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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2011-0695; Directorate Identifier 2011-SW-001-AD;  
Amendment 39-16740; AD 2011-14-05]**

**RIN 2120-AA64**

#### **Airworthiness Directives; MD Helicopters, Inc. Model MD900 Helicopters**

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** This amendment supersedes an existing airworthiness directive (AD) for MD Helicopters, Inc. (MDHI) Model MD900 helicopters. That AD currently requires visually inspecting the main rotor lower hub assembly (lower hub) for a crack, and if you find a crack, before further flight, replacing the unairworthy lower hub with an airworthy lower hub. Additionally, within 10 days of finding a cracked lower hub, the existing AD requires reporting the finding to the Los Angeles Aircraft Certification Office (LAACO). That AD was prompted by two reports of cracks detected in the hub in the area near the flex beam bolt hole locations during maintenance on two MDHI Model MD900 helicopters. Since we issued that AD, we determined that one manufacturer had incorrectly inserted flanged bushings into the lower hub bore that resulted in local corrosion, leading to fatigue cracking. Examination of lower hubs from the other manufacturer shows correct bushing installation. Therefore, this amendment limits the applicability to the affected lower hubs; retains the visual inspection but at a different compliance time; adds an eddy current inspection; retains the requirement to replace a cracked lower hub with an airworthy lower hub before further flight; and removes the requirement to report to the LAACO. The actions specified by this AD are intended to detect a crack in the lower hub and prevent failure of the lower hub and subsequent loss of control of the helicopter.

**DATES:** This AD is effective August 1, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of August 1, 2011.

We must receive any comments on this AD by September 13, 2011.

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact MD Helicopters Inc., Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615, Mesa, AZ 85215-9734, telephone 1-800-388-3378, fax 480-346-6813, or at <http://www.mdhelicopters.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 street address for the Docket Office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Eric Schrieber, Aviation Safety Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (562) 627-5348, fax (562) 627-5210.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

On August 19, 2010, we issued Emergency AD (EAD) 2010-18-51. That EAD was prompted by two reports of cracks detected in the lower hub near the flex beam bolt hole location during maintenance. That EAD required, within 4 hours time-in-service (TIS), visually inspecting the lower hub for a crack and, if you find a crack, before further flight, replacing the lower hub with an airworthy lower hub and, within 10 days, reporting a cracked lower hub to the LAACO. We superseded EAD 2010-18-51 with EAD 2010-18-52, issued August 23, 2010, upon discovering a typographical error in the "Applicability" section of the EAD in the lower hub part number (P/N). EAD 2010-18-52 contained the same requirements as EAD 2010-18-51 but corrected the P/N for the lower hub.

### **Actions Since That AD Was Issued**

Since we issued the AD, 5 additional lower hubs were found cracked. We determined that one manufacturer of lower hubs with serial numbers (S/Ns) beginning with 5009 (e.g., 5009-XXXX) had incorrectly inserted flanged bushings into the lower hub bore. This condition resulted in local corrosion leading to fatigue cracking. Examination of lower hubs from the other manufacturer shows correct bushing installation.

### **Relevant Service Information**

We reviewed MDHI Service Bulletin SB900-117, dated January 14, 2011 (SB). The SB specifies an initial 100-hour and recurring 300-hour visual and eddy current inspections of the lower hub for a crack and, if there is a crack, replacing the lower hub with an airworthy lower hub. The inspections would be done at the stated intervals or at the next annual inspection, whichever occurs first. The SB also specifies replacing an affected lower hub within 3 years after the date of the SB.

## **FAA's Determination**

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other helicopters of this same type design.

## **AD Requirements**

This AD requires a visual inspection, and if necessary, an eddy current inspection of the lower hub for a crack. If there is a crack, the AD requires replacing the lower hub with an airworthy lower hub. This AD requires accomplishing these actions by following specified portions of the service information described previously, except as discussed under "Differences Between the AD and the Service Information."

## **Change to Existing AD**

This superseding AD changes the compliance time for the visual inspection and adds an eddy current inspection of the lower hub for a crack. This AD also removes the reporting requirement to the LAACO and the requirement for an OMB control number. This AD also reduces the applicability to only those helicopters with certain serial-numbered lower hubs installed.

## **Differences Between the AD and the Service Information**

This AD does not require contacting the manufacturer or returning the lower hub assembly with a certain report. This AD also does not require the 300-hour inspection or replacing the lower hub within 3 years from the date of the SB because these actions do not fit our criteria for a Final rule, request for comments.

## **FAA's Justification and Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because the previously described unsafe condition can adversely affect the structural integrity and controllability of the helicopter. The inspection is required within 100 hours TIS or during the annual inspection, whichever occurs first, unless done within the last 200 hours TIS. Since the affected helicopters could reach 100 hours TIS within 1 month, we find that notice and opportunity for prior public comment are impracticable and that good cause exists for making this amendment effective in less than 30 days.

## **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not provide you with notice and an opportunity to provide your comments before it becomes effective. However, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2011-0695 and directorate identifier 2011-SW-001-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

## Costs of Compliance

We estimate that this AD affects 12 helicopters 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
1 work hour to visually inspect the hub	1 work-hour X \$85 per hour = \$85	N/A	\$85	\$1,020
1 work hour to eddy current inspect the lower hub [new action]	1 work-hour X \$85 per hour = \$85	N/A	\$85	\$1,020
Required parts and labor to replace a lower hub	11 work hours X \$85 per hour = \$935	\$12,480 per hub	\$13,415	\$160,980,
Total	\$1,105	\$12,480	\$13,585	\$163,020 assuming the lower hubs are replaced for the entire fleet

## 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 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. The FAA amends § 39.13 by removing airworthiness directive (AD) 2010-18-52, Amendment 39-16515 (75 FR 69862, November 16, 2010) and adding the following new AD:



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**2011-14-05 MD HELICOPTERS, INC.:** Amendment 39-16740; Docket No. FAA-2011-0695; Directorate Identifier 2011-SW-001-AD.

**Effective Date**

- (a) This AD is effective August 1, 2011.

**Affected ADs**

- (b) This AD supersedes AD 2010-18-52, Amendment 39-16515, Docket No. FAA-2010-1126; Directorate Identifier 2010-SW-078-AD.

**Applicability**

- (c) Model MD900 helicopters with main rotor lower hub assembly (lower hub), part number (P/N) 900R2101008-107, serial numbers (S/Ns) that begin with 5009, certificated in any category.

**Unsafe Condition**

- (d) This amendment is prompted by the determination that a certain manufacturer had incorrectly inserted the flanged bushings into the lower hub bore. The actions specified by this AD are intended to detect a crack in the lower hub and prevent failure of the hub and subsequent loss of control of the helicopter.

**Compliance**

- (e) Within 100 hours time-in-service (TIS) or during the next annual inspection, whichever occurs first, unless done within the last 200 hours TIS:

(1) Visually inspect the sides and bottom of the area between the arms for the centering bearing and the areas adjacent to the bushings of the lower hub assembly for a crack. If there is a crack, before further flight, replace the lower hub with an airworthy lower hub.

(2) If the lower hub is not replaced as a result of the visual inspection required by paragraph (e)(1) of this AD, eddy current inspect the lower hub for a crack by following the Accomplishment Instructions, paragraphs 2.A(2) through 2.A.(10)., of MD Helicopters Inc. Service Bulletin SB900-117, dated January 14, 2011 (SB). If there is a crack, before further flight, replace the lower hub with an airworthy hub.

(f) The eddy current inspection required by paragraph (e)(2) of this AD must be done by a Level II technician with ASNT-TC-1A, CEN EN 4179, MIL-STD-410, NAS410, or equivalent certification in eddy current inspections. The technician must have done an eddy current inspection in the last 12 months.

**Alternative Methods of Compliance (AMOCs)**

- (g)(1) The Manager, Los Angeles Aircraft Certification Office (LAACO), 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 LAACO, send it to the attention of the person identified in the Additional Information section of this AD.

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

### **Additional Information**

(h) For more information about this AD, contact Eric Schrieber, Aviation Safety Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712-4137, telephone (562) 627-5348, fax (562) 627-5210.

### **Material Incorporated by Reference**

(i)(1) Inspect the main rotor lower hub assembly for a crack by following the specified portions of MD Helicopter, Inc. Service Bulletin SB 900-117, dated January 14, 2011. The Director of the Federal Register approved the incorporation by reference of the service information, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact MD Helicopters Inc., Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615, Mesa, AZ 85215-9734, telephone 1-800-388-3378, fax 480-346-6813, or at <http://www.mdhelicopters.com>.

(3) Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas, or 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).

### **Subject**

(j) The Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code is 6220: Main Rotor Head.

Issued in Fort Worth, Texas, on June 21, 2011.

Kim Smith,  
Manager, Rotorcraft Directorate,  
Aircraft Certification Service.