



THE TRANE COMPANY — MONTGOMERY, ALABAMA 36109

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Dist. Upon Request

SUBJECT: Replacing and Rebuilding the Pump End Bearing Head on Trane Model "G" Compressors. (see last page for model and serial numbers of compressors that may be updated)

This service bulletin provides the recommended tools and procedures for replacing and rebuilding the pump end bearing head on Trane Model "G" Compressors.

REMOVING THE PUMP END BEARING HEAD

1. When removing only the pump end bearing head, lock the crankshaft tight against the seal end thrust bearing to prevent the thrustwasher from dropping out of position. If the thrustwasher drops out of position, the crankshaft will become locked when the bearing head is reinstalled.

NOTE:

To hold the crankshaft tight against the seal thrust end bearing, one of two methods are recommended:

i) Use a 1-1/2" close pipe nipple over the seal end of the crankshaft, draw the crankshaft tight against the seal end bearing with the crankshaft coupling retaining washer and bolt.

ii) Shim between the housing and drive coupling to bring the crankshaft tight against the seal end thrust bearing.

2. Remove the bearing head screws and washers.
3. Jack-screw holes are provided in the bearing head flange for bearing removal. Insert two bearing head cap screws in these holes and tighten to force the bearing head away from the housing (Figure 1).
4. Pull the bearing head out of the housing (Figure 2).
5. Remove the bearing head "O" rings.

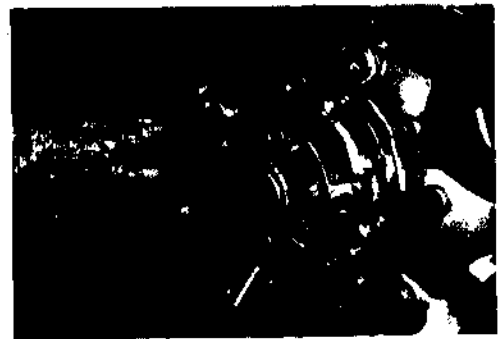


FIGURE 1

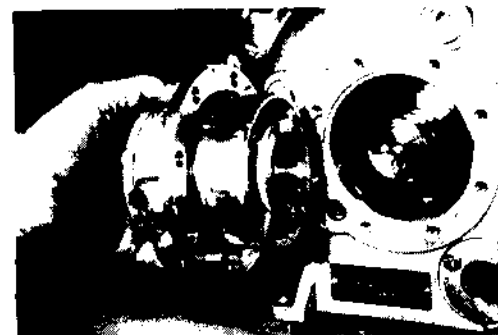


FIGURE 2



TRANSPORT AIR CONDITIONING AND REFRIGERATION

INSPECTION

1. Examine the bearing surfaces for grooving, nicks, or burrs. If necessary, clean the oil passages.
2. Measure main bearing to determine wear. Recommended wear limits and tolerances are as follows (inches):

Original Specification ----- 1.7500 - 1.7505

Recommended wear limits ----- 1.7525

Recommended max. oil clearance - .0055

REPLACEMENT OF BEARING HEAD ONLY

1. Remove oil pump cover, pump cover gasket, oil pump idler and oil pump rotor (Figure 3).
2. Remove oil pump bushing by pressing out with "finisher" push rod as shown in Figure 4. Push rods are shown in Figure 5.
3. Install this bushing into new bearing head (Figure 6), using "starter" push rod.

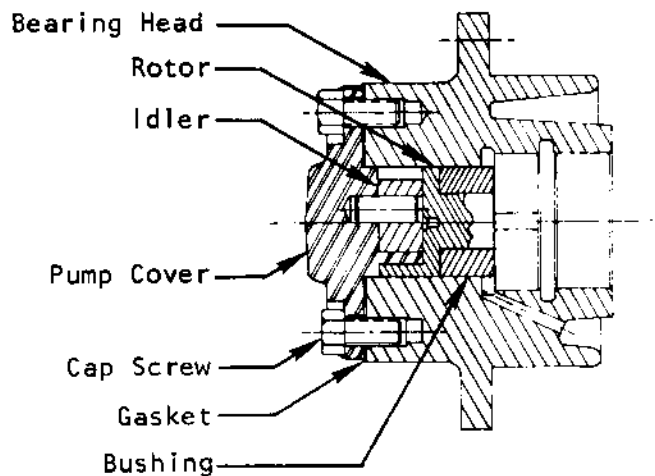


FIGURE 3

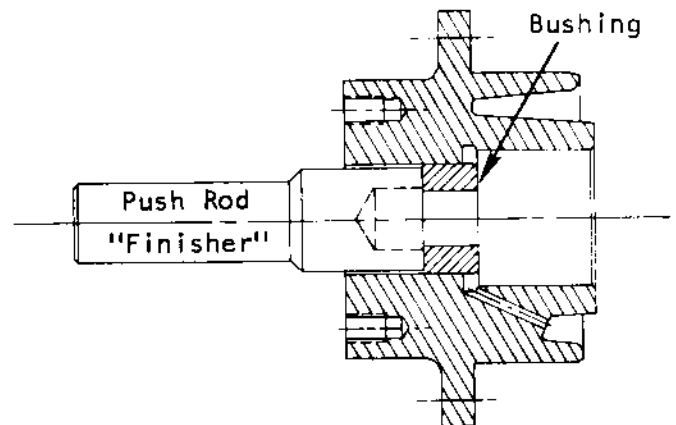
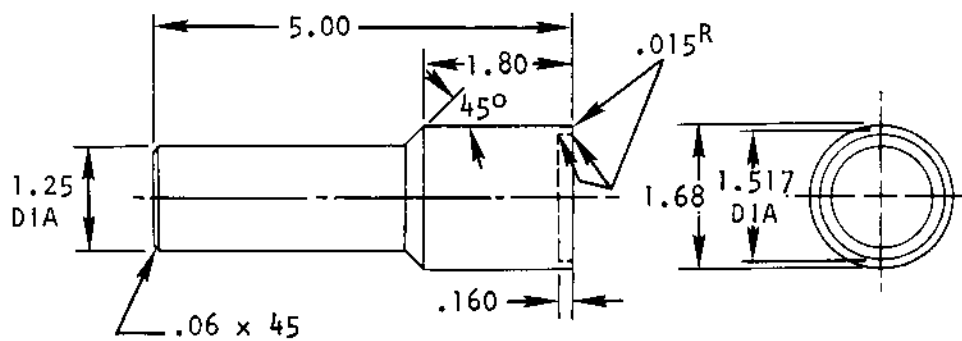


FIGURE 4



"STARTER" PUSH ROD

Material is #1018 steel

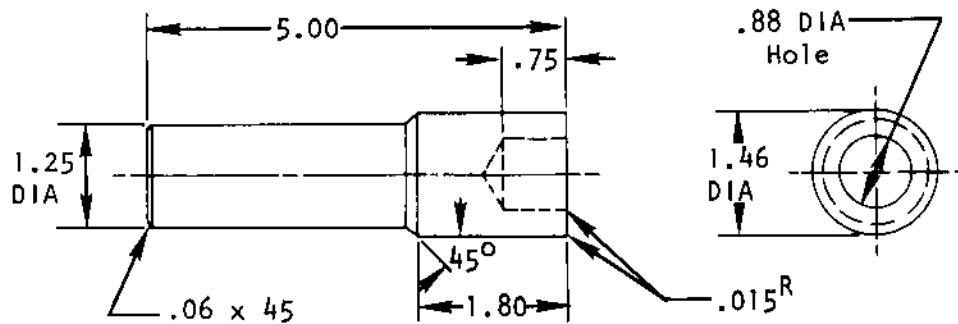
All finishes are 125

Tolerances are $.X = +.050$

$.XX = +.015$

$.XXX = +.005$

Angles $\pm 1^\circ$



"FINISHER" PUSH ROD

FIGURE 5

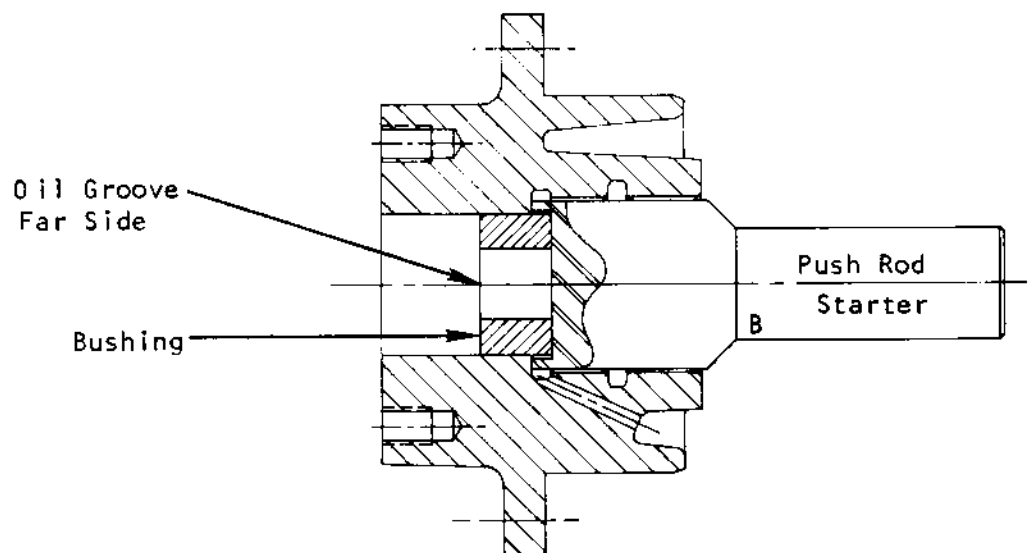


FIGURE 6

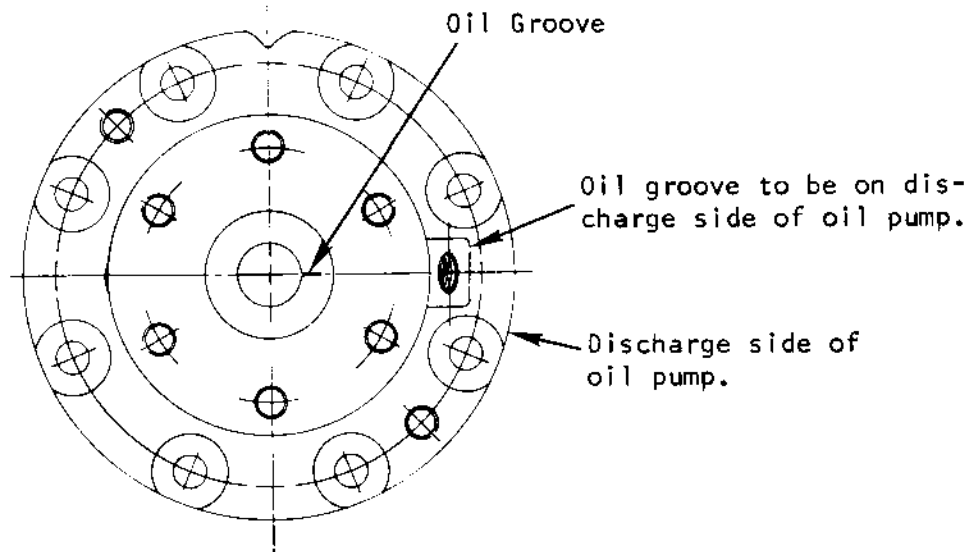


FIGURE 7

4. Position bushing with oil groove located as shown in Figure 7. Groove to be on discharge side of pump. Press bushing into bearing head until tool bottoms.
5. Place spacer between oil pump cover and rotor and install oil pump and gasket in bearing head. Torque cap screws to 23 foot lbs. (Figure 8).
6. Using push rod finisher, press bushing until it bottoms. Remove the spacer and re-assemble the bearing head assembly using the same gasket and retorquer to 23 foot lbs.

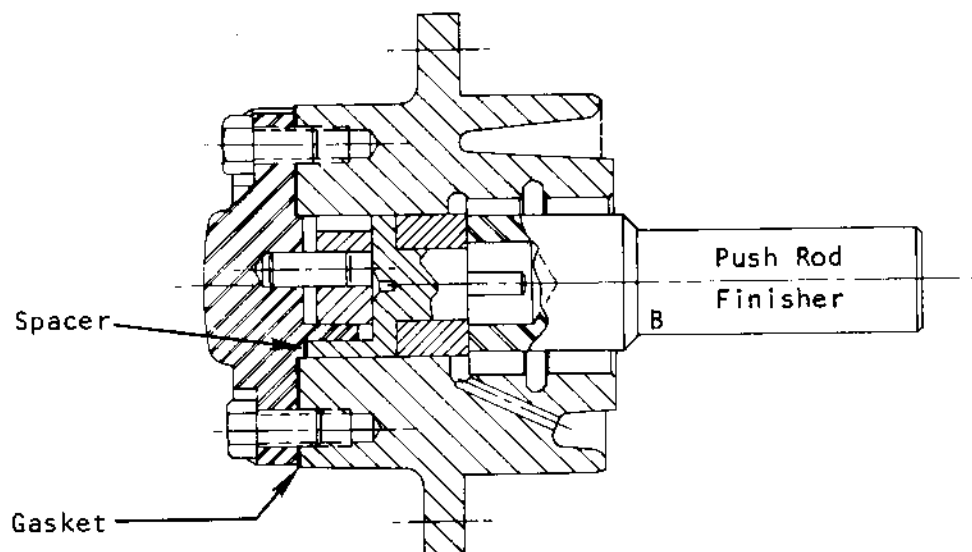


FIGURE 8

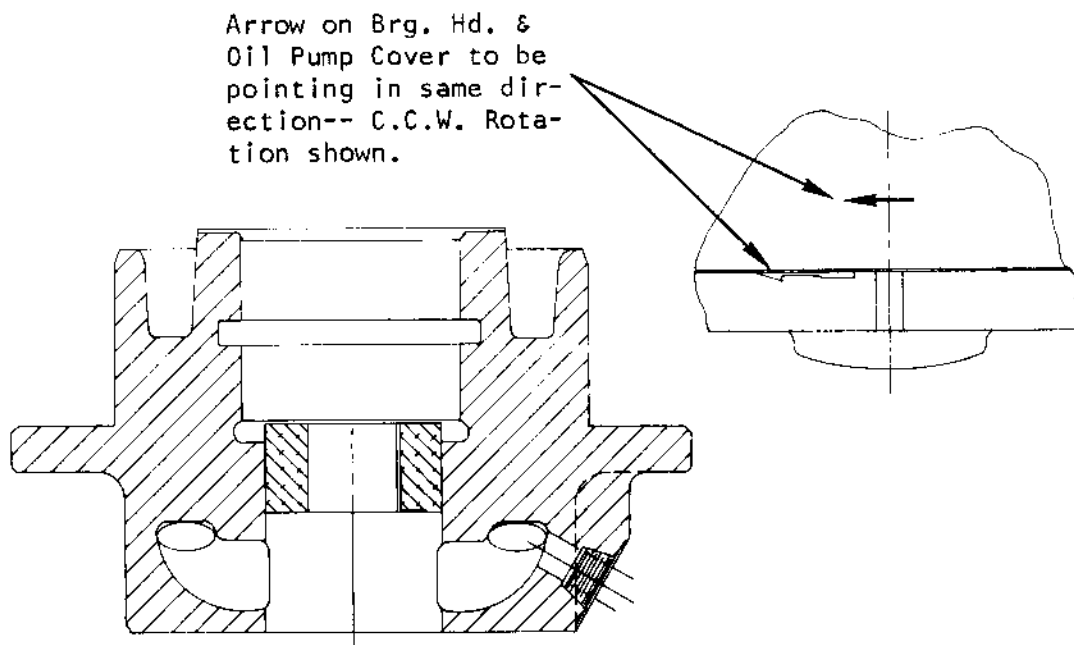


FIGURE 9

7. Arrow on bearing head and oil pump cover must be pointing in the same direction (Figure 9).

NOTE:

Notch in oil pump cover must be at top center for compressors which rotate C.C.W. and bottom center for compressors which rotate C.W. (See Figure 10). All rotations are as viewed from pump end of the compressor.

Notch in cover must be here for C.C.W. rotation

Notch in cover must be here for C.W. rotation

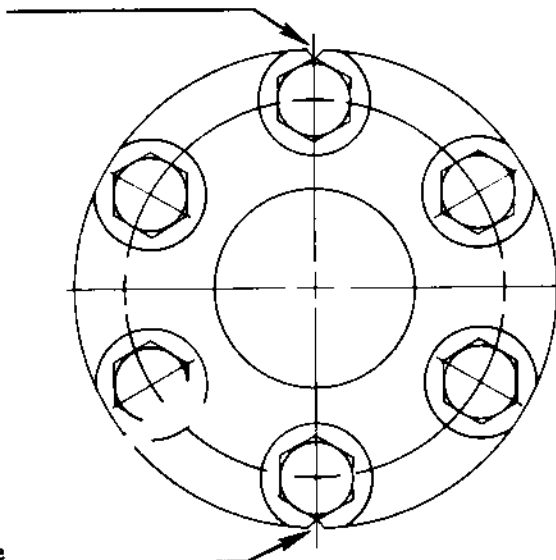


FIGURE 10

REPLACEMENT OF OIL PUMP ONLY

1. Disassemble oil pump and remove oil pump bushing by pressing out.
2. Install new bushing and re-assemble pump as outlined under REPLACEMENT OF BEARING HEAD ONLY.

PUMP END BEARING HEAD ASSEMBLY INSTALLATION

1. Clean and lubricate the bearing surfaces of the crankshaft and bearing head.
2. Insert one bearing head "O" ring inside the housing and place the other "O" ring on the bearing head, next to the flange. Slide the bearing head into the housing, insert all bearing head screws and torque to 23 foot pounds.

NOTE:

The notch in the bearing head flange must be at top center when reinstalling the bearing head.

UNIDIRECTIONAL OIL PUMP & BEARING HEAD ASSEMBLY

Trane Part Number - HD-74

QTY. REQ'D	DESCRIPTION	TRANE PART NUMBER
1	Bearing Head (3 CW) -----	HD-94
1	Oil Pump (3 GPM, Incl. Gasket) --	PMP-412
1	Gasket (Oil Pump) -----	GKT-858
6	3/8 - 16 x 1 Hex Head Cap Screw -	SCR-95
1	Spacer -----	SPC-99

MODELS

The following table gives model number and serial number information for all compressors that may be updated as outlined in this bulletin.

Model Numbers	Number of Cylinders	Serial Numbers
G7H G7J G7L	4	All
G7N G7P	4	All
G7H G7J G7L	2 & 3	All
G7M	2 & 3	Design Designator "A" Only

NOTE: The serial number design designator is the letter located in either the fifth or sixth position in the serial number.