



SERVICE BULLETIN

DATE: 09 JUNE 1998
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MAIN ROTOR HUB INSPECTION

This Bulletin supersedes and cancels SL900-039 dated 20 May 1998.

1. PLANNING INFORMATION

A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD900 helicopters, serial number 900-0002 thru 900-0057.

B. Assembly/Components Affected By This Notice:

Main Rotor Upper Hub Assembly (P/N 900R2101006-101, -103, and -105)

To inspect the main rotor upper hub assembly for cracks leading from the drive plate attach bolt holes. Failure to comply with the requirements of this Service Bulletin may result in the loss of drive to the main rotor assembly which would require an emergency/urgent landing of the aircraft.

C. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting the main rotor hub assembly in the area of the drive plate bolt hole attach points.

D. Time of Compliance

For main rotor upper hub assemblies with less than 300 hours of operating time, the requirements of this Bulletin shall be accomplished within the next 25 hours of helicopter operation or no later than 31 January 1999, whichever occurs first.

For main rotor upper hub assemblies with 300 or more hours operating time, the requirements of this Bulletin shall be accomplished prior to next flight. A one time ferry flight not to exceed 100KTS to an appropriate maintenance facility is authorized.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

One (1) man-hour for fastener torque inspection, three (3) manhours for steps 3 through 13, and ten (10) manhours for upper hub assembly replacement.

G. Interchangeability:

N/A

H. Material/Part Availability:

Contact MDHS Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Main Rotor Upper Hub Assembly	900R2101006-101,-103, or-105	1 (1)	MDHS
Upper Seal, Main Rotor	900R3101004-101	1 (1) (2)	MDHS

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Upper Seal Stop, Main Rotor	900R2101021-101	1 (1) (2)	MDHS
Center Seal, Main Rotor	900R3101003-101	1 (1) (2)	MDHS
Lower Seal, Main Rotor	900R3101002-103	1 (1) (2)	MDHS
Bearing, Upper, Main Rotor Hub	900R3101006-101	1 (1) (2)	MDHS
Bearing, Lower, Main Rotor Hub	900R3101005-101	1 (1) (2)	MDHS
Liner, Main Rotor Hub	900R2101004-101	1 (1) (2)	MDHS
Shim, Main Rotor Hub	900R2101XXX-101	1 (1) (2)	MDHS
Bolt, Tension, 12 Point, External Wrenching Flanged	MS21250H05008	10	MDHS
Bolt, Tension, 12 Point, External Wrenching Flanged	MS21250H05010	10 (3)	MDHS
Nut, Self Locking, Hexagon, Ring Base	MS21042-5	10	MDHS
Washer, Plain, High Strength	MS20002-5	20	MDHS
Packing, Preformed	M83248/1-152	1	MDHS
Packing, Preformed	M83248/1-166	1	MDHS
Packing, Preformed	M83248/1-244	1	MDHS

NOTES:

- (1) Required if main rotor upper hub is replaced.
- (2) These parts will be preassembled to the main rotor upper hub by MDHS.
- (3) Required if -101 or -103 main rotor upper hub is replaced with a -105 main rotor upper hub.

I. Warranty Policy:

In accordance with the existing warranty policy.

J. Tooling:

N/A

K. Weight and Balance:

N/A

L. Electrical Load Data:

N/A

M. Other Publications Affected:

MD900 Rotorcraft Maintenance Manual (CSP-900RMM-2)

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- (10). After the next flight, re-verify torque at all ten (10) fastener locations of the main rotor drive plate installation is at least 160 in-lbs (beyond locking torque). Retorque as required without loosening fasteners. Record in the Rotorcraft Log Book any nut locations which were less than the required torque.
- (11). Environmentally seal bolt heads. Fillet surface seal main rotor drive plate to fretting buffer to main rotor upper hub assembly mating lines. Seal all exposed unpainted upper surface of the upper hub assembly (Ref. CSP-SPM).
- (12). Verify torque of the ten (10) fasteners after each additional four (4) to six (6) hours of aircraft operation until the fastener torques have stabilized at the correct torque.
- (13). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.
- (14). Repeat above visual inspection procedure (7). through (13). at every subsequent 150 hours of time in service of the affected main rotor upper hub assembly.

B. Applies to: (P/N 900R2101006-105 Upper Hub Assembly)

- (1). If present, remove sealant from affected hardware.
- (2). Using an indelible marker, number the main rotor drive plate attachment fastener torque sequence onto the drive plate (Ref. Figure 1).

NOTE: Record aircraft, operator, and torque information on Figure 1. Fax a copy of completed Figure 1 to attention Dale Clay, 602-891-6782.

- (3). Verify and record the existing torque of the ten fastener locations on the upper main rotor assembly where it attaches to the main rotor hub drive plate assembly by applying torque in the tightening direction and recording when the nut begins to move using a torque wrench.
- (4). Remove the main rotor drive plate assembly and fretting buffer per the Rotorcraft Maintenance Manual (CSP-900RMM-2, Section 63-10-00 and 62-20-00).



Ensure paint stripper and solvent **Do Not** contaminate the upper bearing and upper grease seal areas.

Paint Stripper (C313)



Solvent, Cleaning (C420)



- (5). Using paint stripper (C313) and cleaning solvent (C420) remove paint from the mating surface of the main rotor upper hub assembly (Ref. CSP-SPM and Figure 1).
- (6). If any paint is present on the lower mating surface of the main rotor drive plate, remove paint (Ref. step (5)).
- (7). Using a 10X magnifying glass, inspect the area around the ten (10) mating fastener holes of the main rotor upper hub assembly for any suspected evidence of cracking. If any crack is verified replace the discrepant parts per the Rotorcraft Maintenance Manual (CSP-900RMM-2, Section 62-20-00).

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- (8). Adequately remove any signs of fretting from the mating surface of the main rotor upper hub assembly and the drive plate assembly per the Rotorcraft Maintenance Manual (CSP-900RMM-2, Section 62-20-00). Do Not repaint mating surfaces.
- (9). Reinstall the main rotor drive plate onto a serviceable main rotor upper hub assembly per the Rotorcraft Maintenance Manual (CSP-900RMM-2, Section 63-10-00). Torque nuts to 160-180 in-lbs (beyond locking torque) in the sequence shown (Ref. Figure 1).
- (10). After the next flight, re-verify torque at all ten (10) fastener locations of the main rotor drive plate installation is at least 160 in-lbs (beyond locking torque). Retorque as required without loosening fasteners. Record in the Rotorcraft Log Book any nut locations which were less than the required torque.
- (11). Environmentally seal bolt heads. Fillet surface seal main rotor drive plate to fretting buffer to main rotor upper hub assembly mating lines. Seal all exposed unpainted upper surface of the upper hub assembly (Ref. CSP-SPM).
- (12). Verify torque of the ten (10) fasteners after each additional four (4) to six (6) hours of aircraft operation until the fastener torques have stabilized at the correct torque.
- (13). Verify fastener torque at the next 100 hour inspection.
- (14). Record compliance to this Service Bulletin in the Compliance Record Section of the helicopter Log Book.

3. DISPOSITION OF PARTS REMOVED

Return to MDHS all parts, except scrap fasteners.

4. POINTS OF CONTACT

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 891-6342. DATAFAX: (480) 891-6782.

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AIRCRAFT SERIAL NUMBER: _____

UPPER HUB ASSEMBLY S/N: _____

UPPER HUB ASSEMBLY FLIGHT HOURS: _____
OPERATOR POINT OF CONTACT

NAME: _____

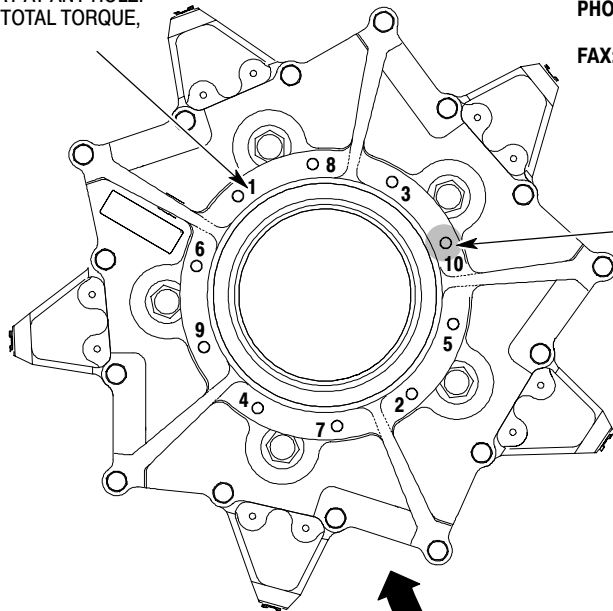
ADDRESS: _____

PHONE: _____

FAX: _____

PLEASE FAX COMPLETED TORQUE RECORD TO
DALE CLAY OF BOEING CUSTOMER SUPPORT AT
602-891-6782.

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.



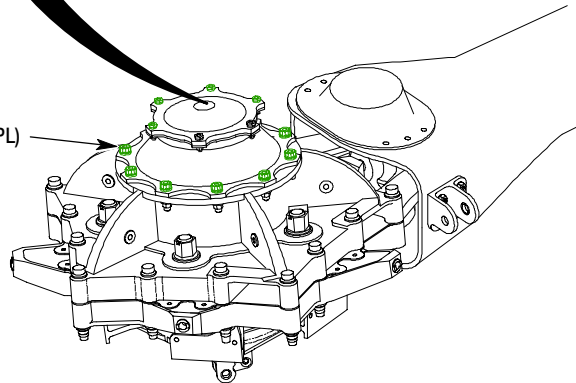
AREA AROUND BOLT HOLES TO BE INSPECTED FOR CRACKING (10 PL)

VIEW LOOKING DOWN AT TOP OF MAIN ROTOR UPPER HUB WITH DRIVE PLATE REMOVED

INITIAL INSPECTION TORQUE RECORD

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

DRIVE PLATE ATTACH BOLTS (10 PL)



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Figure 1. Main Rotor Upper Hub Assembly Inspection.

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MAIN ROTOR HUB INSPECTION

Parts Request Form: Please fill in the following information and return to MDHS for parts/supplies required for compliance. This form may be faxed to MDHS Warranty and Repair Department at (602) 891-3952.

Aircraft Ser. No.:

Aircraft Total Time:

Date:

Parts Required:

Part Ser. No. (if required):

Ship to:

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