

[Federal Register Volume 76, Number 162 (Monday, August 22, 2011)]  
[Rules and Regulations]  
[Pages 52225-52229]  
From the Federal Register Online via the Government Printing Office [www.gpo.gov]  
[FR Doc No: 2011-20672]

---

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2009-1213; Directorate Identifier 2009-NM-097-AD; Amendment 39-16775; AD 2011-17-11]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), DC-9-87 (MD-87), and MD-88 Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

---

**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD requires repetitive inspections for cracking of the lower rear spar caps of the wings, and related investigative and corrective actions if necessary. This AD also requires repetitive inspections of certain repaired areas. This AD was prompted by reports of cracking of the wing rear spar lower cap at the outboard flap and inboard drive hinge at station Xrs=164.000; the cracking is due to material fatigue from normal flap operating loads. We are issuing this AD to detect and correct such fatigue cracking, which could result in fuel leaks, damage to the wing skin or other structure, and consequent reduced structural integrity of the wing.

**DATES:** This AD is effective September 26, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of September 26, 2011.

**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>. You may review copies of the referenced service information 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.

## **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 (phone: 800-647-5527) is 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:** Roger Durbin, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; phone: (562) 627-5233; fax: (562) 627-5210; e-mail: [roger.durbin@faa.gov](mailto:roger.durbin@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to the specified products. That NPRM published in the Federal Register on February 8, 2010 (75 FR 6162). That NPRM proposed to require repetitive inspections for cracking of the lower rear spar caps of the wings, and related investigative and corrective actions if necessary. That NPRM also proposed to require repetitive inspections of certain repaired areas.

### **Actions Since Issuance of NPRM**

The NPRM referred to Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, as the appropriate source of service information for accomplishing the actions. Since issuance of the NPRM, Boeing has issued Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011. No more work is necessary for airplanes on which the original issue was used to accomplish the actions. Certain procedures specified in Revision 1 of this service bulletin have been clarified to provide additional instructions. Revision 1 of this service bulletin also added procedures for splice repair options and removed the instruction to contact Boeing for that repair. In addition, the term "temporary repair," as specified in the original issue of this service bulletin, was changed to "doubler repair" in Revision 1 of this service bulletin. In addition, instead of contacting Boeing for repair instructions for Condition 3, Revision 1 of this service bulletin specifies three sub-conditions and provides corresponding doubler or splice repairs.

We have revised this AD to refer to Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, as the appropriate source of service information for accomplishing the actions, and added a new paragraph (h) to this AD (and reidentified subsequent paragraphs) to give credit for using Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, for accomplishing the actions. We also have replaced the word "temporary" in paragraphs (g)(2) and (j) of this AD with the word "doubler." In addition, we have removed paragraph (i) of the NPRM, which specified contacting the FAA for the splice repair. Further, we have specified in paragraph (g)(1) of this AD that operators may still accomplish the required action in accordance with the procedures specified in paragraph (k) of this AD.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and the FAA's response to each comment.

## **Request To Include Inspections Required by Previous ADs**

The Air Transport Association (ATA), on behalf of its member American Airlines (AAL), asked that applicable inspection requirements in AD 96-23-07 R1, Amendment 39-10110 (62 FR 44208, August 20, 1997); and AD 2004-11-07, Amendment 39-13653 (69 FR 13514, June 4, 2004); be included in the NPRM. ATA and AAL reiterated certain inspection/compliance requirements in those previous ADs, and stated that some of those requirements conflict with the requirements in this NPRM. ATA and AAL recommend incorporating those ADs into this NPRM to clarify, consolidate, and update the compliance requirements.

We do not agree to include the inspection requirements from previous ADs in this AD. Although the inspections in the previous ADs are similar, the root cause of the unsafe condition in this AD (i.e., high-cycle fatigue in this AD versus manufacturing quality in the previous ADs) is different, which means the inspections and terminating actions are different as well, and do not conflict with the requirements specified in the existing ADs referenced by the commenter. Therefore, we have determined that the actions should be addressed in this "stand-alone" AD. We have not changed the AD in this regard.

## **Request To Clarify Repetitive Inspection Requirement**

ATA and AAL stated that the Relevant Service Information section of the NPRM specifies that no action is necessary for Group 1, Configuration 1 airplanes. The commenters added that this statement conflicts with paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011 (which also is related to AD 96-23-07 R1). That service bulletin also specifies the following in a note: "Repeat inspections in accordance with Service Bulletin MD80-57-184, Paragraph 1.D.(5), "Compliance," are still required."

We agree that clarification is necessary. The NPRM clearly specifies that no action is necessary for Group 1, Configuration 1 airplanes. That statement is correct as it applies to this new AD. However, the note which appears in Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, serves as a reminder that repetitive inspections are still required in accordance with AD 96-23-07 R1 for Group 1, Configuration 1 airplanes. For clarification purposes, we have revised paragraph (g) of this AD to exclude Group 1, Configuration 1 airplanes from the requirements of that paragraph.

## **Request To Clarify Certain Procedures in Differences Section**

ATA and AAL also stated that the Differences section of the NPRM specifies FAA- or Boeing Organization Designation Authorization (ODA)-approved repairs for any crack found (less than or equal to 2.0 inches) in a temporary repair done during the repetitive inspections. The commenters noted that paragraph (j) of the NPRM specifies, "[i]f any crack is found during any inspection of a temporary repair, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (k) of this AD." The commenters added that these requirements do not clearly detail the crack requirements and limitations; since the temporary repair is reinforcing an existing crack, a crack will always be found during subsequent inspections. The commenters also stated that the "any crack" statement conflicts with the requirements of paragraph (c)(3)(i) of AD 96-23-07 R1, which states, "[i]f any crack progression is found during any repetitive eddy current inspection following accomplishment of the temporary repair, contact the ACO." Additionally, the commenters noted that the "any crack" statement conflicts with Boeing Drawing 3668B, Disposition A through D.

We disagree with the commenters. The requirement in this AD is to do repetitive eddy current inspections around the perimeter of the repair doublers; therefore, indications of the initially stop-drilled and repaired cracking would not be found during accomplishment of the repetitive inspections. We have not changed the AD in this regard.

## **Request To Clarify Certain Procedures in Referenced Service Information**

In addition, ATA and AAL stated that the NPRM should further clarify the new requirements associated with Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, and identified in two sections of the NPRM—the differences section in the preamble and the exceptions in paragraphs (h) and (i) of the NPRM.

Where the NPRM specifies that "crack length is longer than 2.0 inches or is located in the rear spar cap forward horizontal leg radius," the commenters stated this could be further clarified by stating that this is Condition 3 in Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, or by adding a table to the AD.

The commenters also stated that where paragraph (i) of the NPRM specifies that "If any crack is found during any inspection required by this AD and Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, specifies contacting Boeing for repair \* \* \*," the phrase could be further clarified by adding a table to the AD that identifies the three conditions specified in Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, the three sub-conditions under Condition 2, the temporary repair condition, and the associated AD requirements.

We find that some clarification is necessary. Condition 3 in Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, provides clarification with regard to the cracking, as follows: " \* \* \* lower spar cap has a crack longer than 2.0 inches in length or crack in the rear spar cap forward horizontal leg radius." No change to this AD is necessary in this regard because the differences section of the preamble of the NPRM is not restated in the final rule.

In addition, as explained previously we removed paragraph (i) of the NPRM from this final rule because Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, now provides splice repair instructions. Therefore, it is no longer necessary to include an exception to this service bulletin. We have not changed the AD in this regard.

## **Request To Call Out Specific Service Bulletin Sections**

Additionally, ATA and AAL noted concerns that the proposed requirements of the NPRM specify accomplishing what AAL interpreted to be all the requirements in the service information. The commenters stated that the proposed AD should be clarified and further highlighted to indicate that only specific sections of the service bulletin are required by the proposed AD. AAL reiterated certain open and close procedures and noted that accomplishing those procedures should not affect compliance with the proposed AD. AAL asked that we include the following in the AD: "Only the SB procedures specified by the AD are affected by the FAA-AD. Other procedures such as preparation, open/close, and access procedures described by the SB are not affected by FAA-AD compliance requirements." AAL also asked that we consider including the procedures that are or are not affected by the proposed AD in its content.

We acknowledge the commenters' concerns, but disagree with the request to change this AD. In Section 3.A., "General Information," paragraphs 8 through 10 of Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, additional procedures are defined that can be used for accomplishing certain actions. In addition, paragraph 13 of that section specifies, in part, that when the words "refer to" are used, and the operator has an accepted alternative procedure, the accepted alternative procedure can be used. Therefore, we have not changed the AD in this regard.

## **Request To Clarify Crack Limitations in Referenced Service Information**

ATA and AAL noted that the criteria for crack findings specified in Boeing Alert Service Bulletin MD80-57A242, dated May 9, 2009, do not provide clear guidance regarding crack limitations. The commenters added that the procedures in this service bulletin do not describe criteria for a crack with the stop-drill configuration. The commenters asked that the criteria for crack findings be further clarified.

We agree that clarification is necessary. The measurement of the crack length is intended to be the total curvilinear crack length, which is consistent with standard maintenance practice; therefore, no additional measurement criteria are necessary. The effect of stop drills on crack length is not relevant because Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, specifies actions based on the length of the unrepaired cracks, and not on repaired or stop-drilled cracks. We have not changed the AD in this regard.

ATA and AAL also noted that the procedures in Boeing Alert Service Bulletin MD80-57A242, dated May 9, 2009, are inconsistent regarding acceptable crack configurations for the forward horizontal leg radius for the lower and upper spar caps. The commenters stated that the procedures specify that a crack cannot be in the forward horizontal leg radius for the lower cap, and those procedures refer to Drawing J060271, Note 29. The commenter stated that this drawing does have this limitation for the lower cap as well as the upper cap. However, that service bulletin does not refer to Note 29 for the upper cap procedures. The commenter requested that clarification of the crack criteria for doubler repairs on the upper spar cap be provided.

We agree that clarification is necessary. Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, clarifies the crack criteria for the upper cap using Drawing J060271, Note 29, for the crack criteria when determining whether doubler repair of the upper spar cap is allowed. We have included Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, as an appropriate source of service information for accomplishing the actions required by this AD.

### **Request for Validation of the Service Bulletin**

ATA and AAL expressed concern that Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, did not have a validation program performed to ensure that data, instructions, and processes specified in that service bulletin are correct, clear, appropriate, and understood by maintenance personnel performing the work.

From this statement, we infer the commenters are requesting that the procedures specified in Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, be validated by the airplane manufacturer. We agree that certain procedures in Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, need clarification. However, Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, provides clarification for certain instructions provided in the original issue of that service bulletin so the procedures are clear and concise and to ensure they are understood by maintenance personnel performing the work.

In addition, it should be noted that the inspections and repairs in Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, are identical to those in AD 96-23-07 R1, although the compliance times and applicability are different. (AD 96-23-07 R1 referred to McDonnell Douglas MD-80 Service Bulletin 57-184, Revision 1, dated December 22, 1994, as the appropriate source of service information for accomplishing the actions.) In light of this information, a formal evaluation of Boeing Alert Service Bulletin MD80-57A242 was not deemed necessary. We have not changed the AD in this regard.

### **Explanation of Changes Made to This AD**

We have revised this AD to identify the name of the manufacturer as published in the most recent type certificate data sheet for the affected airplane models.

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Explanation of Change to Costs of Compliance**

Since issuance of the NPRM, we have increased the labor rate used in the Costs of Compliance from \$80 per work-hour to \$85 per work-hour. The Costs of Compliance information, below, reflects this increase in the specified labor rate.

## **Costs of Compliance**

We estimate that this AD affects 670 airplanes of U.S. registry. We also estimate that it will take about 4 work-hours per product to comply with this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$227,800, or \$340 per product, per inspection cycle.

## **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**

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),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

## **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 FAA amends § 39.13 by adding the following new airworthiness directive (AD):



---

**2011-17-11 The Boeing Company:** Amendment 39-16775; Docket No. FAA-2009-1213; Directorate Identifier 2009-NM-097-AD.

**Effective Date**

(a) This AD is effective September 26, 2011.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to The Boeing Company Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), DC-9-87 (MD-87), and MD-88 airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011.

**Subject**

(d) Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 57: Wings.

**Unsafe Condition**

(e) This AD was prompted by reports of cracking of the wing rear spar lower cap at the outboard flap and inboard drive hinge at station Xrs=164.000; the cracking is due to material fatigue from normal flap operating loads. We are issuing this AD to detect and correct fatigue cracking, which could result in fuel leaks, damage to the wing skin or other structure, and consequent reduced structural integrity of the wing.

**Compliance**

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

**Repetitive Inspections and Related Investigative and Corrective Actions**

(g) At the applicable times specified in paragraph 1.E. of Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, do the actions required by paragraphs (g)(1) and (g)(2) of this AD, except as required by paragraph (i) of this AD. The actions specified in paragraphs (g)(1) and (g)(2) of this AD are not required for Group 1, Configuration 1 airplanes, as identified in Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011.

(1) Do initial and repetitive eddy current testing high frequency (ETHF) inspections for cracking of the lower rear spar caps of the wings, and do all applicable related investigative and corrective actions, by doing all the applicable actions specified in the Accomplishment Instructions of Boeing

Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011; or in accordance with the procedures specified in paragraph (k) of this AD.

(2) Do initial and repetitive EHF inspections for cracking of any doubler repairs, and do all applicable related investigative and corrective actions, by doing all the applicable actions specified in the Accomplishment Instructions of Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011; except as required by paragraph (j) of this AD.

### **Credit for Actions Accomplished in Accordance With Previous Service Information**

(h) Actions done before the effective date of this AD in accordance with Boeing Alert Service Bulletin MD80-57A242, dated May 8, 2009, are acceptable for compliance with the corresponding requirements of this AD.

### **Exceptions to Service Bulletin Specifications**

(i) Where Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011, specifies a compliance time after the date of that service bulletin, this AD requires compliance within the specified compliance time after the effective date of this AD.

(j) If any crack is found during any inspection of a doubler repair, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

### **Alternative Methods of Compliance (AMOCs)**

(k)(1) The Manager, Los Angeles Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(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 the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that 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.

### **Related Information**

(1) For more information about this AD, contact Roger Durbin, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; phone: (562) 627-5233; fax: (562) 627-5210; e-mail: roger.durbin@faa.gov.

### **Material Incorporated by Reference**

(m) You must use Boeing Alert Service Bulletin MD80-57A242, Revision 1, dated January 7, 2011; to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of the service information contained in this AD under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, 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>.

(3) You may review copies of the service information 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.

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, call 202-741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on August 8, 2011.

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