



**HUGHES
SERVICE INFORMATION
NOTICE**

NOTICE NO. N-91

DATE June 9, 1971

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SUBJECT: MAIN ROTOR TRANSMISSION MODIFICATION KIT (P/N M10062)

MODELS AFFECTED: 269A (TH-55A) Helicopter Serial Nos. 0315 and subsequent

TIME OF COMPLIANCE: At Owners and Operators Discretion

PREFACE: The information given in this Service Information Notice lists a procedure for installation of Main Rotor Transmission Modification Kit P/N M10062. The modification kit is available in three kit configurations: M10062-3 for improved transmission sealing and draining; M10062-5 for replacement of input pinion bearings; and M10062-1 which incorporates both the -3 and the -5 configurations.

Any one of the M10062 kit configurations may be installed at owner and operator discretion.

Kit parts required should be ordered from Hughes Tool Company, Spare Parts Department.

Reference

269 Series - Basic Handbook of Maintenance Instructions, Issued 1 Sept. 1970

269 Series - HMI Appendix C, Issued 1 December 1970

269 Series - HMI Configuration Supplement TH-55A, Issued 1 Sept. 1970

CUSTOMER SERVICE DEPARTMENT • HUGHES TOOL COMPANY • AIRCRAFT DIVISION • CULVER CITY, CALIFORNIA

PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Quantity</u>		
		<u>M10062-1</u>	<u>M10062-3</u>	<u>M10062-5</u>
Bearing	269A5051-20	1		1
Cone	269A5051-19	1		1
Cup	269A5051-18	1		1
Gasket	269A5187	2		2
Shim	269A5147	1		1
Spacer	269A5124	1		1
Gasket	269A5121	1		1
Plate, Identification	M10062-9	1	1	1
Seal	18439	1		1
Packing	AN6227-26	1		1
Valve, Drain	A-3876	1	1	
Valve, Check	A-3873	1	1	
Plug, Filler	B6542K	1	1	
Plug	M10063	1	1	
Washer	167-0590	1	1	
Washer	AN960D10L	2	2	
O-Ring	AN6227-5	1	1	
Gasket	AN6290-20	1	1	
Gasket	AN6290-10	1	1	
Rivet	NAS1398D4	3	3	
Ty-Mount	TC-112	3	3	
Sta-Strap	SST-1	3	3	
Lockwire	MS20995N32	A/R	A/R	A/R

MATERIALS

Adhesive, Epoxy	EC1838 Scotch-Weld	3M Co.
Cement	"Grip"	Royal Products
Naptha	TT-N-95	Commercial
Shim Stock - Stainless Steel	1.70 in. Lgth x 0.10 in. Wdth x 0.0015 in. Thick	Commercial

NOTE

For kit modification M10062-1, perform Procedure I.
For kit modification M10062-3, perform Procedure II.
For kit modification M10062-5, perform Procedure I.

PROCEDURE I

- a. Remove belt drive transmission assembly (Section 10, Basic HMI).
- b. Remove scroll assembly (Section 6, Basic HMI).

NOTE

Prior to disassembly of main transmission upper and lower housings, measure and record backlash and shaft runout (Section 10, Basic HMI).

- c. Remove, disassemble, clean and inspect main transmission (Section 10, Basic HMI).
- d. Disassemble main gearbox pinion assembly (Section I, HMI Appendix C).
- e. Disassemble main gearbox upper housing (Section I, HMI Appendix C).
- f. Measure and reassemble main gearbox pinion assembly (Section I, HMI Appendix C); install new components as follows (See Figure 1):

269A5051-19 Cone	(Replaces 269A5051-5)
269A5051-18 Cup	(Replaces 269A5051-4)
269A5124 Spacer	(Replaces same)
269A5147 Shim	(Replaces same)
269A5187 Gasket	(Replaces same - 2 required)
AN6227-26 Packing	(Replaces same)
18439 Seal	(Replaces same)
269A5121 Gasket	(Replaces same)

g. Reassemble main gear drive upper housing (Section I, HMI Appendix C); install new 260A5051-20 forward roller bearing as replacement for existing 269A5051-1 bearing (See Figure 1).

- h. Install main gearbox pinion assembly (Section I, HMI Appendix C).

i. Reassemble and adjust main gear drive upper and lower housings (Section I, HMI Appendix C; Section 10, Basic HMI).

j. Perform no-load static wipe test of main rotor gear drive transmission assembly (Section I, HMI Appendix C).

k. Reinstall main transmission (Section 10, Basic HMI); install new components as follows:

NOTE

For kit modification M10062-1 only, install the following new components as replacement items. The new A3876 drain valve and packing must be installed on the 269A5109 oil pump drive retainer prior to installing the retainer on lower housing.

M10063 Plug	(Replaces 269A5151 Filler Cap and 269A5156 Strainer)
B6542K Filler Plug	(Replaces AN814-20DL Inspection Plug)
An6290-20 Gasket	(Replaces same)
A3873 Check Valve	(Replaces 314639 Bolt & Air Vent Assy)
A3876 Drain Valve	(Replaces A722 Magnetic Drain Valve)
AN6290-10 Gasket	(Replaces same)

NOTE

Steps 1. and m. below are applicable to kit configuration M10062-1 only.

1. Install new AN6277-5 dip stick "O"-ring as follows (See Figure 2 Sheet 1).
 1. Clean gland thoroughly.
 2. Using "Grip" cement, bond a coiled shim (made of 0.0015 inch thick stainless steel shim stock 1.70 inch long by 0.10 inch wide) in gland.
 3. Install new AN6227-5 "O"-ring immediately.
 4. Insert dip stick and allow cement to dry (approx. 45 minutes).

m. Install scroll assembly and transmission drain hose as follows:

1. Rivet Ty-Mounts three places to aft face of scroll assembly at dimensions shown in Figure 2 Sheet 2; installation of washer under heads is optional.
2. Reinstall scroll assembly (Section 6, Basic HMI).
3. Route drain hose down aft face of scroll and secure at Ty-Mounts with Sta-Straps.

NOTE

Step n. below is applicable to kit configuration M10062-5 only.

- n. Reinstall scroll assembly (Section 6, Basic HMI).
- o. Reinstall belt drive transmission assembly (Section 10, Basic HMI).
- p. Add applicable "M10062-1" or "M10062-5" to M10062-9 ID plate to identify modification performed; clean faying surface of transmission housing with naphtha and install -9 ID plate on upper housing adjacent to new M10063 plug (See Figure 3).
- q. Check modification kit for discrepancies.

PROCEDURE II

NOTE

Procedure II is applicable to kit modification M10062-3 only.

a. Remove following components from transmission housing and install new or replacement parts as noted below (See Figure 2):

314639 Bolt & Air Vent Assy	(Replace with A3873 Check Valve)
AN814-20DL Inspection Plug	(Replace with B6542K Filler Plug)
AN6290-20 Gasket	(Replace with same)
A722 Magnetic Drain Valve	(Replace with A3876 Drain Valve)
AN6290-10 Gasket	(Replace with same)
269A5151 Filler Cap and 269A5156 Strainer Assy	(Replace with M10063 Plug)

NOTE

Removal of 269A5109 oil pump drive retainer from sump of lower housing is required in order to install new A3876 Drain Valve.

b. Install new AN6227-5 dip stick "O"-ring as follows (See Figure 2 Sheet 1):

1. Clean gland thoroughly.
2. Using "Grip" cement, bond a coiled shim (made of 0.0015 inch thick stainless steel shim stock 1.70 inch long by 0.10 inch wide) in gland.
3. Install new AN6227-5 "O"-ring immediately.
4. Insert dip stick and allow cement to dry (approx. 45 minutes).

c. Install transmission drain hose on scroll assembly as follows:

1. Rivet Ty-Mounts three places to aft face of scroll assembly at dimensions shown (See Figure 2 Sheet 2); installation of washer under head is optional.
2. Route drain hose down forward face of scroll and secure at three Ty-Mounts with Sta-Straps.

d. Add "M10062-3" to M10062-9 ID plate to identify that modification has been performed; clean faying surface of housing with naphtha and install -9 ID plate on upper housing adjacent to new M10063 plug (See Figure 3).

e. Check modification kit installation for discrepancies.

WEIGHT & BALANCE DATA

Weight and balance not affected.

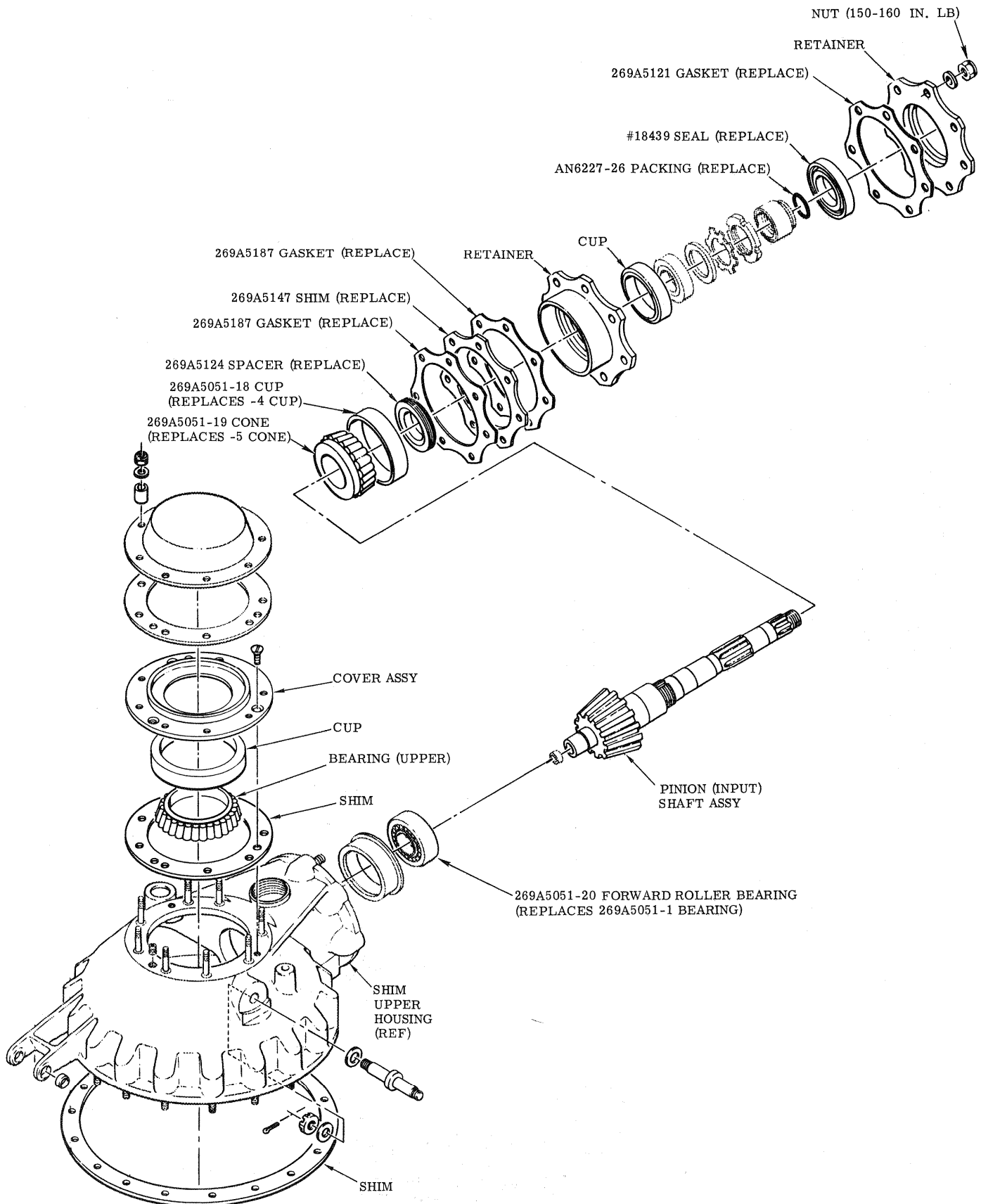


FIGURE 1. KIT INSTALLATION M10062-5 - INPUT PINION BEARING REPLACEMENT.

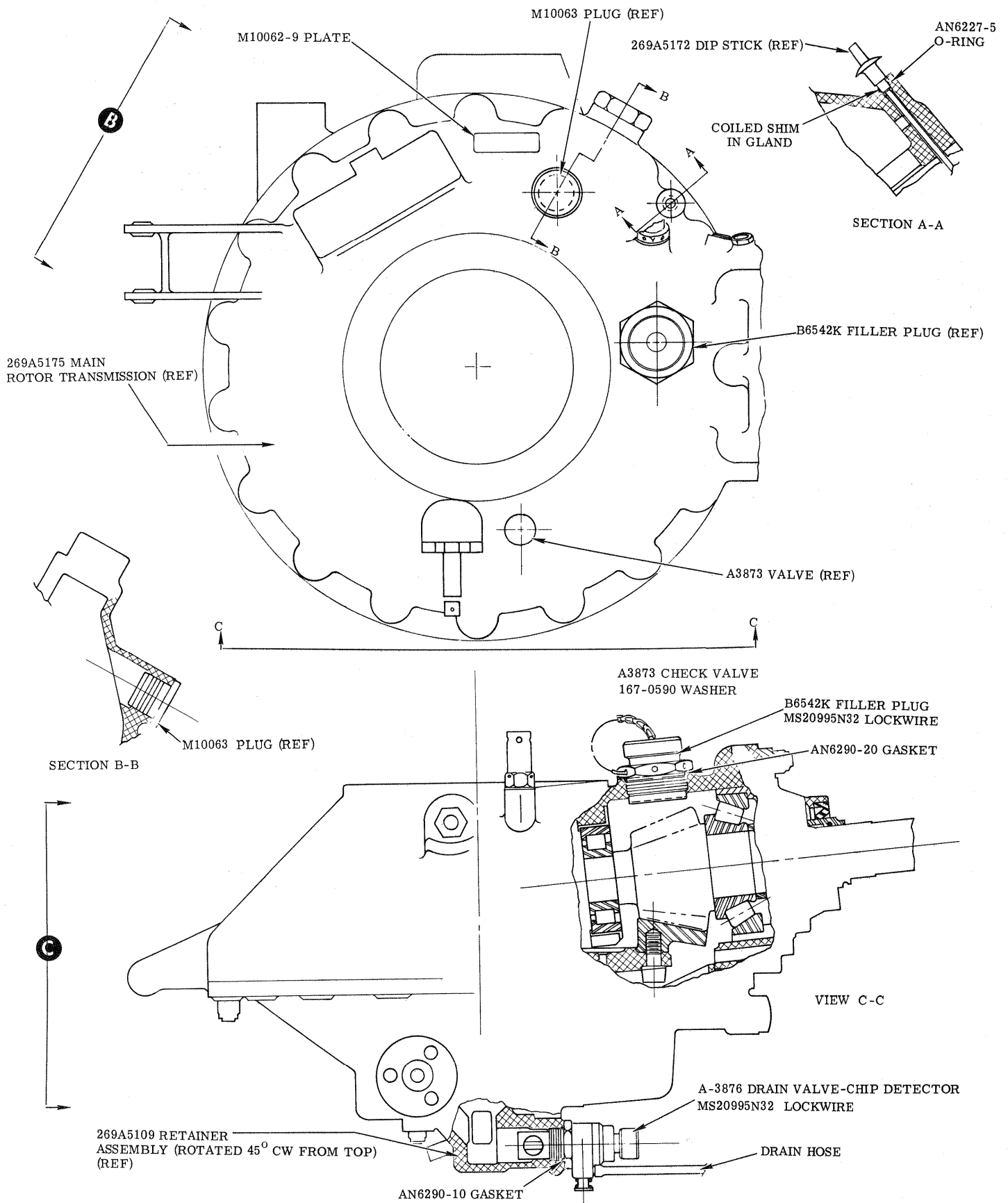


FIGURE 2. MAIN ROTOR TRANSMISSION-SEALING MODIFICATION (SHEET 1 of 2)

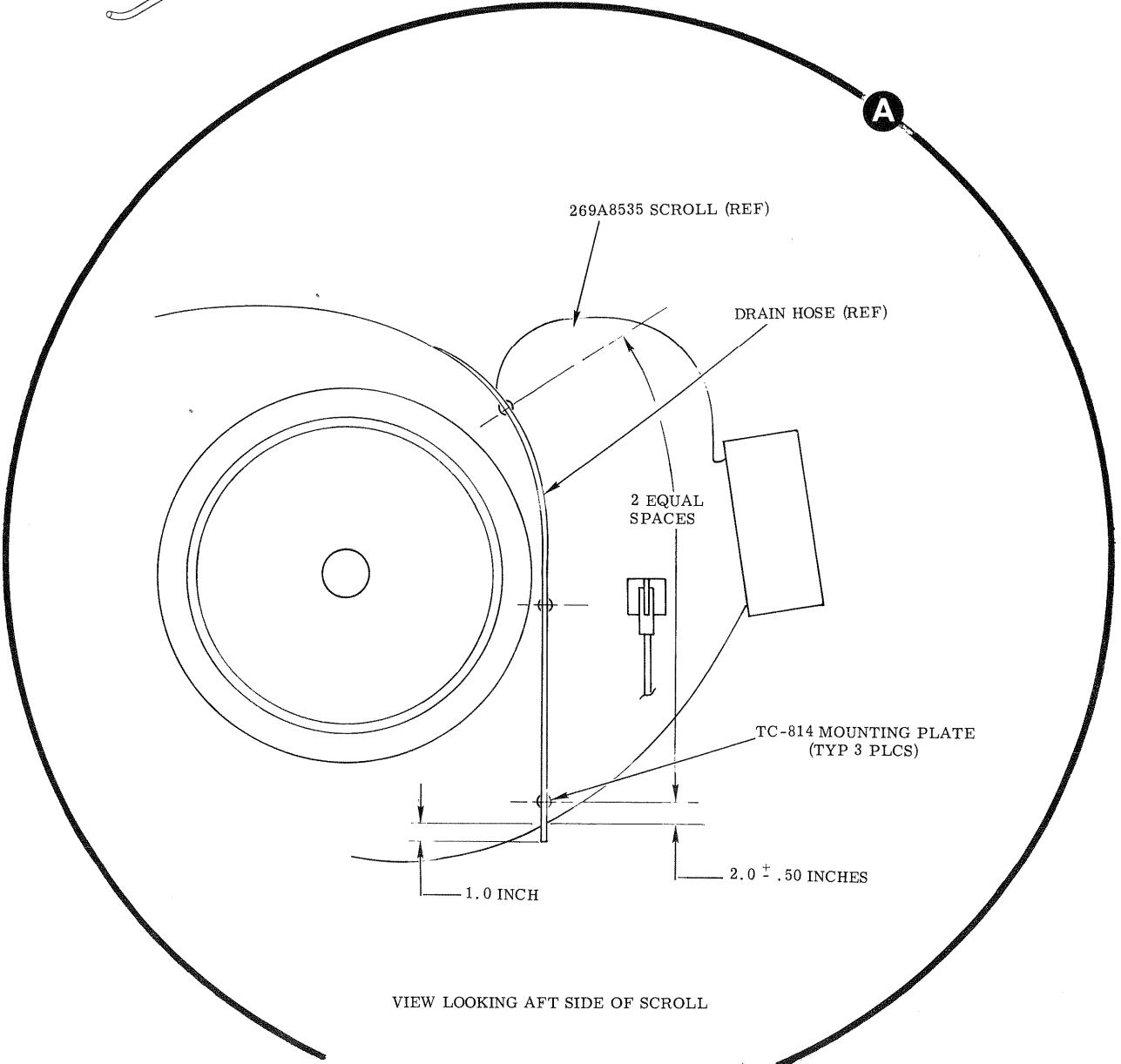
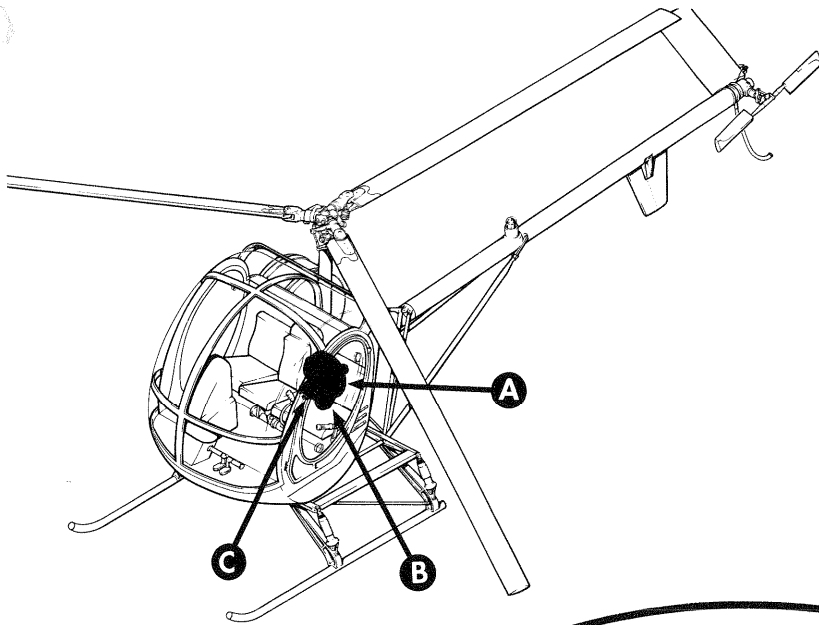


FIGURE 2. MAIN ROTOR TRANSMISSION - SEALING MODIFICATION (SHEET 2 of 2)

