



SERVICE BULLETIN

DATE: 01 JULY 1996

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* Supersedes Service Bulletin SB 900-031, dated 24 May 1996.

SWASHPLATE MODIFICATION, INNER RETAINER PLATE REPLACEMENT

1. PLANNING INFORMATION:

A. Aircraft Affected:

McDonnell Douglas Helicopter Systems (MDHS) MD900 helicopters, serial number 00010 thru 00037.

B. Assembly/Components Affected by this Notice:

Swashplate Assembly (P/N 900C1010004-115 & -117).

C. Reason:

To provide a means to return aircraft to service that failed Service Bulletin SB900-030, or later revision, inspection requirements and to assure swashplate bearing clearances meet design requirements if mating parts are changed in the future. Failure to comply with this Bulletin may cause possible damage to the swashplate bearing which may cause high vibration and possible delayed or degraded response to cyclic control inputs.

NOTE: The inspection required by SB900-030 will prevent swashplate bearing damage.

D. Description:

Procedures in this Bulletin provide owners and operators with a requirement to replace the inner retainer of the main rotor swashplate assembly performed at their facility.

E. FAA Approval:

The design engineering aspects of this Bulletin are FAA approved.

F. Manpower:

The procedure removes the single piece 900C2010506-101 inner retainer ring and installs the two piece 900C2010507-101 inner retainer rings. The procedure will be performed by local maintenance personnel. Accomplishment of this Bulletin will require approximately two (2) man hours.

G. Time of Compliance:

Service Bulletin SB900-030 R1 or later must be complied with prior to completing this Service Bulletin. If SB900-030 R1, or later revision, is complied with and passed, this Bulletin must be accomplished at the next scheduled 100 Hour/Annual inspection after receipt of parts or no later than 31 December 1996. If the swashplate bearing fails the inspection requirements of SB900-030R1, or later Rev., this Bulletin must be accomplished prior to next flight.

H. Interchangeability:

None.

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I. Material/Part Availability:

Contact MDHS Part Sales Dept.

PARTS/SUPPLIES LIST			
Nomenclature	Part No.	Qty.	Source
Die Grinder (air operated, 0.25 inch, 20,000 RPM or higher)	N/A (or equivalent)	1	Commercially Available
Aluminum Oxide Abrasive 3 Inch Dia. Cut-off Wheel	A60-0BNA2 05864756 (or equivalent)	1	Norton USA or Commercially Available
Retainer, Split Ring – Inner Bearing	900C2010507-101	2	MDHS
Sealant	MIL-S-8802 B1/2	A/R	Commercially Available

J. Warranty Policy:

MDHS Commercial Warranty and Repair Department will provide acceptable replacement parts at no cost to the operator. The replacement parts will be covered by the MDHS warranty. MDHS will also credit those affected operators with two (2) hours of labor warranty (spares credit).

K. Tooling:

N/A

L. Weight and Balance:

N/A

M. Electrical Load Data:

N/A

N. Other Publications Affected:

N/A.

2. IDENTIFICATION:

After completing the procedure indicated in this Bulletin and the new inner retainer rings (with recessed surface) are installed, reidentify the swashplate with the new part number indicated below using white permanent ink.

Swashplate assembly P/N 900C1010004-115 to be identified as 900C5010033 and a 900C1010004-117 swashplate assembly is identified as 900C1010004-121.

NOTE

NOTE: If the spherical slider bearing P/N 900C3010042-103 contained in the swashplate assembly P/N 900C1010004-115 has been replaced with a new spherical slider bearing P/N 900C3010042-105, the swashplate assembly effectively becomes a 900C1010004-117 and should be identified as a 900C1010004-121 after completing this Bulletin.

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3. DISPOSITION OF PARTS REMOVED:

Scrap old retainer ring locally.

Return other affected parts to Commercial Warranty and Repair within five days of removal.

4. COMPLIANCE RECORD:

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

5. POINTS OF CONTACT:

For further assistance, contact your local MDHS Field Service Representative (refer to the latest revision of the Business Development and Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHS, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

6. ACCOMPLISHMENT INSTRUCTIONS: (RECOMMENDED METHOD)

- (1). Fabricate work aid (Ref. Figure 1).
- (2). Remove bolts from inner labyrinth seal and retainer ring (Ref. CSP-900RMM-2).
- (3). Separate labyrinth seal from swashplate and secure to bottom of main rotor hub with tape or string.
- (4). Visually inspect the bottom of the old retainer ring for evidence of damage. Visually inspect swashplate inner race for evidence of spinning and/or fretting.
- (5). Visually inspect that the upper surface of the inner bearing race is flush or higher than the top surface of the non-rotating swashplate.
- (6). If the swashplate does not pass the previous inspections, contact MDHS Field Service for disposition.
- (7). Lift retainer from swashplate and secure to work aid using two wood screws and washers.



Protect swashplate assembly and flight control area from FOD and grinder damage.

- (8). To prevent FOD damage, cover swashplate and flight control area with bubble-wrap or equivalent material.
- (9). Position protective barriers (wood or metal) between retainer ring (to be cut on work aid) and the main rotor mast and swashplate area to prevent damage if cutting wheel kicks back during cutting process.



Wear proper eye protection during the cutting process as eye injury may result.

- (10). Using a high speed grinder and abrasive cutoff wheel, cut through the retainer ring mounted to the work aid using bolt hole indicated as a guide (Ref. Figure 1).
- (11). Reposition retainer on work aid to cut the retainer ring at a second position 180 degrees from the first cut.

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- (12). Remove the cut retainer ring and work aid from the helicopter.
- (13). Clean the mast and swashplate area and remove the protective barriers and FOD prevention material from the helicopter.
- (14). Install new two piece inner retainer ring onto swashplate with the recessed surface pointed down (Ref. Figure 2).
- (15). Install labyrinth seal ring with bolts and washers.
- (16). Torque bolts 70 - 90 inch-pounds plus run-on torque (7.91 - 10.17 Nm).
- (17). Safety wire bolts using lockwire.
- (18). Seal gaps between retainer ring sections using sealant (MIL-S-8802 B1/2).

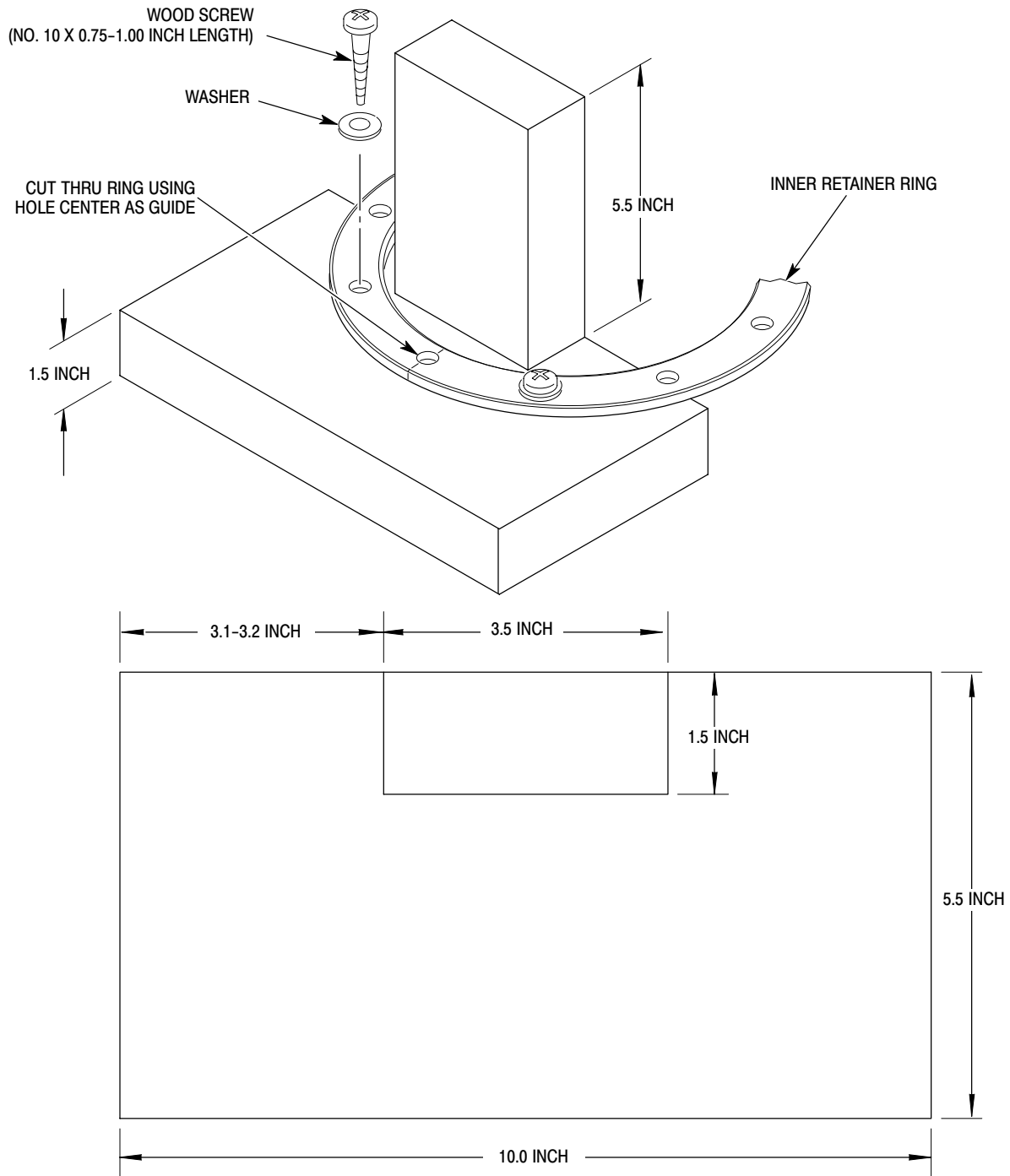
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- NOTE:
 1. FABRICATE FROM WOOD.
 2. SECURE BLOCKS TOGETHER WITH NAILS.

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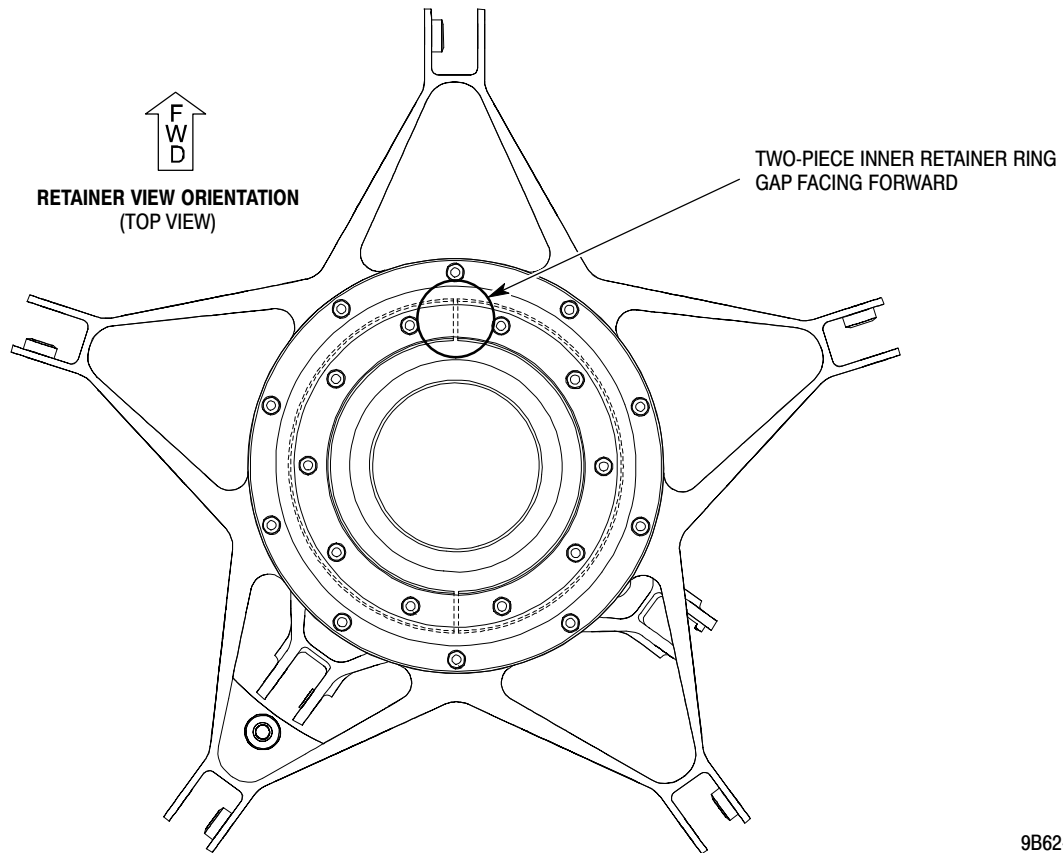
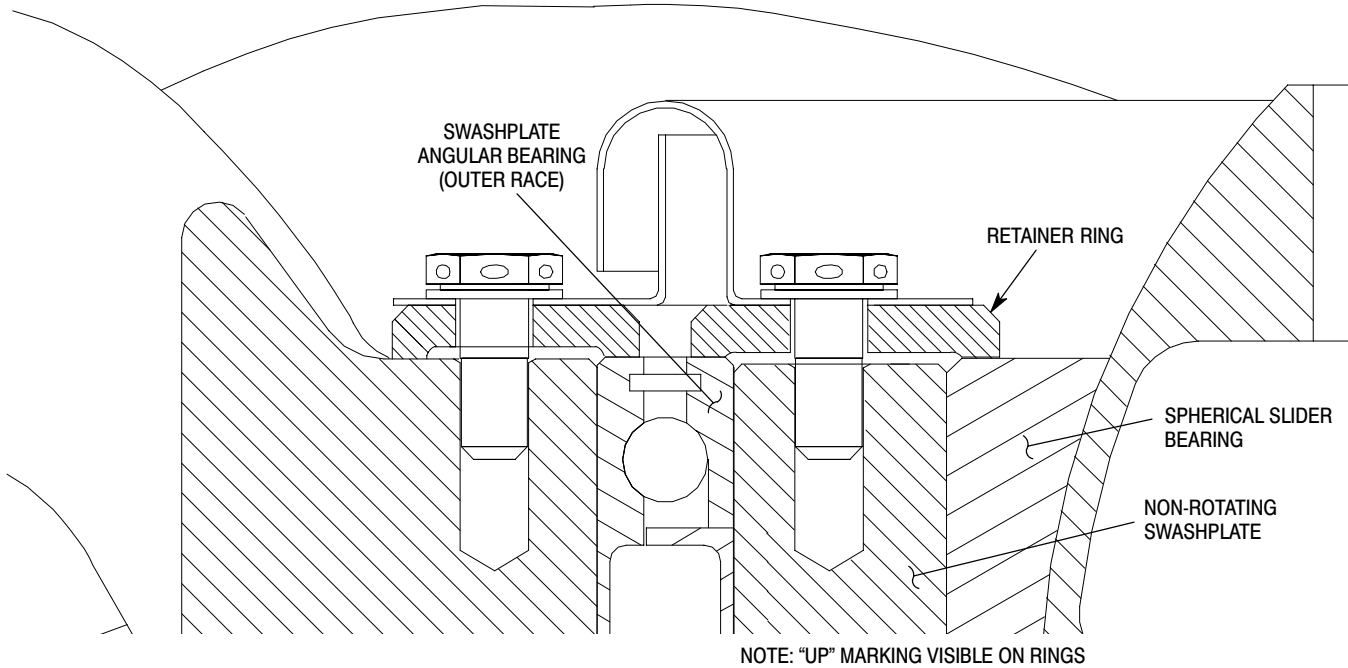
Figure 1. Work Aid Tool Fabrication

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Figure 2. Swashplate Retainer Ring Installation

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