

SERVICE BULLETIN

DATE: 14 JANUARY 2011
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MANDATORY

Eddy Current Inspection of the Main Rotor Lower Hub Assembly

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial numbers (SNs) 900-00008 thru 900-00139, and all spares.

B. Assembly/Components Affected By This Notice:

Main Rotor Lower Hub Assembly, Part Number (PN) 900R2101008-107, identified with SNs that begin with 5009.

C. Reason:

Cracks have been found on four main rotor lower hub assemblies.

Failure to comply with this bulletin can compromise the structural integrity of this life-limited part. Failure to remove a cracked main rotor lower hub assembly from service can cause excessive main rotor vibrations which eventually may cause the failure of the main rotor hub assembly and the loss of the rotorcraft.

D. Description:

Procedures in this Bulletin give owners and operators information to inspect the main rotor lower hub assembly for cracks.

E. Time of Compliance:

The requirements of this bulletin must be completed within 100 hours after receipt of this bulletin or during the annual inspection (whichever one occurs first), then every 300 hours or during the annual inspection thereafter (whichever one occurs first).

Replacement of the lower hub is required after three (3) years, from the date of this bulletin.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

G. Manpower:

Compliance with this bulletin will be approximately 1.0 man-hours.

H. Interchangeability:

None.

I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

J. Material/Part Availability:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Main Rotor Lower Hub Assembly	900R2101008-107	1	MDHI

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K. Warranty Policy:

Standard warranty policy applies.

L. Disposition of Parts Removed:

Return to MDHI.

M. Tooling:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Eddy Current Inspection Equipment	Commercially Available
Cleaning Solvent (C425)	Van Waters & Rogers Inc., PO Box 34325, Seattle, WA 98124-1325; Phone: 425-889-3400
Marker	Commercially Available
Extended Reach Right-Angle Pencil Probe (8 to 9 Inch [20 to 23 cm] overall length)	Commercially Available

N. Weight and Balance:

N/A

O. Electrical Load Data:

N/A

P. Other Publications Affected:

CSP-900RMM-2 Rotorcraft Maintenance Manual - Servicing and Maintenance

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual - Servicing and Maintenance

2. ACCOMPLISHMENT INSTRUCTIONS

A. Eddy Current Inspection of the Lower Hub Assembly

(Ref. Figure 1)

NOTE: The eddy current inspection can be done on a lower hub assembly installed on the rotorcraft. It is not necessary to disassemble the main rotor hub assembly.

NOTE: Eddy current inspection 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 and have done an eddy current inspection in the last 12 months.

- (1). Do a visual inspection of the sides and bottoms of the area between the arms for the centering bearing and the inspection areas adjacent to the bushings for cracks.

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(a). If there is a crack, go to Step (11).

(b). If there are no visible cracks, go to Step (2).

(2). Calibrate inspection unit and probe (ref. manufacturer instructions) with an aluminum alloy model defect standard with a surface probe calibration slot equal to or less than a **0.010 inch (0.25 mm) depth**.

NOTE: Use eddy current inspection equipment with an extended reach right-angle pencil probe for crack detection when the lower hub assembly is installed on the rotorcraft. Unit and probe must be calibrated before inspection, each half hour during inspection, at the end of inspection, and if a cable or probe is changed.

NOTE: The lower hub material is aluminum alloy 7050-T7451 (ref. SAE AMS4050).

(3). Set inspection unit for inspection (ref. manufacturer instructions).

(4). Null the instrument with the probe in the inspection area after calibration and as necessary to include the paint thickness.

NOTE: The average paint thickness should be **0.003 inch (0.08 mm)**.

(5). Scan all of the inspection area shown by shadow adjacent to the bushings.

NOTE: The probe must be held perpendicular to the surface to be examined.

(6). As necessary, turn the hub assembly and rotor blades 360 degrees several times to get access to each location.

(7). Responses more than that of the calibration standard, which are not caused by lift-off, are a cause for rejection.

(8). Mark each area on the lower hub assembly where there is an unsatisfactory result.

Solvent, Cleaning (C425)



(9). Fully clean marked areas with cleaning solvent (C425).

(10). Carefully scan marked areas again.

(11). If there is a crack, remove the lower hub assembly and replace it with an airworthy lower hub assembly.

(12). Tag the unsatisfactory lower hub assembly as unairworthy.

(13). Contact MDHI for return instructions, engineering evaluation, and eventual disposition as scrap of the removed lower hub assembly. Return the lower hub assembly with a Service Operational Report (SOR).

B. Compliance Record

(1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.

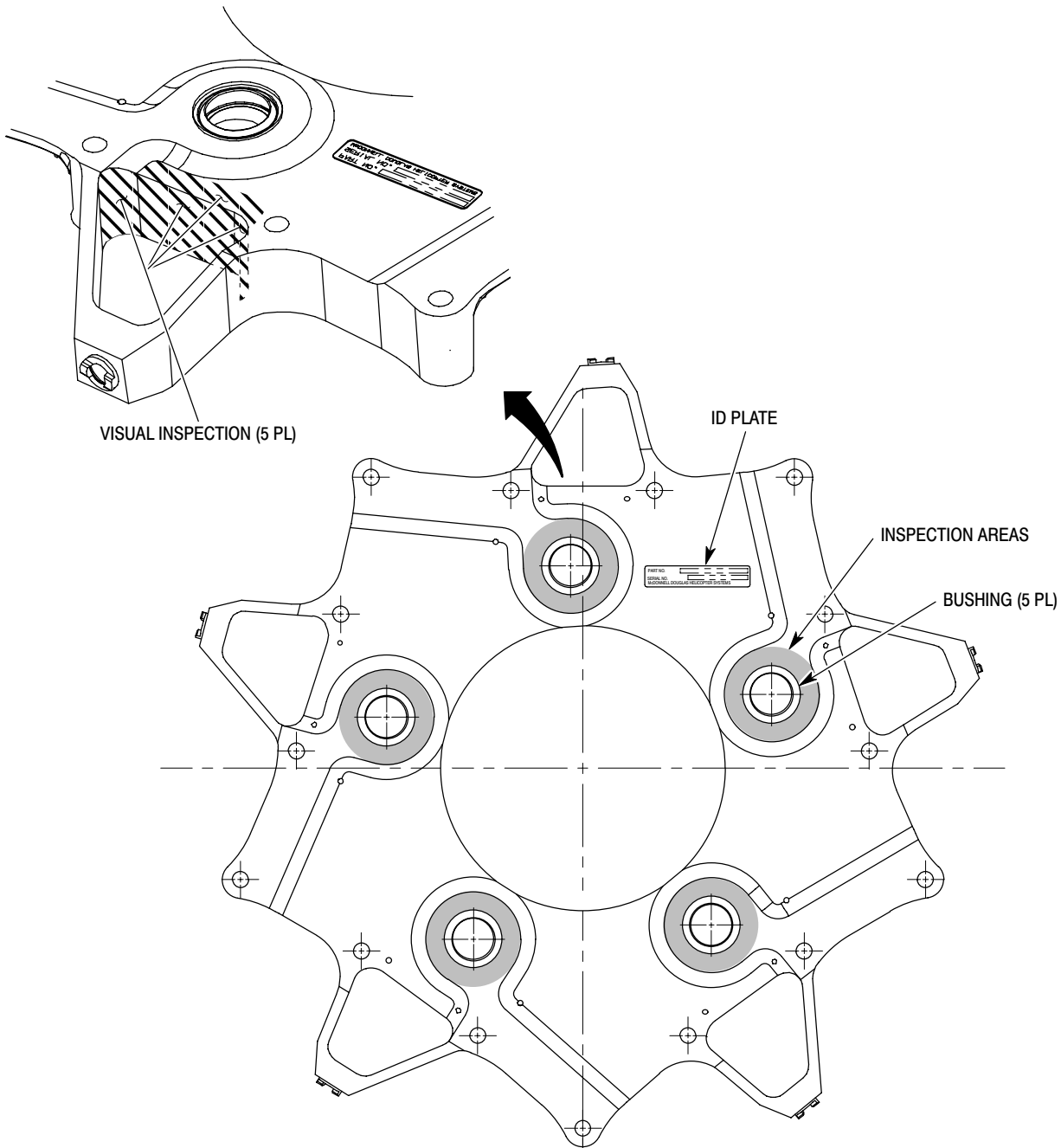
(2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MHDI Field Service Department after the completion of the first inspection.

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NOTE:
LOWER HUB ASSY SHOWN REMOVED FROM THE HUB ASSY TO HIGHLIGHT THE INSPECTION AREAS. DISASSEMBLY OF THE HUB ASSY IS NOT NECESSARY FOR THE VISUAL OR EDDY CURRENT INSPECTION.

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Figure 1. Inspection of the Lower Hub Assembly (Bottom View)

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Bulletin Completed Record

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MD Helicopters, Inc.
Field Service Department
4555 East McDowell Road
Mesa, AZ 85215-9734

800-388-3378 Phone (US and Canada)
480-346-6387 Phone (International)
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com.

Dear Sir:

This is to tell you that this Service Bulletin has been completed as follows:

Owner /Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____	Helicopter Total Time: _____
	Date: _____
	Location: _____
Phone: _____	Lower Hub Assembly: PN _____
E-mail: _____	SN _____

The first inspection is complete and the subsequent inspections have been added to the inspection schedule:

(Signature)

(Print Name)

(Title)

Lower Hub Assembly was found: Airworthy / Cracked
(Circle One)

Comments: _____

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