 13, 2004.

Issued in Renton, Washington, on February 25, 2004.

Kalene C. Yanamura,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04-4923 Filed 3-8-04; 8:45 am]

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