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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-1203; Directorate Identifier 2010-NM-168-AD; Amendment 39-16738; AD 2011-14-03]

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 left and right upper center skin panels of the horizontal stabilizer, and corrective action if necessary. This AD was prompted by a report of a crack found in the upper center skin panel at the aft inboard corner of a right horizontal stabilizer. We are issuing this AD to detect and correct cracks in the horizontal stabilizer upper center skin panel. Uncorrected cracks might ultimately lead to the loss of overall structural integrity of the horizontal stabilizer.

DATES: This AD is effective August 10, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of August 10, 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; phone: 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.

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 December 23, 2010 (75 FR 80744). That NPRM proposed to require repetitive eddy current inspections–either (Option 1) two high frequency eddy current (ETHF) scans and one low frequency eddy current (ETLF) scan; or (Option 2) three ETHF scans–to detect cracking of the right and left upper center skin panels of the horizontal stabilizer, and replacing any cracked horizontal stabilizer upper center skin panel with a serviceable panel.

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 Clarify the Term ''Serviceable''

Several commenters requested clarification of the term "serviceable."

American Airlines stated that the term "serviceable" applies to used and new aircraft parts. American commented that if a used skin plank that has been determined to be serviceable has been installed, then the part has accumulated fatigue damage and should be inspected using the repetitive method and the interval used prior to installation.

Aeropostal Hangars stated that the word "serviceable" can be associated with "removed in serviceable condition" from another aircraft. The commenter stated that although the manufacturing tolerances of fastener holes allow the installation of a removed panel from one aircraft to another, it is not always possible considering oversized fasteners, etc. We infer that this commenter wants us to change paragraph (g)(2) of the NPRM to require replacement with a new, rather than serviceable, skin panel assembly.

We agree to change paragraph (g)(2) in this final rule to require replacement with a new skin panel because it is not generally possible to install a used skin panel assembly due to the difficulty in matching drill holes and because the AD does not include a provision for identifying and tracking the accumulated time on the used part. We revised paragraph (g)(2) of this AD accordingly.

Request To Provide Options for Temporary Repairs

Several commenters requested additional options for temporary repairs of certain crack configurations rather than replacement of skin panel assemblies before further flight.

American Airlines stated that it has accomplished temporary cracking repairs on 21 airplanes based on the manufacturer's instructions and have not had any crack propagation from the repaired parts. American stated that doing a temporary repair results in the operation of a safe airplane, which

can then be scheduled for permanent repair at a time that causes the least disruption for the airline and the flying public. This commenter requested that we allow temporary repairs to a cracked skin panel assembly.

Delta Airlines presumed that skin panel cracks likely were caused by contributions from errors in removing or installing the skin panels because of the way the skin panels overlap. Some of Delta's cracked production skin panels were not adequately shimmed where cracks occurred. This commenter cited evidence that trim-out skin panel repairs would provide some reduction in stress concentration and allow skin panels to remain in service until a planned opportunity to change the panels occurs, which would reduce airplane out-of-service time. Delta stated that trim-out repairs should be allowed on skin panels and that the airplane should be allowed to stay in service until at least the next heavy maintenance visit.

Aeropostal Hangars stated that the finding of a crack in an in-service revenue aircraft that is not allowed temporary repairs could lead to a non-scheduled down time for the affected aircraft. We infer that this commenter wants us to allow temporary repairs.

We disagree. We have determined that it will be difficult to evaluate the effect of all temporary repairs on safety, particularly since other temporary repairs allowed on the aft horizontal skin panel by AD 2007-10-04, Amendment 39-15045 (72 FR 25960, May 8, 2007), might already be present. We stated in the NPRM that a crack in the upper center skin panel might transfer the load to the upper aft skin panel, which might result in the upper aft skin panel cracking before reaching the existing inspection interval. Additionally, Aeropostal Hangars provided no data or information that would show that temporary repairs would provide an adequate level of safety.

In this case, we have determined that the alternative method of compliance (AMOC) process is more appropriate for temporary repair approval. Under the provisions of paragraph (h) of this AD, we will consider requests for approval of an AMOC if sufficient data are submitted to substantiate that temporary repairs would provide an acceptable level of safety. Early field data indicate that substantially fewer center panel cracks than aft panel cracks will be detected; therefore, the AMOC process should not represent a substantial burden to operators. We have not changed this AD in this regard.

Request To Replace Horizontal Stabilizer

Several commenters requested the option of replacing the whole horizontal stabilizer instead of replacing a cracked center skin panel because replacing the stabilizer would require only a few days of airplane out-of-service time instead of several weeks.

We disagree. Horizontal stabilizer assemblies do not meet the criteria for serialized, rotable life-limited parts. Further, additional tracking information that is specific to a maintenance facility might be needed to ensure that inspections are occurring at the required times for swapped parts. However, under the provisions of paragraph (h) of this AD, we will consider requests for approval of an AMOC if sufficient data are submitted to substantiate that replacing the whole horizontal stabilizer instead of replacing a cracked center skin panel would provide an acceptable level of safety. We have not changed this AD in this regard.

Request To Use Later Revisions of the Service Bulletin

American Airlines requested that this proposed AD allow the use of later revisions of the service bulletin. American stated that allowing later versions would eliminate the need for AMOC approval for future service bulletin revisions.

We disagree. We cannot use the phrase, "or later FAA-approved revisions," in an AD when referring to the service document because doing so violates Office of the Federal Register (OFR) policies for approval of materials "incorporated by reference." However, affected operators may request approval to use a later revision as an AMOC with this AD under the provisions of paragraph (h) of this AD. We have not changed this AD in this regard.

Explanation of Change to Applicability

We have revised the applicability of this AD to identify The Boeing Company as the type certificate holder for the affected 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 also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

Costs of Compliance

We estimate that this AD will affect 668 airplanes of U.S. registry.
We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	4 work-hours X $85 per hour = $340 per inspection cycle	$0	$340 per inspection cycle	$227,120 per inspection cycle

We estimate the following costs to do any necessary repairs that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these repairs.

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Group 1: Skin panel replacement	648 work-hours X $85 per hour = $55,080	$36,405	$91,485
Group 2: Skin panel replacement	648 work-hours X $85 per hour = $55,080	$54,071	$109,151

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):

2011-14-03 The Boeing Company: Amendment 39-16738; Docket No. FAA-2010-1203; Directorate Identifier 2010-NM-168-AD.

Effective Date

(a) This AD is effective August 10, 2011.

Affected ADs

(b) None.

Applicability

(c) This AD applies to all 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.

Subject

(d) Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 55: Stabilizers.

Unsafe Condition

(e) This AD was prompted by a report of a crack found in the upper center skin panel at the aft inboard corner of a right horizontal stabilizer. We are issuing this AD to detect and correct cracks in the horizontal stabilizer upper center skin panel. Uncorrected cracks might ultimately lead to the loss of overall structural integrity of the horizontal stabilizer.

Compliance

(f) Comply with this AD within the compliance times specified, unless already done.

Inspections

(g) Before the accumulation of 20,000 total flight cycles, or within 4,379 flight cycles after the effective date of this AD, whichever occurs later, do eddy current inspections to detect cracking of the left and right upper center skin panels of the horizontal stabilizer, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin MD80-55A068, dated July 16, 2010.

(1) If no crack is found during any inspection required by paragraph (g) of this AD, repeat the applicable inspections thereafter at the applicable times specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin MD80-55A068, dated July 16, 2010.

(2) If any crack is found during any inspection required by paragraph (g) of this AD, before further flight, replace the skin panel with a new skin panel, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin MD80-55A068, dated July 16, 2010. Within 20,000

flight cycles after the replacement, do eddy current inspections as required by paragraph (g) of this AD.

Alternative Methods of Compliance (AMOCs)

(h)(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 and 14 CFR 25.571, Amendment 45, and the approval must specifically refer to this AD.

Related Information

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

Material Incorporated by Reference

(j) You must use Boeing Alert Service Bulletin MD80-55A068, dated July 16, 2010, 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 this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) 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; phone: 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.

Issued in Renton, Washington, on June 16, 2011.
Ali Bahrami,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.