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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0123; Directorate Identifier 2007-NM-056-AD; Amendment 39-15763; AD 2008-25-05]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model DC-8-11, DC-8-12, DC-8-21, DC-8-31, DC-8-32, DC-8-33, DC-8-41, DC-8-42, and DC-8-43 Airplanes; Model DC-8-51, DC-8-52, DC-8-53, and DC-8-55 Airplanes; Model DC-8F-54 and DC-8F-55 Airplanes; Model DC-8-61, DC-8-62, and DC-8-63 Airplanes; Model DC-8-61F, DC-8-62F, and DC-8-63F Airplanes; Model DC-8-71, DC-8-72, and DC-8-73 Airplanes; and Model DC-8-71F, DC-8-72F, and DC-8-73F Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD), which applies to all McDonnell Douglas Model DC-8 airplanes. That AD currently requires, among other things, revision of an existing program of structural inspections. This new AD requires implementation of a revised program of structural inspections of baseline structure to detect and correct fatigue cracking in order to ensure the continued airworthiness of these airplanes as they approach the manufacturer's original fatigue design life goal. This new AD also reduces the inspection threshold for certain principal structural elements. This AD results from a significant number of these airplanes approaching or exceeding the design service goal on which the initial type certification approval was predicated. We are issuing this AD to detect and correct fatigue cracking that could compromise the structural integrity of these airplanes.

DATES: This AD becomes effective January 28, 2009.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of January 28, 2009.

On February 26, 1993 (58 FR 5576, January 22, 1993), the Director of the Federal Register approved the incorporation by reference of certain other publications.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, 3855 Lakewood Boulevard, MC D800-0019, Long Beach,

California 90846-0001; telephone 206-544-5000, extension 2; fax 206-766-5683; e-mail dse.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (telephone 800-647-5527) is the Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Dara Albouyeh, 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:

Discussion

The FAA issued a supplemental notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that supersedes AD 93-01-15, amendment 39-8469 (58 FR 5576, January 22, 1993). The existing AD applies to all McDonnell Douglas Model DC-8 airplanes. That supplemental NPRM was published in the Federal Register on August 29, 2008 (73 FR 50906). That supplemental NPRM proposed to continue to require, among other things, revision of an existing program of structural inspections. That supplemental NPRM also proposed to require implementation of a revised program of structural inspections of baseline structure to detect and correct fatigue cracking in order to ensure the continued airworthiness of these airplanes as they approach the manufacturer's original fatigue design life goal. That supplemental NPRM also proposed to reduce the inspection threshold for certain principal structural elements.

Comments

We provided the public the opportunity to participate in the development of this AD. No comments have been received on the NPRM or on the determination of the cost to the public.

Conclusion

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

There are about 194 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for U.S. operators to comply with this AD.

Estimated Costs

Action	Work hours	Average labor rate per hour	Cost per operator	Number of U.S.-registered airplanes	Fleet cost
Revision of maintenance inspection program (required by AD 93-01-15)	544 per operator (17 U.S. operators)	\$80	\$43,520, per operator	131	\$739,840
Revision of maintenance program and inspections (new actions)	250 per operator (17 U.S. operators)	\$80	\$20,000	131	\$340,000

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD 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.

For the reasons discussed above, I certify that this AD:

- (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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

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

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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. The Federal Aviation Administration (FAA) amends § 39.13 by removing amendment 39-8469 (58 FR 5576, January 22, 1993) and by adding the following new airworthiness directive (AD):



2008-25-05 McDonnell Douglas: Amendment 39-15763. Docket No. FAA-2008-0123; Directorate Identifier 2007-NM-056-AD.

Effective Date

(a) This AD becomes effective January 28, 2009.

Affected ADs

(b) This AD supersedes AD 93-01-15.

Applicability

(c) This AD applies to all McDonnell Douglas airplanes identified in Table 1 of this AD, certificated in any category.

Table 1 – Applicability

Model
(1) DC-8-11, DC-8-12, DC-8-21, DC-8-31, DC-8-32, DC-8-33, DC-8-41, DC-8-42, and DC-8-43 airplanes
(2) DC-8-51, DC-8-52, DC-8-53, and DC-8-55 airplanes
(3) DC-8F-54 and DC-8F-55 airplanes
(4) DC-8-61, DC-8-62, and DC-8-63 airplanes
(5) DC-8-61F, DC-8-62F, and DC-8-63F airplanes
(6) DC-8-71, DC-8-72, and DC-8-73 airplanes
(7) DC-8-71F, DC-8-72F, and DC-8-73F airplanes

Unsafe Condition

(d) This AD results from a significant number of these airplanes approaching or exceeding the design service goal on which the initial type certification approval was predicated. We are issuing this AD to detect and correct fatigue cracking that could compromise the structural integrity of these airplanes.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Certain Requirements of AD 93-01-15

Revise the FAA-Approved Maintenance Inspection Program

(f) Within 6 months after February 26, 1993 (the effective date of AD 93-01-15), incorporate a revision of the FAA-approved maintenance inspection program that provides no less than the required inspection of the Principal Structural Elements (PSEs) defined in sections 2 and 3 of Volume I of McDonnell Douglas Report No. L26-011, "DC-8 Supplemental Inspection Document (SID)," Revision 3, dated March 1991, in accordance with section 2 of Volume III-91, dated April 1991, of that document. The non-destructive inspection techniques set forth in sections 2 and 3 of Volume II, Revision 5, dated March 1991, of that SID provide acceptable methods for accomplishing the inspections required by this AD. All inspection results, negative or positive, must be reported to McDonnell Douglas, in accordance with the instructions of section 2 of Volume III-91 of the SID. Information collection requirements contained in this regulation have been approved by the OMB under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) and have been assigned OMB Control Number 2120-0056.

Corrective Action

(g) Cracked structure detected during the inspections required by paragraph (f) of this AD must be repaired before further flight, in accordance with a method approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate.

New Requirements of This AD

Revision of the Maintenance Inspection Program

(h) Within 12 months after the effective date of this AD, incorporate a revision of the FAA-approved maintenance inspection program that provides for inspection(s) of the PSEs, in accordance with Boeing Report No. L26-011, "DC-8 All Series Supplemental Inspection Document (SID)," Volume I, Revision 7, dated March 2008. Incorporation of this revision ends the requirements of paragraphs (f) and (g) of this AD.

Non-Destructive Inspections (NDIs)

(i) For all PSEs listed in Section 2 of Boeing Report No. L26-011, "DC-8 All Series Supplemental Inspection Document (SID)," Volume I, Revision 7, dated March 2008, perform an NDI for fatigue cracking of each PSE, in accordance with the NDI procedures specified in Section 2 of McDonnell Douglas Report No. L26-011, "DC-8 Supplemental Inspection Document (SID)," Volume II, Revision 8, dated January 2005, at the times specified in paragraph (i)(1), (i)(2), or (i)(3) of this AD, as applicable.

(1) For airplanes that have less than three quarters of the fatigue life threshold ($3/4NTH$) as of the effective date of this AD: Perform the NDI for fatigue cracking at the times specified in paragraphs (i)(1)(i) and (i)(1)(ii) of this AD. After reaching the threshold (NTH), repeat the inspection for that PSE at intervals not to exceed $\Delta NDI/2$.

(i) Perform an initial NDI no earlier than one-half of the threshold ($1/2NTH$) but before reaching three-quarters of the threshold ($3/4NTH$), or within 60 months after the effective date of this AD, whichever occurs later.

(ii) Repeat the NDI no earlier than $3/4NTH$ but before reaching the threshold (NTH), or within 18 months after the inspection required by paragraph (i)(1)(i) of this AD, whichever occurs later.

Note 1: The DC-8 SID and this AD refer to the repetitive inspection interval as Δ NDI/2. However, the headings of the tables in section 4 of Volume I, Revision 7, dated March 2008, of the DC-8 SID refer to the repetitive inspection interval of NDI/2. The values listed under NDI/2 in the tables in section 4 of Volume I, Revision 7, dated March 2008, of the DC-8 SID are the repetitive inspection intervals, Δ NDI/2.

(2) For airplanes that have reached or exceeded three-quarters of the fatigue life threshold (3/4NTH), but less than the threshold (NTH), as of the effective date of this AD: Perform an NDI before reaching the threshold (NTH), or within 18 months after the effective date of this AD, whichever occurs later. Thereafter, after passing the threshold (NTH), repeat the inspection for that PSE at intervals not to exceed Δ NDI/2.

(3) For airplanes that have reached or exceeded the fatigue life threshold (NTH) as of the effective date of this AD: Perform an NDI within 18 months after the effective date of this AD. Thereafter, repeat the inspection for that PSE at intervals not to exceed Δ NDI/2.

Discrepant Findings

(j) If any discrepancy (e.g., differences on the airplane from the NDI reference standard, such as PSEs that cannot be inspected as specified in McDonnell Douglas Report No. L26-011, "DC-8 Supplemental Inspection Document (SID)," Volume II, Revision 8, dated January 2005, or do not match rework, repair, or modification descriptions in Boeing Report No. L26-011, "DC-8 All Series Supplemental Inspection Document (SID)," Volume I, Revision 7, dated March 2008) is detected during any inspection required by paragraph (i) of this AD, do the action specified in paragraph (j)(1) or (j)(2) of this AD, as applicable.

(1) If a discrepancy is detected during any inspection done before 3/4NTH or NTH: The area of the PSE affected by the discrepancy must be inspected before NTH or within 18 months after the discovery of the discrepancy, whichever occurs later, in accordance with a method approved by the Manager, Los Angeles ACO.

(2) If a discrepancy is detected during any inspection done after NTH: The area of the PSE affected by the discrepancy must be inspected before the accumulation of an additional Δ NDI/2 or within 18 months after the discovery of the discrepancy, whichever occurs later, in accordance with a method approved by the Manager, Los Angeles ACO.

Reporting Requirements

(k) All negative or positive findings of the inspections done in accordance with paragraph (i) of this AD must be reported to Boeing at the times specified in, and in accordance with, the instructions contained in section 4 of Boeing Report No. L26-011, "DC-8 All Series Supplemental Inspection Document (SID)," Volume I, Revision 7, dated March 2008. Information collection requirements contained in this regulation have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) and have been assigned OMB Control Number 2120-0056.

Corrective Actions

(l) Any cracked structure of a PSE detected during any inspection required by paragraph (i) of this AD must be repaired before further flight using a method approved in accordance with the procedures specified in paragraph (p) of this AD. Accomplish the actions described in paragraphs (l)(1), (l)(2), and (l)(3) of this AD, at the times specified.

(1) Within 18 months after repair, do a damage tolerance assessment (DTA) that defines the threshold for inspection of the repair and submit the assessment for approval.

(2) Before reaching 75 percent of the repair threshold as determined in paragraph (l)(1) of this AD, submit the inspection methods and repetitive inspection intervals for the repair for approval.

(3) Before the repair threshold, as determined in paragraph (l)(1) of this AD, incorporate the inspection method and repetitive inspection intervals into the FAA-approved structural maintenance or inspection program for the airplane.

Note 2: For the purposes of this AD, we anticipate that submissions of the DTA of the repair, if acceptable, should be approved within 6 months after submission.

Note 3: FAA Order 8110.54, "Instructions for Continued Airworthiness, Responsibilities, Requirements, and Contents" dated July 1, 2005, provides additional guidance about the approval of repairs to PSEs.

Inspection for Transferred Airplanes

(m) Before any airplane that has exceeded the fatigue life threshold (NTH) can be added to an air carrier's operations specifications, a program for the accomplishment of the inspections required by this AD must be established as specified in paragraph (m)(1) or (m)(2) of this AD, as applicable.

(1) For airplanes that have been inspected in accordance with this AD: The inspection of each PSE must be done by the new operator in accordance with the previous operator's schedule and inspection method, or the new operator's schedule and inspection method, at whichever time would result in the earlier accomplishment date for that PSE inspection. The compliance time for accomplishing this inspection must be measured from the last inspection done by the previous operator. After each inspection has been done once, each subsequent inspection must be done in accordance with the new operator's schedule and inspection method.

(2) For airplanes that have not been inspected in accordance with this AD: The inspection of each PSE required by this AD must be done either before adding the airplane to the air carrier's operations specification, or in accordance with a schedule and an inspection method approved by the Manager, Los Angeles ACO. After each inspection has been done once, each subsequent inspection must be done in accordance with the new operator's schedule.

Acceptable for Compliance

(n) McDonnell Douglas Report No. MDC 91K0262, "DC-8 Aging Aircraft Repair Assessment Program Document," Revision 1, dated October 2000, provides inspection/replacement programs for certain repairs to the fuselage pressure shell. Accomplishing these repairs and inspection/replacement programs before the effective date of this AD is considered acceptable for compliance with the requirements of paragraphs (g) and (l) of this AD for repairs subject to that document.

(o) Actions done before the effective date of this AD in accordance with Boeing Report No. L26-011, "DC-8 All Series Supplemental Inspection Document (SID)," Volume I, Revision 6, dated July 2005, are acceptable for compliance with the corresponding requirements of this AD.

Alternative Methods of Compliance (AMOCs)

(p)(1) The Manager, Los Angeles ACO, FAA, ATTN: Dara Albouyeh, 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; has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which

the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(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 an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Los Angeles ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane and 14 CFR 25.571, Amendment 45, and the approval must specifically refer to this AD.

(4) AMOCs approved previously in accordance with AD 93-01-15 are approved as AMOCs for the corresponding provisions of this AD.

Material Incorporated by Reference

(q) You must use the service information identified in Table 2 of this AD to perform the actions that are required by this AD, as applicable, unless the AD specifies otherwise.

Table 2 – Material Incorporated by Reference

Service Information	Revision Level	Date
Boeing Report No. L26-011, "DC-8 All Series Supplemental Inspection Document (SID)," Volume I	7	March 2008
McDonnell Douglas Report No. L26-011, "DC-8 Supplemental Inspection Document (SID)," Volume I	3	March 1991
McDonnell Douglas Report No. L26-011, "DC-8 Supplemental Inspection Document (SID)," Volume II	8	January 2005
McDonnell Douglas Report No. L26-011, "DC-8 Supplemental Inspection Document (SID)," Volume III-91	Original	April 1991

Boeing Report No. L26-011, "DC-8 All Series Supplemental Inspection Document (SID)," Volume I, Revision 7, dated March 2008, contains the following effective pages:

Pages	Revision	Date
List of Effective Pages Pages A through C.	7	March 2008.

McDonnell Douglas Report No. L26-011, "DC-8 Supplemental Inspection Document (SID)," Volume II, Revision 8, dated January 2005, contains the following effective pages:

Pages	Revision	Date
List of Effective Pages Pages A through L.	8	March 2008.

(1) The Director of the Federal Register approved the incorporation by reference of Boeing Report No. L26-011, "DC-8 All Series Supplemental Inspection Document (SID)," Volume I, Revision 7, dated March 2008; and McDonnell Douglas Report No. L26-011, "DC-8 Supplemental

Inspection Document (SID)," Volume II, Revision 8, dated January 2005; in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) On February 26, 1993 (58 FR 5576, January 22, 1993), the Director of the Federal Register approved the incorporation by reference of McDonnell Douglas Report No. L26-011, "DC-8 Supplemental Inspection Document (SID)," Volume I, Revision 3, dated March 1991; and McDonnell Douglas Report No. L26-011, "DC-8 Supplemental Inspection Document (SID)," Volume III-91, dated April 1991.

(3) Contact Boeing Commercial Airplanes, Attention: Data & Services Management, 3855 Lakewood Boulevard, MC D800-0019, Long Beach, California 90846-0001; telephone 206-544-5000, extension 2; fax 206-766-5683; e-mail dse.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

(4) You may review copies of the service information that is incorporated by reference at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221 or 425-227-1152.

(5) You may also review copies of the service information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on November 26, 2008.

Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.