

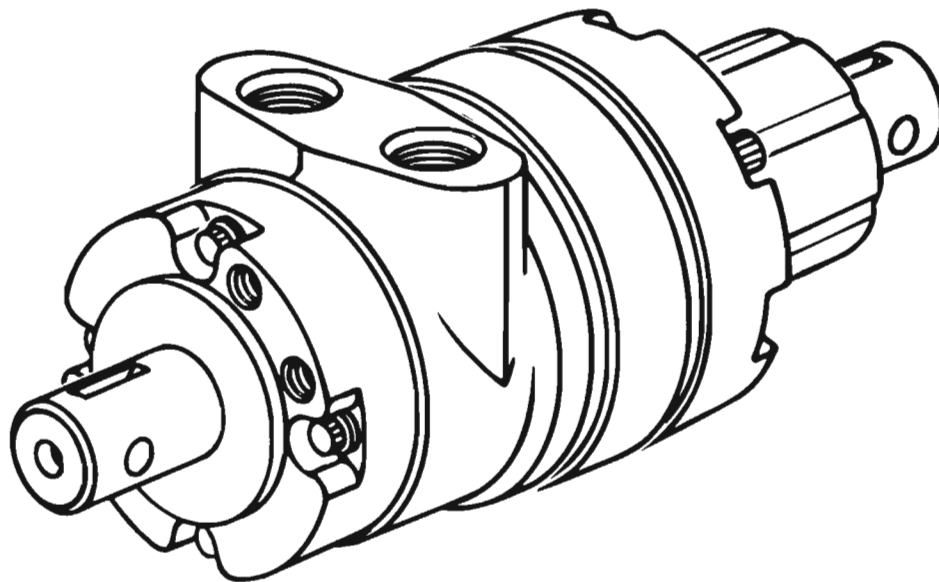
**Eaton  
Hydraulics  
Division**

# Repair Information

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## Char-Lynn® Torque Generator

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**EATON**

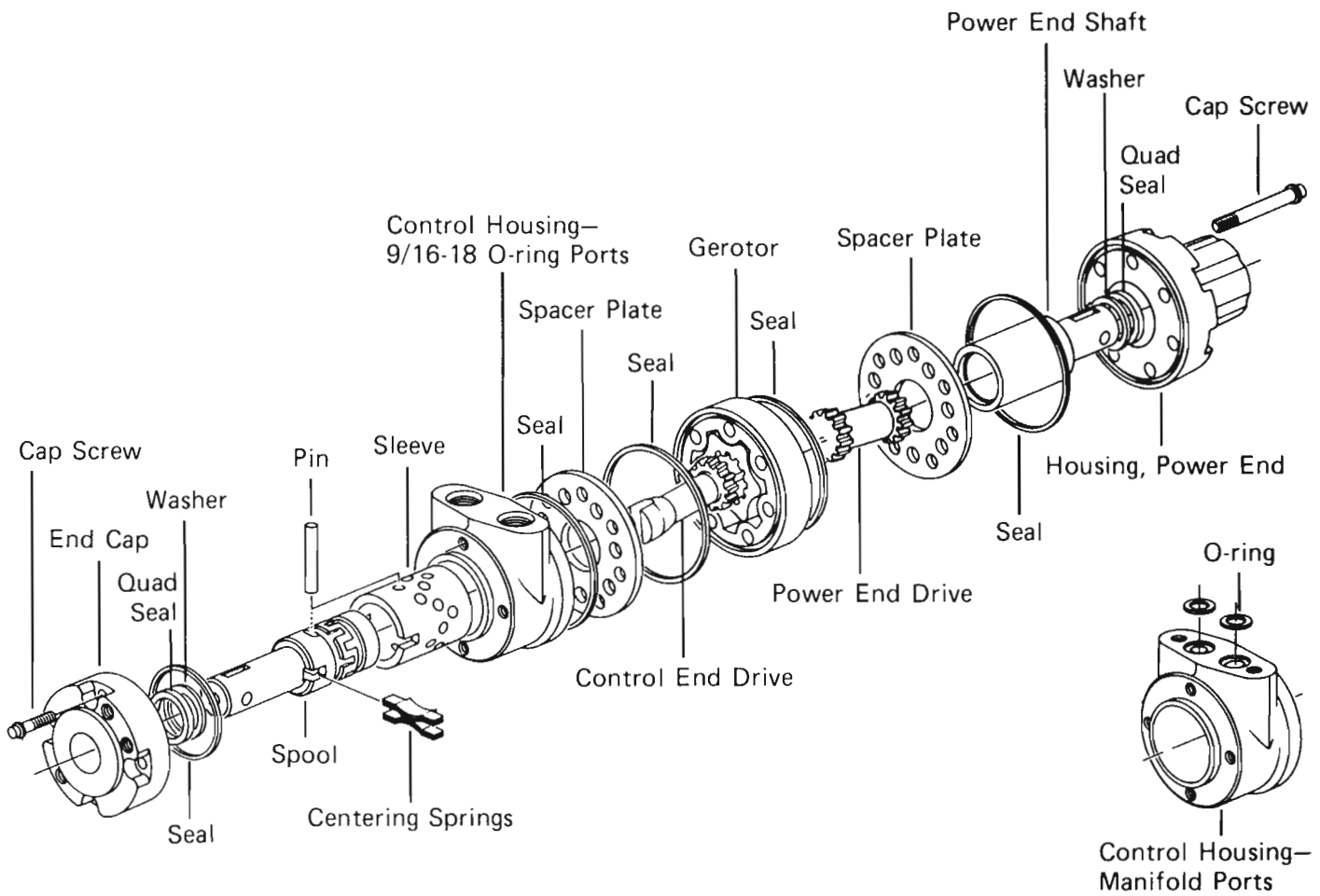


Figure 1

**Tools required for disassembly and reassembly:**

- 1/4 in. thin walled 12 point socket
- 5/16 in. thin walled 12 point socket
- Small screwdriver (1/4 in. flat blade)
- Small breaker bar
- Torque wrench (150 lb-in capacity)

**The following tool is not necessary but is extremely helpful for disassembly and reassembly:** Spring installation tool #600057

## Disassembly

Before disassembling the torque generator, note location of the mounting holes. This is important for correct reassembly. Cleanliness is extremely important in repair work. Seal all open ports and thoroughly clean the torque generator before beginning any repair work.

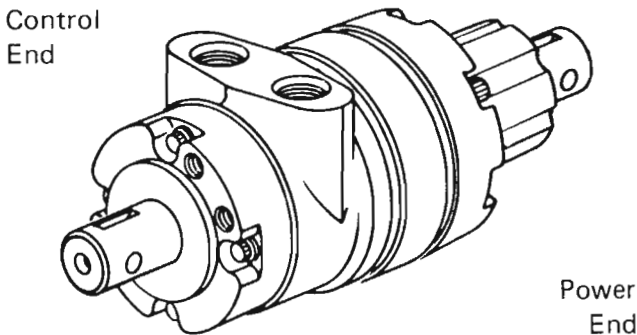


Figure 2

## Power End

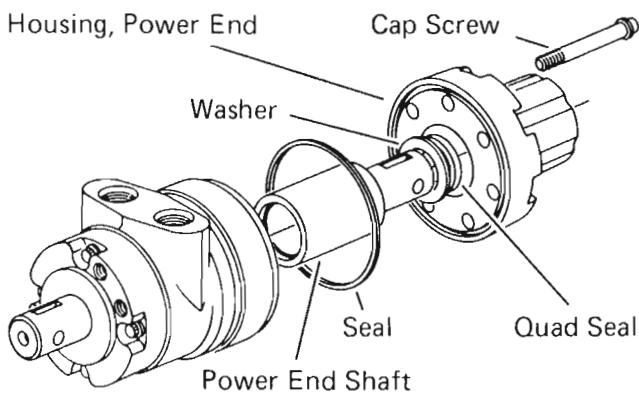


Figure 3

- 1 Remove seven cap screws.
- 2 Remove power end housing assembly.

3 Remove o-ring seal from housing. (Older models do not have this seal.)

4 Remove power end shaft and washer from housing.

5 Use a small screwdriver to remove quad seal from housing. Do not damage seal cavity.

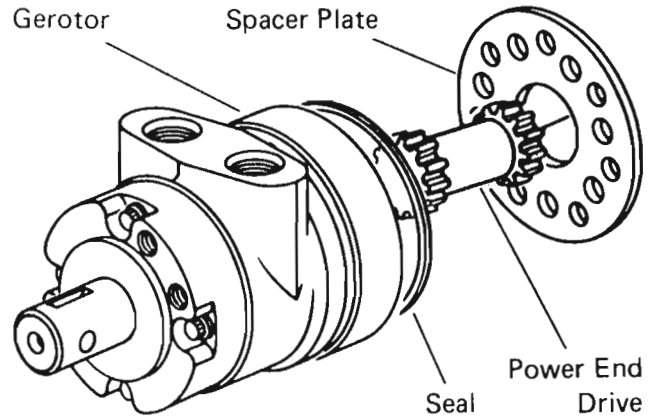


Figure 4

6 Remove spacer plate and power end drive.

7 Remove seal from gerotor. (Older models do not have this seal.)

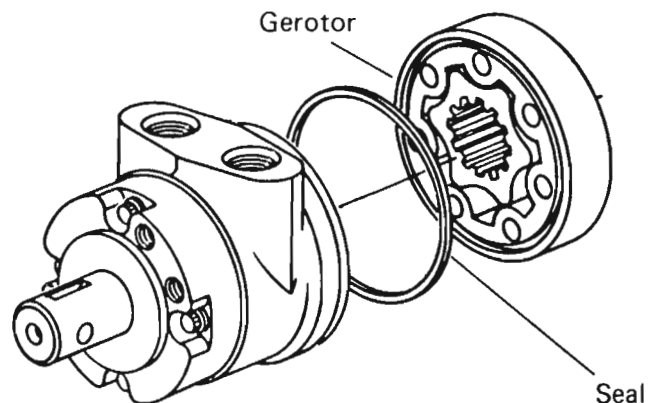


Figure 5

8 Remove gerotor and seal from control side of gerotor. (Older models did not use this seal.)

## Control End

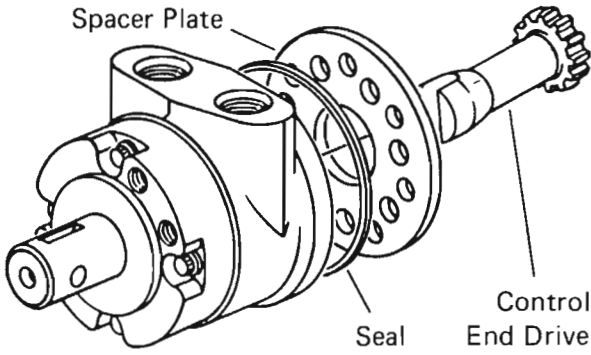


Figure 6

**13** Remove end cap from control housing.

**14** Remove seal from end cap.

**15** Use a small screwdriver to remove quad seal from end cap. (An o-ring was used on older models.)

**16** Remove washer from control spool.

**9** Remove control end drive.

**10** Remove spacer plate.

**11** Remove seal from control housing. (Older models did not use this seal.)

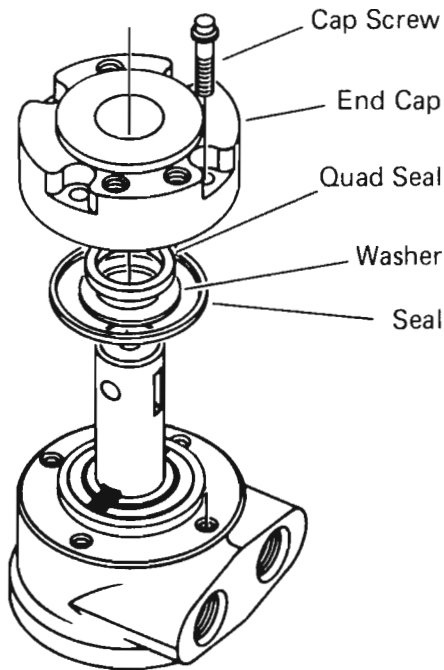


Figure 7

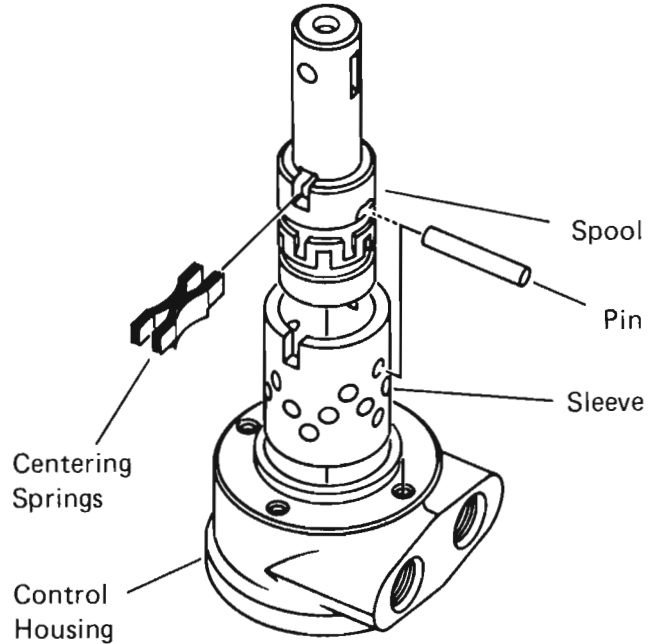


Figure 8

**17** Remove spool and sleeve assembly from control housing.

**18** Remove pin from spool and sleeve assembly.

**19** Remove spool and centering springs from sleeve.

**12** Turn control housing over, making sure spool and sleeve assembly remains in housing. Remove four cap screws with  $\frac{1}{4}$  in. 12 point socket wrench.

**Reassembly  
Control End**

Replace all worn or damaged parts and assemblies. It is a good service policy to replace all seals when reassembling a torque generator. Lubricate all seals with petroleum jelly. Lubricate all finished surfaces to ease assembly and provide start-up lubrication.

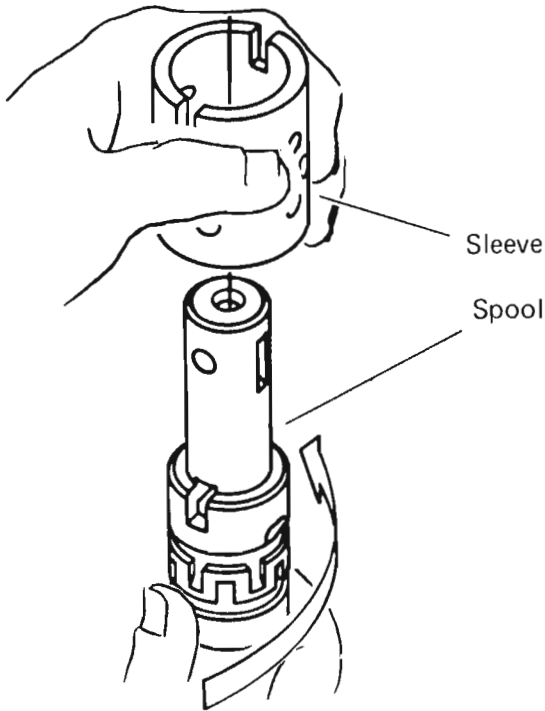


Figure 9

- 1 Lubricate the spool. Rotate spool while sliding it into sleeve.

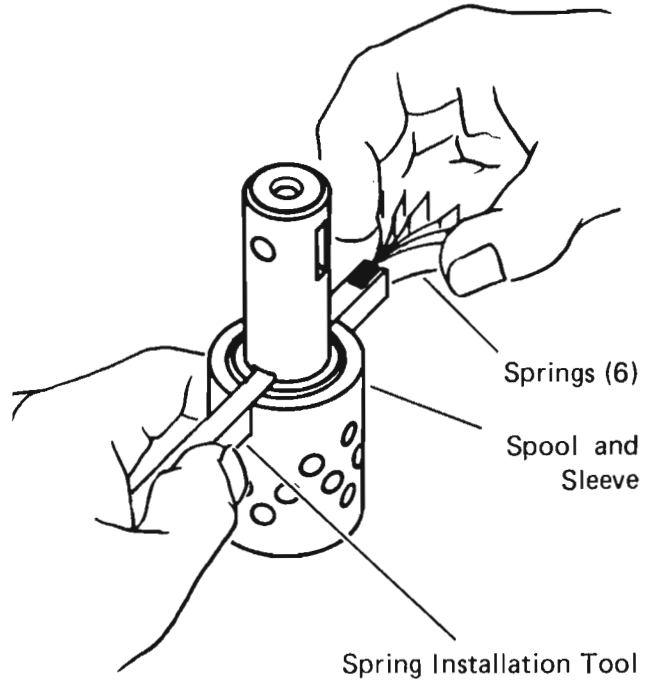


Figure 10

- 2 Using spring installation tool as a guide, install six centering springs into sleeve and spool. The springs must be flush with the sleeve upper surface. Notches in springs must point away from control shaft.

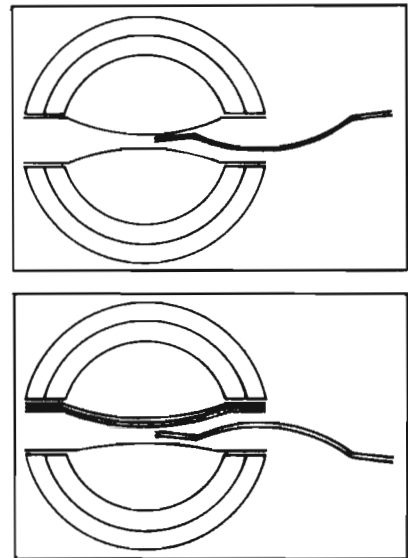


Figure 11

**Note:** If spring installation tool is not available, manually install centering springs by installing the two outside springs first. Add the remaining inner springs as shown in figure 11.

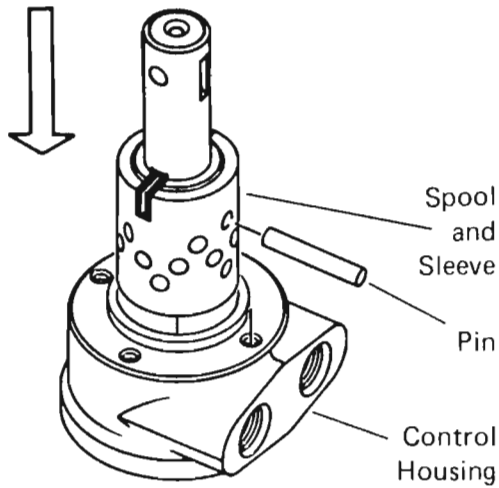


Figure 12

3 Install pin into spool and sleeve assembly.

4 Lubricate spool and sleeve assembly. Rotate assembly into control housing.

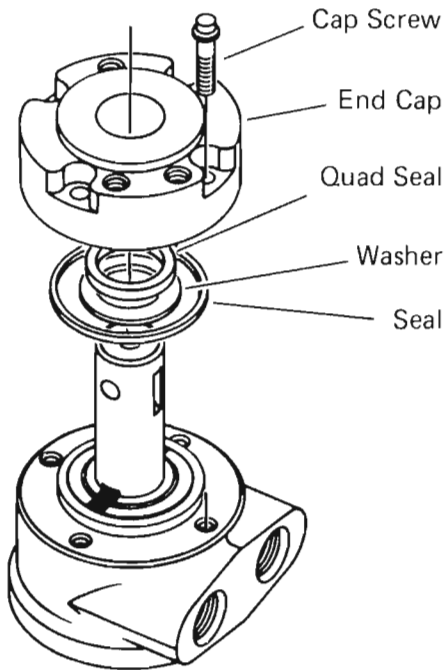


Figure 13

5 Install washer over spool shaft with chamfered side toward spool and sleeve assembly.

6 Install quad ring and o-ring seal in control end cap.

7 Install end cap assembly over spool shaft, ensuring quad seal is not damaged by shaft keyway.

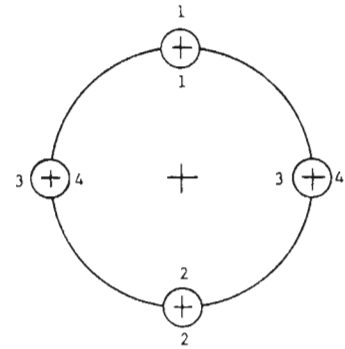


Figure 14

8 Install control end cap screws. Alternately torque them 150 lb-in, as shown in figure 14.

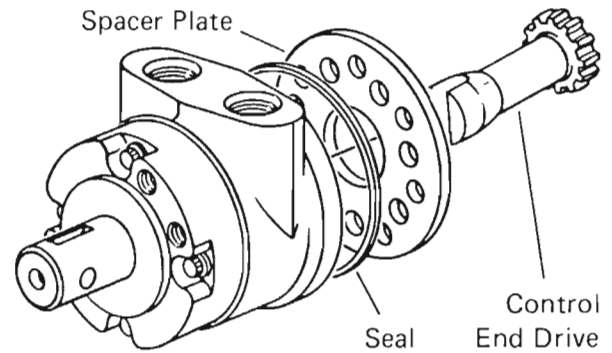


Figure 15

9 Turn control housing over, making sure that spool and sleeve assembly remains in housing.

10 Install seal in control housing.

11 Install spacer plate, aligning holes in housing and plate. (Both spacer plates are the same and either side of the plate may face the control housing.)

## Power End

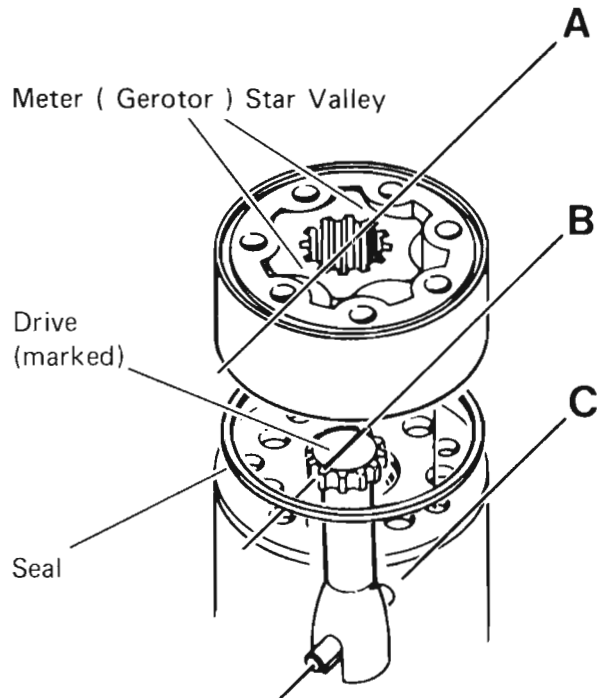
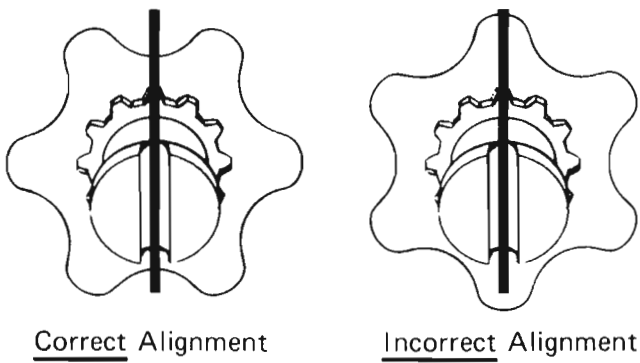


Figure 16

- 12 To time the Torque Generator, rotate spool and sleeve assembly until pin is parallel with port face. Install control end drive, making sure drive engages with pin. Mark drive as shown in figure 16.
- 13 Install seal in gerotor.
- 14 Align star valleys with drive mark. Install gerotor, making sure that the seal is installed in side facing the control end spacer plate.

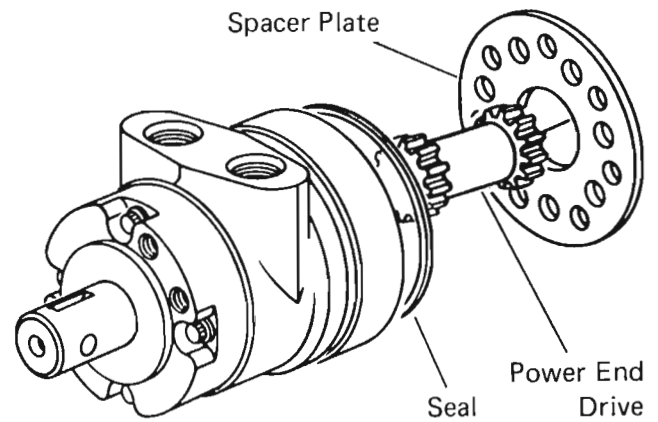


Figure 17

- 15 Install seal in power end side of gerotor.
- 16 Install power end drive in gerotor, smaller splined end first.
- 17 Install spacer plate, aligning holes in plate and gerotor. (Either side of spacer plate may face gerotor.)

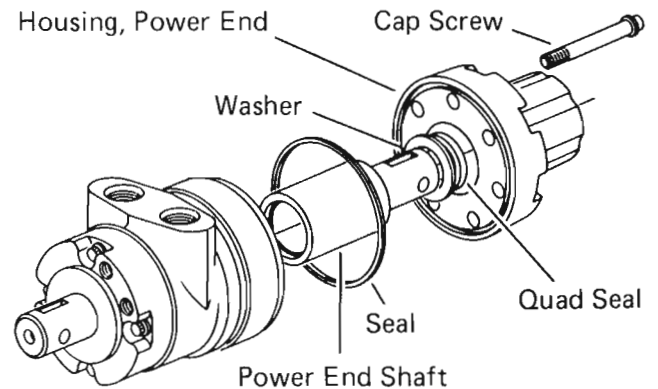
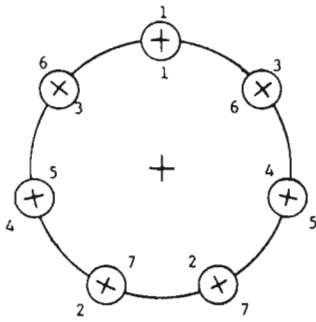


Figure 18

- 18 Install quad seal in power end housing.
- 19 Install washer over power end shaft with chamfered side away from shaft keyway.
- 20 Install shaft in power end housing, making sure quad seal is not damaged by shaft keyway.

- 21** Install seal in power end housing.
- 22** Align control end and power end keyways. Install power end housing, aligning splines in shaft and drive.
- 23** Install power end cap screws. Alternately tighten cap screws to 150 lb-in on earlier models and 200 lb-in on current models. See figure 19.



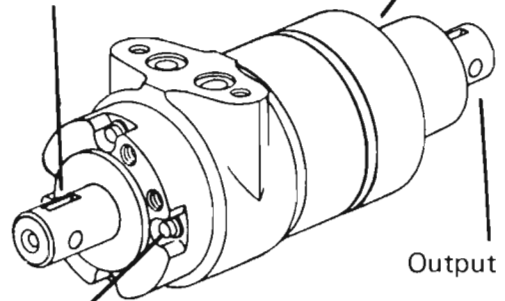
**Figure 19**

**Torque on Cap Screws**

**Earlier Models**

Input Shaft

150 lb-in  
1/4" Cap Screw

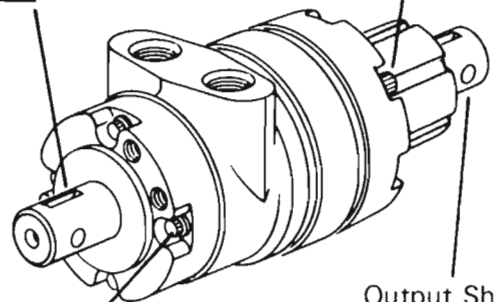


150 lb-in  
1/4" Cap Screw

**Current Model**

Input Shaft

200 lb-in  
5/16" Cap Screw



150 lb-in  
1/4" Cap Screw

**Figure 20**



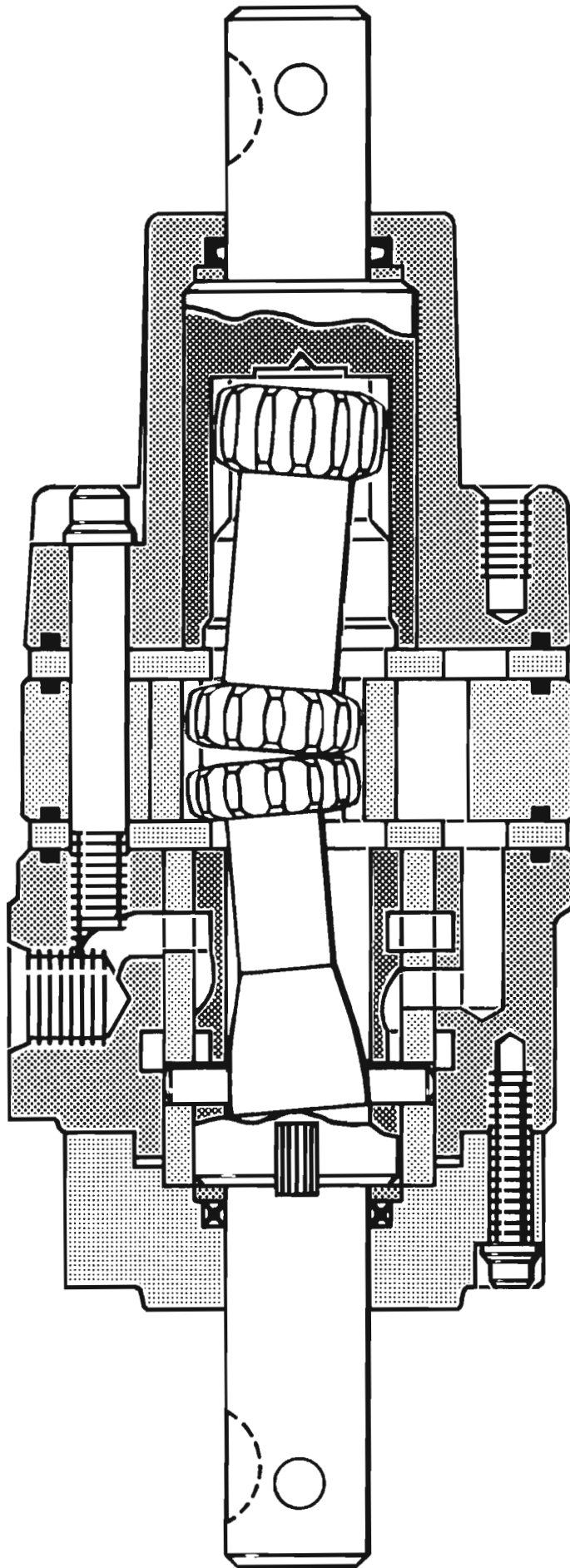


Figure 21

## HOW TO ORDER REPLACEMENT PARTS

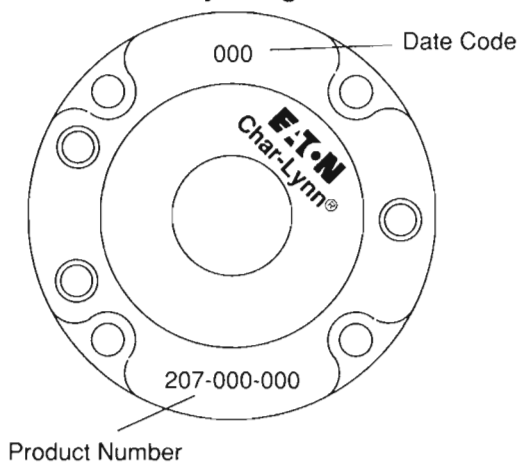
### EACH ORDER MUST INCLUDE THE FOLLOWING:

1. Product Number
2. Date Code
3. Part Name
4. Part Number
5. Quantity of Parts

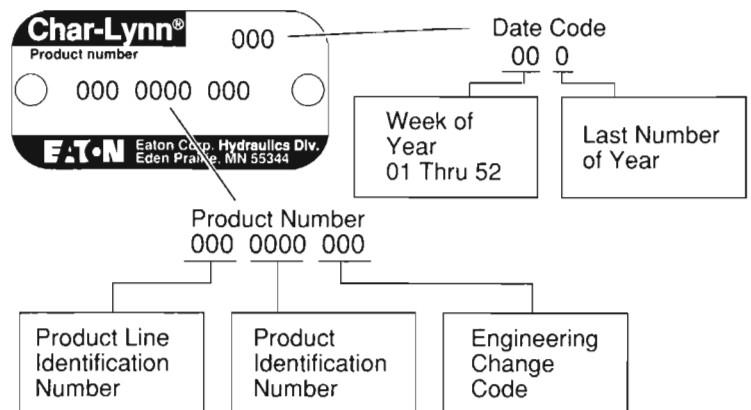
Ports	Displacement cu.cm./rev. [cu. in./rev.]	Product Number	Feature or Status
Manifold	101 [ 6.2]	207-1001-006	Mounting Face as Cast—N/A
Manifold	167 [10.2]	207-1002-006	Mounting Face as Cast—N/A
Manifold	96 [ 5.9]	207-1012-001	Mounting Face as Cast—N/A
Manifold	160 [ 9.7]	207-1013-001	Mounting Face as Cast—N/A
9/16-18 UNF	96 [ 5.9]	207-1016-001	Mounting Face as Cast—N/A
9/16-18 UNF	160 [ 9.7]	207-1017-001	Mounting Face as Cast—N/A
9/16-18 UNF	76 [ 4.7]	207-1049-001	Machined Mounting Face Each End
9/16-18 UNF	96 [ 5.9]	207-1050-001	Machined Mounting Face Each End
9/16-18 UNF	160 [ 9.7]	207-1048-001	Machined Mounting Face Each End
Manifold	76 [ 4.7]	207-1030-001	Machined Mounting Face Each End
Manifold	96 [ 5.9]	207-1015-001	Machined Mounting Face Each End
Manifold	160 [ 9.7]	207-1020-001	Machined Mounting Face Each End
Manifold	76 [ 4.7]	207-1051-001	Power End w/Bearing and Machined Faces
Manifold	96 [ 5.9]	207-1028-001	Power End w/Bearing and Machined Faces
Manifold	160 [ 9.7]	207-1052-001	Power End w/Bearing and Machined Faces

N/A — Not Available (Choose Replacement Unit from Current Models on this List)

#### Early Design



#### Latest Design



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