TECHNICAL BULLETIN

MODIFICATION. (KIT NO. M50023) – HEAT CONTROL VALVE ASSEMBLY

1. PLANNING INFORMATION

A. MODELS AFFECTED:

369HE Helicopter Serial Nos. 0101E thru 0215E
369HS Helicopter Serial Nos. 0001S thru 0272S
369HM Helicopter Serial Nos. 0030M thru 0204M

B. PREFACE:

The information given in this Service Information Notice lists a procedure for modifying the 369A8051 or 369A8051–501 heat control valve assembly installed on the above affected helicopters, to prevent binding within the mechanism and ensure proper operation of the heat valve assembly.

C. TIME OF COMPLIANCE:

At owners and operators discretion

D. WEIGHT AND BALANCE:

Weight and balance not affected

E. REFERENCE:

500 Series – HMI Appendix A, Revised 1 May 1970
500 Series – Basic Handbook of Maintenance Instruction, Revised 1 May 1970

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F. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT Nut	
Nomenclature	**Source**
Hand drill (tap handle)	Commercial
Ream bit – 0.316 in. dia. (#0)	Commercial
File, hand or equivalent	Commercial
Micrometer, O.D. – 2 inch	Commercial
Micrometer, depth	Commercial
Tool, slotting (369A9820)	HTC –AD
File, square (or equivalent) (9/32 inch)	Commercial
File, round pattern (1/16 inch)	Commercial

G. MATERIALS:

MATERIALS	
Nomenclature	**Source**
Alodine or equivalent	Commercial
Paint, green	Commercial

H. PARTS LIST:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	**Part No.**	**Qty.**	**Source**
Vane	369A8016	1	HTC –AD
Washer	369A8021	1	HTC –AD
Spring	369A8022	1	HTC –AD
Shim (0.005)	369H8007–3	1	HTC –AD
Shim (0.010)	369H8007–5	1	HTC –AD
Shim (0.015)	369H8007–7	1	HTC –AD
Packing	HS3113D28	1	HTC –AD
Screw	AN500A6–16	1	Commercial
Screw	NAS1352–06LL4	2	Commercial

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	**Part No.**	**Qty.**	**Source**
Spacer	NAS1057T1–006	2	Commercial
Lockwire	MS20995N32	12 inches	Commercial

2. MODIFICATION INSTRUCTIONS

a. Carefully remove heat control valve assembly from helicopter. (Refer to Group 6 of HMI Appendix A)

b. Disassemble and inspect valve assembly, per HMI Appendix A.

c. Hand ream holes in line through 369A8060 valve housing for butterfly valve shaft to 0.314/0.317 in. dia.; reamer must go through both holes simultaneously. (See Figure 1)

d. Hand ream the ball valve shaft hole in housing to 0.314 to 0.317 in. dia.

e. Touch up rework area with Alodine or equivalent corrosion prevention coating.

f. Using micrometer, measure O.D. of 369A8071 ball (1.416 to 1.456 in. dia.); record measurement as dimension A.

g. Place ball in housing and with depth micrometer measure distance from face of housing flange to top of ball; record this measurement as Dimension B. (See Detail D)

h. Perform the following calculation to determine proper thickness of shim between valve housing and 36A8062 elbow upon installation:

1. Multiply A times 0.933

2. Subtract the result (1. above) from 1.627 and record as Dimension C.
   Example:
   Ball dia A = 1.441
   1.441 x 0.933 = 1.344
   1.627 – 1.344 = 0.283 Dimension C

i. Compare Dimension B with Dimension C .

NOTE:

If Dimension B is greater than Dimension C, no shims are required.

If Dimension C is greater than Dimension B, 369H8007 shims are to be used. Shim to the difference and not to exceed 0.010 greater than Dimension C.

Example: When Dimension C = 0.283 and Dimension B = 0.270
Dimension C – Dimension B = 0.013
Add 0.015 shim (369H8007–7) to Dimension B = 0.285
or 0.002 greater than Dimension C.

j. Using hand file or equivalent, chamfer rib of 369A8019 ball coupling as shown in Detail E; coat reworked edges with Alodine or equivalent.

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k. Reassemble heat control valve, per HMI Appendix A, except for the following:

1. Use 369A8021 washer under head of ball shaft instead of original 369A8074 washer.

2. Install shims (width established in step i. above) between elbow and valve housing flange.

3. Install one AN500A6-16 screw and two AN500A6-14 screws to secure pulley and spacer; install -16 screw 180° opposite timing (rigging) hole.

4. Install new butterfly vane, spring, spacers and screws, as shown in Detail F

5. Prior to installing timing belt, actuate ball valve manually to see if excessive drag is noted. If drag exists, remove one shim and add a next higher thickness shim or combination of shims needed to eliminate drag. Shim(s) not to exceed 0.010 greater than Dimension C. (See step i. above)

6. Time the butterfly valve to the ball valve so that when valve is in rigged position, timing hole in the ball valve pulley is aligned with timing hole in housing boss, the spring plate is away from the ball valve portion of the valve. (See Detail F)

m. Check modification of heat control valve assembly for discrepancies.

n. Paint a green dot on valve housing to indicate that modification has been accomplished (or ink stamp kit part no. M50023 on housing.

o. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

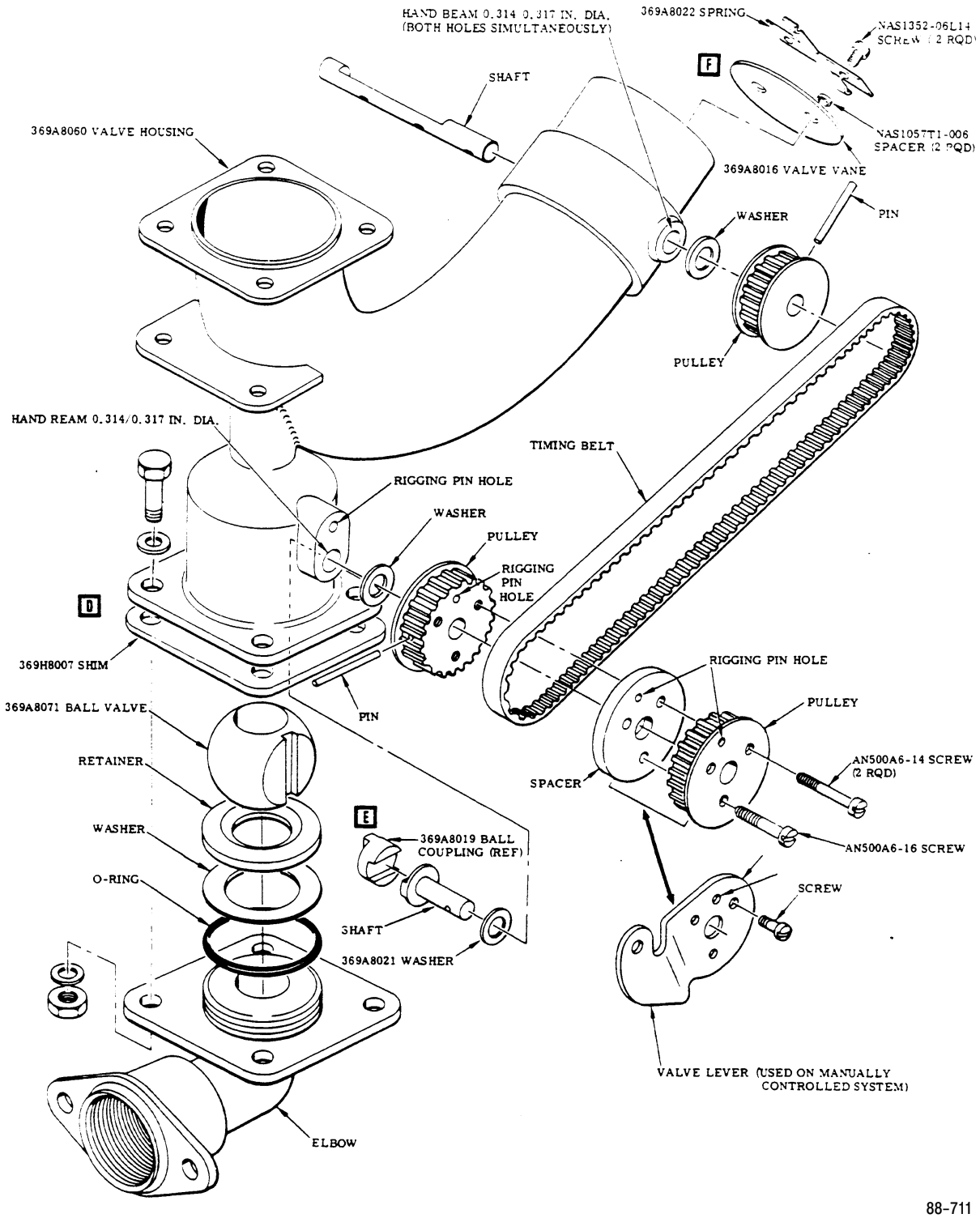

Figure 1. Modification - Heater Control valve Assembly (Sheet 1 of 2)

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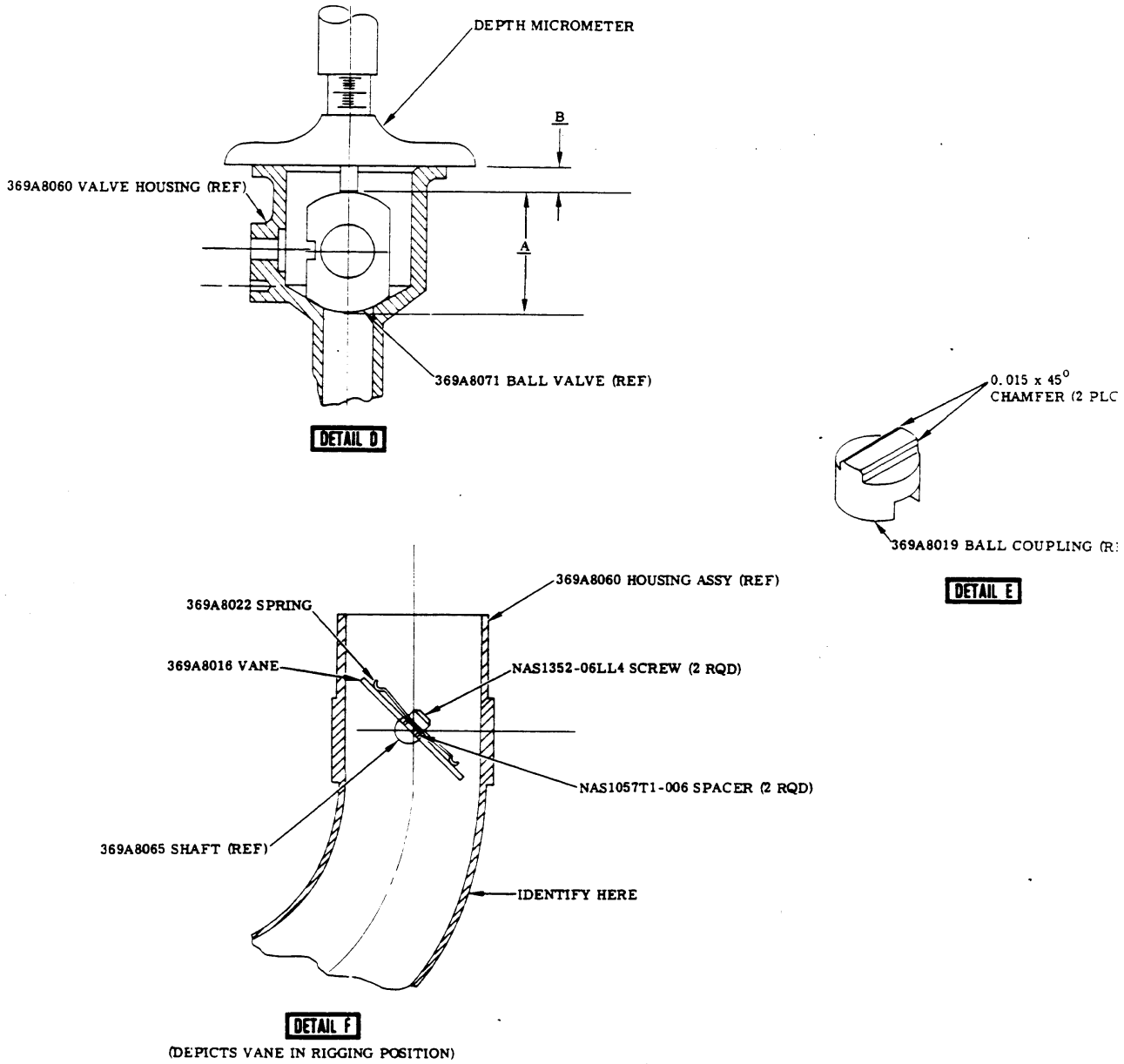

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Figure 1. Modification - Heater Control valve Assembly (Sheet 2 of 2)