

[Federal Register: May 15, 2002 (Volume 67, Number 94)]
[Rules and Regulations]
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[DOCID:fr15my02-4]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001-SW-39-AD; Amendment 39-12751; AD 2002-10-05]

RIN 2120-AA64

Airworthiness Directives; MD Helicopters Inc. Model MD-900 Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to MD Helicopters Inc. Model MD-900 helicopters, that currently requires inspecting the main rotor upper hub (hub) assembly drive plate attachment flange (flange), determining the torque of each flange nut (nut), and if a crack is found, before further flight, replacing the hub assembly. In addition to the current requirements, this action requires visually inspecting the outer surface of the flange at specified intervals, removing the drive plate and visually inspecting the flange for a crack at specified intervals, and replacing any unairworthy hub assembly. This amendment is prompted by reports that cracks starting at the drive plate attachment holes were found in the hub. The actions specified by this AD are intended to detect a crack in the flange and to prevent failure of the hub assembly, loss of drive to the main rotor, and subsequent loss of control of the helicopter.

DATES: Effective June 19, 2002.

The incorporation by reference of certain publications listed in the regulations was approved previously by the Director of the Federal Register as of May 1, 2001 (66 FR 19383, April 16, 2001).

ADDRESSES: The service information referenced in this AD may be obtained from MD Helicopters Inc., Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615-GO48, Mesa, Arizona 85215-9734, telephone 1-800-388-3378, fax (480) 891-6782, or on the Web at www.mdhelicopters.com. This information may be examined at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Jon Mowery, Aviation Safety Engineer, FAA, Los Angeles Aircraft Certification Office, Airframe Branch, 3960 Paramount Blvd., Lakewood, California 90712, telephone (562) 627-5322, fax (562) 627-5210.

SUPPLEMENTARY INFORMATION: A proposal to amend 14 CFR part 39 by superseding AD 2001-07-09, Amendment 39-12175 (66 FR 19383, April 16, 2001), for MD Helicopters Inc. Model MD-900 helicopters, was published in the Federal Register on December 17, 2001 (66 FR 64931). That action proposed to require inspecting the flange, determining the torque of each nut, and if a crack is found, before further flight, replacing the hub assembly. That action also proposed to require visually inspecting the outer surface of the flange at specified intervals, removing the drive plate and visually inspecting the flange for a crack at specified intervals, and replacing any unairworthy hub assembly.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to the public. The FAA has determined that air safety and the public interest require the adoption of the rule as proposed with the exception of minor editorial changes. These changes will neither increase the economic burden on any operator nor increase the scope of the AD.

The FAA estimates 28 helicopters of U.S. registry will be affected by this AD. It will take approximately:

- 1 work hour per helicopter to verify the torque,
- 3 work hours per helicopter to perform the inspection,
- 10 work hours per helicopter to replace the hub assembly,
- 1 work hour for a 100-hour TIS inspection, and
- 3 work hours for a 300-hour TIS inspection.

The average labor rate is \$60 per work hour. Required parts to replace the hub assembly, if necessary, will cost approximately \$21,610 per helicopter. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be \$159,770 for the first year, assuming 5 hub assembly replacements and assuming each helicopter has 6 torque verifications, 6 inspections, two 100-hour inspections, and one 300-hour inspection.

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.

Sec. 39.13 [Amended]

2. Section 39.13 is amended by removing Amendment 39-12175 (66 FR 19383, April 16, 2001), and by adding a new airworthiness directive (AD), Amendment 39-12751, 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.airweb.faa.gov/rgl"

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).

2002-10-05 MD Helicopters, Inc.: Amendment 39-12751. Docket No. 2001-SW-39-AD. Supersedes AD 2001-07-09, Amendment 39-12175, Docket No. 2000-SW-15-AD.

Applicability: Model MD-900 helicopters, with main rotor upper hub (hub) assembly, part number (P/N) 900R2101006-105 or P/N 900R2101006-107, installed, certificated in any category.

Note 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the hub assembly, loss of drive to the main rotor, and subsequent loss of control of the helicopter, accomplish the following:

(a) For the hub assembly, P/N 900R2101006-107:

(1) Within 6 hours time-in-service (TIS), visually inspect the hub assembly drive plate attach flange (flange) for a crack and determine the torque of each flange attach nut (nut) in accordance with the Accomplishment Instructions, Part I, paragraph 2.A., steps (1) through (7) of MD Helicopter Inc. Service Bulletin SB900-072, dated December 10, 1999 (SB). If a crack is found, before further flight, remove and replace the hub assembly with an airworthy hub assembly.

(2) Within 25 hours TIS, accomplish Part II, of the Accomplishment Instructions, paragraph 2.B., steps (1) through (6), (8), and (9) of the SB. If a crack is found, before further flight, remove and replace the hub assembly with an airworthy hub assembly.

(b) For the hub assembly, P/N 900R2101006-105:

(1) Within 6 hours TIS, visually inspect the flange for a crack and determine the torque of each nut in accordance with the Accomplishment Instructions, Part I, paragraph 2.A., steps (1) through (7) of the SB.

Note 2: The SB effectivity does not include hub assembly, P/N 900R2101006-105; however, certain provisions of this AD do apply to this P/N.

(2) If any nut has less than 180 inch pounds (20.34 Nm) of torque, before further flight, remove the drive plate and fretting buffer and inspect the flange in accordance with the procedures in paragraph (b)(3) of this AD. If a crack is detected, before further flight, remove and replace the hub assembly with an airworthy hub assembly. Reassemble in accordance with the procedures in paragraph (b)(3) of this AD.

(3) Within 25 hours TIS, remove the main rotor drive plate assembly and anti-fretting ring and visually inspect the hub assembly as follows:

(i) If present, remove sealant from the drive plate attachment to the hub assembly.

(ii) Mark the main rotor hub holes to correspond with the drive plate hole numbers (see Figure 1 of this AD).

(iii) Remove the main rotor drive plate (drive plate) assembly and anti-fretting ring (fretting buffer).

(iv) Inspect drive plate to hub assembly mating surfaces and the fretting buffer for fretting.

(v) Using paint stripper (Consumable Item List C313 or equivalent) and cleaning solvent (C420 or equivalent), remove the paint from the upper mating surface of the hub assembly to enable an accurate visual inspection of each drive plate attachment bolt hole (bolt hole) area for cracking (Figure 1). Ensure the paint stripper and solvent DO NOT contaminate the upper bearing and upper grease seal areas.

(vi) Using a 10x or higher magnifying glass and light, inspect the mating surface area and the area around and inside the 10 bolt holes of the hub assembly for a crack. If a crack is found, before further flight, replace the hub assembly with an airworthy hub assembly.

(vii) If no crack is found, remove fretting debris from the mating surfaces of the hub assembly and the drive plate assembly, reassemble, fillet seal (C211 or equivalent) the surface of the drive plate to fretting buffer to hub assembly mating lines, and seal all exposed unpainted upper surfaces of the hub assembly.

(viii) Reinstall the main rotor drive plate using 10 new sets of replacement attachment hardware. Torque the nuts to 160 inch pounds above locknut locking/run-on torque in the sequence shown (Figure 1). Record in the rotorcraft logbook, or equivalent record, the locknut locking/run-on torque for each nut.

(ix) After the next flight, verify that the torque on each of the 10 nuts is at least 160 inch-pounds above the locknut locking/run-on torque (minimum torque). Re-torque as required without loosening nuts.

(x) Thereafter, at intervals of at least 4 hours TIS, not to exceed 6 hours TIS, verify that the torque of each of the 10 nuts is at least the minimum torque. Re-torque as required without loosening nuts. This torque verification is no longer required after the torque on each of the 10 nuts has stabilized at a torque value of 160 or more inch-pounds for each nut during two successive torque verifications.

BILLING CODE 4910-13-P

1. MAIN ROTOR DRIVE PLATE ATTACHMENT HARDWARE TORQUE SEQUENCE.
2. NUMBERING MAY START AT ANY HOLE.
3. TORQUE NUTS TO 1/2 TOTAL TORQUE, THEN FULL TORQUE.

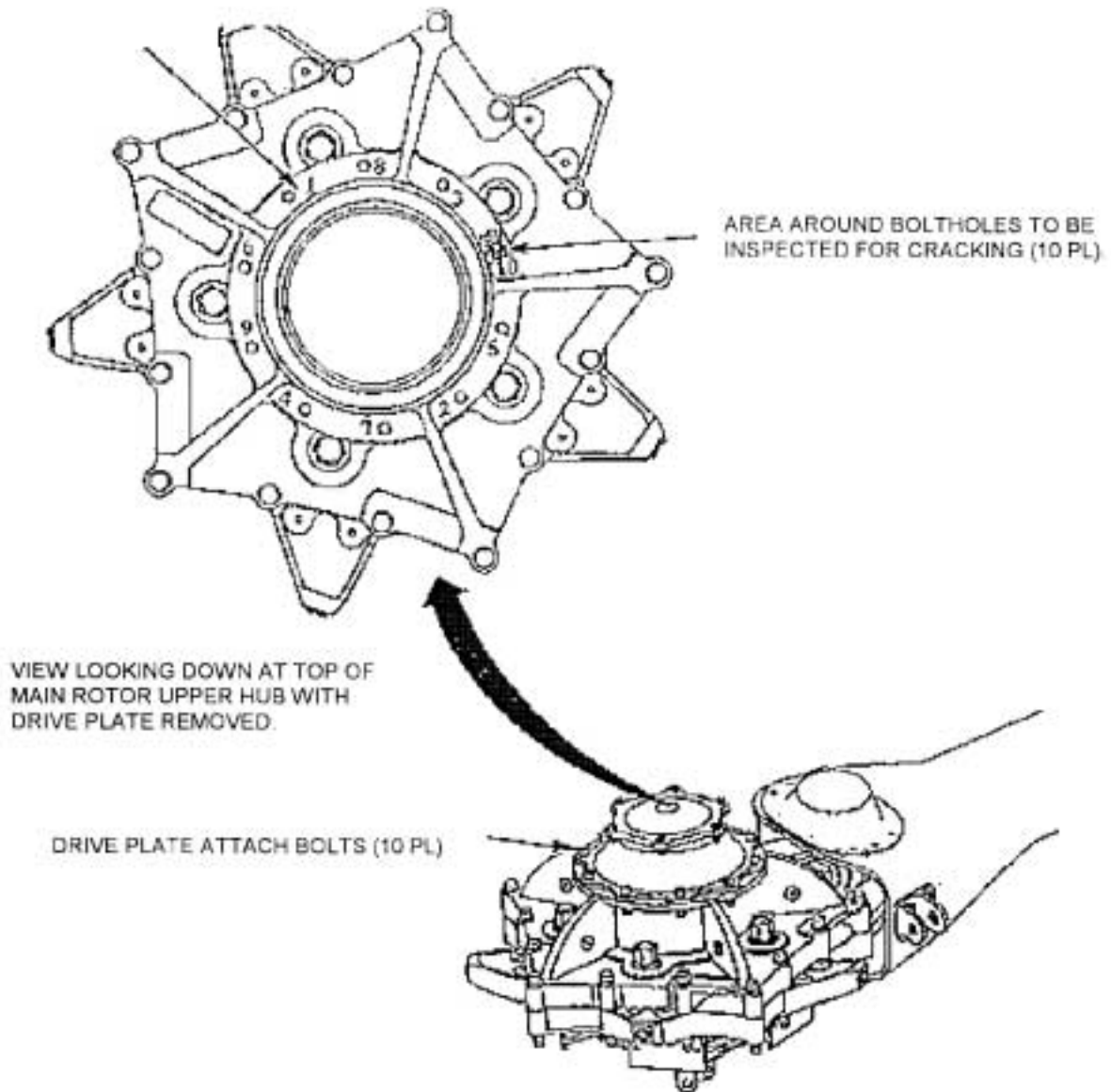


Figure 1. Main Rotor Upper Hub Assembly Inspection

BILLING CODE 4910-13-C

(c) Within 100 hours TIS and thereafter at intervals not to exceed 100 hours TIS, visually inspect the outer surface of the flange for a crack using a light and a 10x or higher magnifying glass. If a crack is detected, replace the unairworthy hub assembly with an airworthy hub assembly before further flight.

(d) At intervals not to exceed 300 hours TIS, remove the drive plate and visually inspect the flange for a crack using a light and a 10x or higher magnifying glass. If a crack is detected, replace the unairworthy hub assembly with an airworthy hub assembly before further flight.

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office (LAACO), FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, LAACO.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the LAACO.

(f) If any nut torque is below minimum torque and no hub assembly crack is found before disassembly inspection, after re-torque in accordance with the applicable maintenance manual, a special flight permit for one flight below 100 knots indicated airspeed may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the requirements of this AD can be accomplished.

(g) The inspections and replacement, if necessary, shall be done in accordance with the Accomplishment Instructions, Part I, paragraph 2.A., steps (1) through (7); and Part II, paragraph 2.B., steps (1) through (6), (8), and (9), of MD Helicopter Inc. Service Bulletin SB900-072, dated December 10, 1999. The incorporation by reference of that document was previously approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51 as of May 1, 2001 (66 FR 19383, April 16, 2001). Copies may be obtained from MD Helicopters Inc., Attn: Customer Support Division, 4555 E. McDowell Rd., Mail Stop M615-GO48, Mesa, Arizona 85215-9734, telephone 1-800-388-3378, fax (480) 891-6782, or on the web at www.mdhelicopters.com. 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 Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(h) This amendment becomes effective on June 19, 2002.

Issued in Fort Worth, Texas, on May 2, 2002.

David A. Downey,
Manager, Rotorcraft Directorate, Aircraft Certification Service.
[FR Doc. 02-12051 Filed 5-14-02; 8:45 am]
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