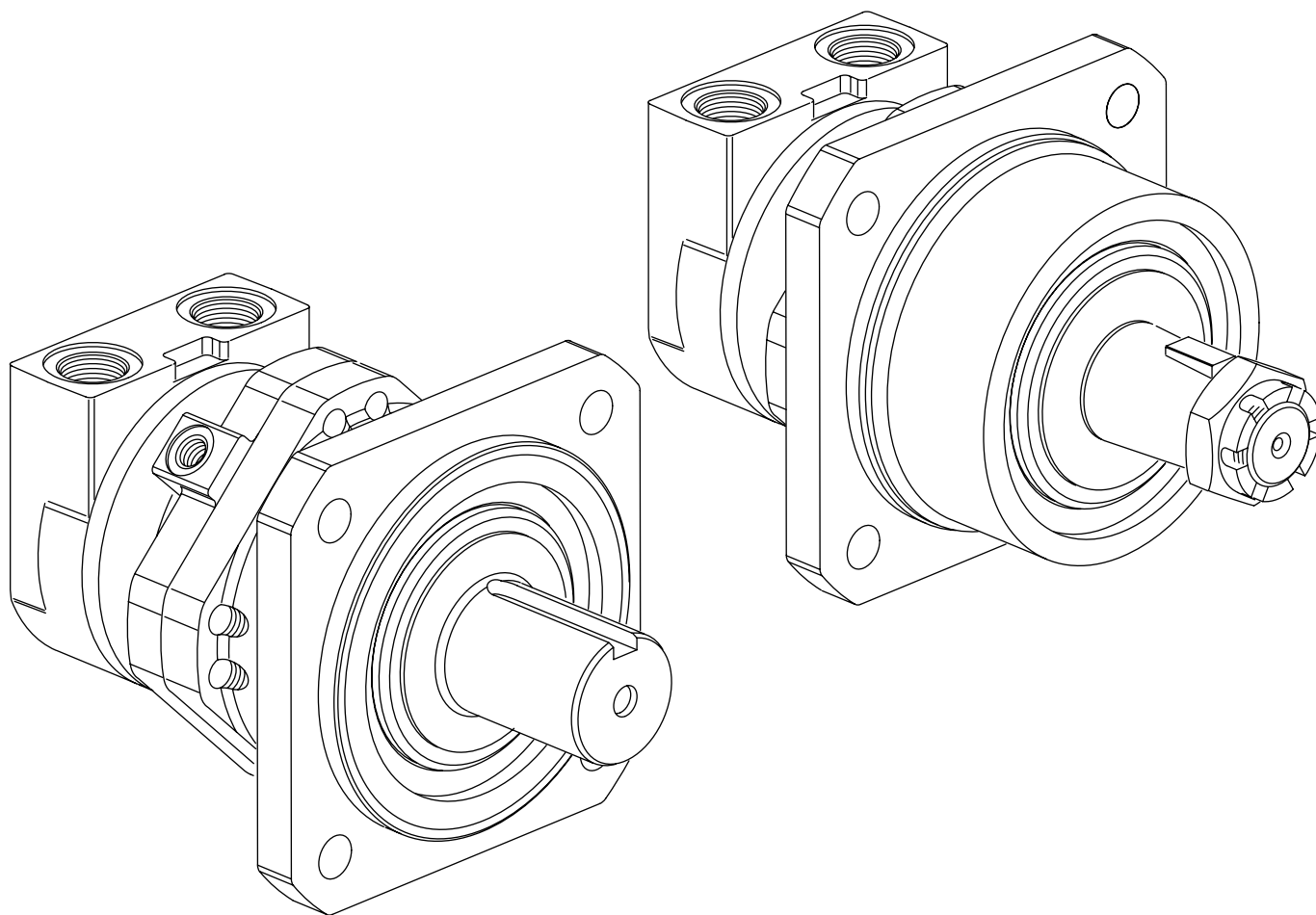




Repair Information

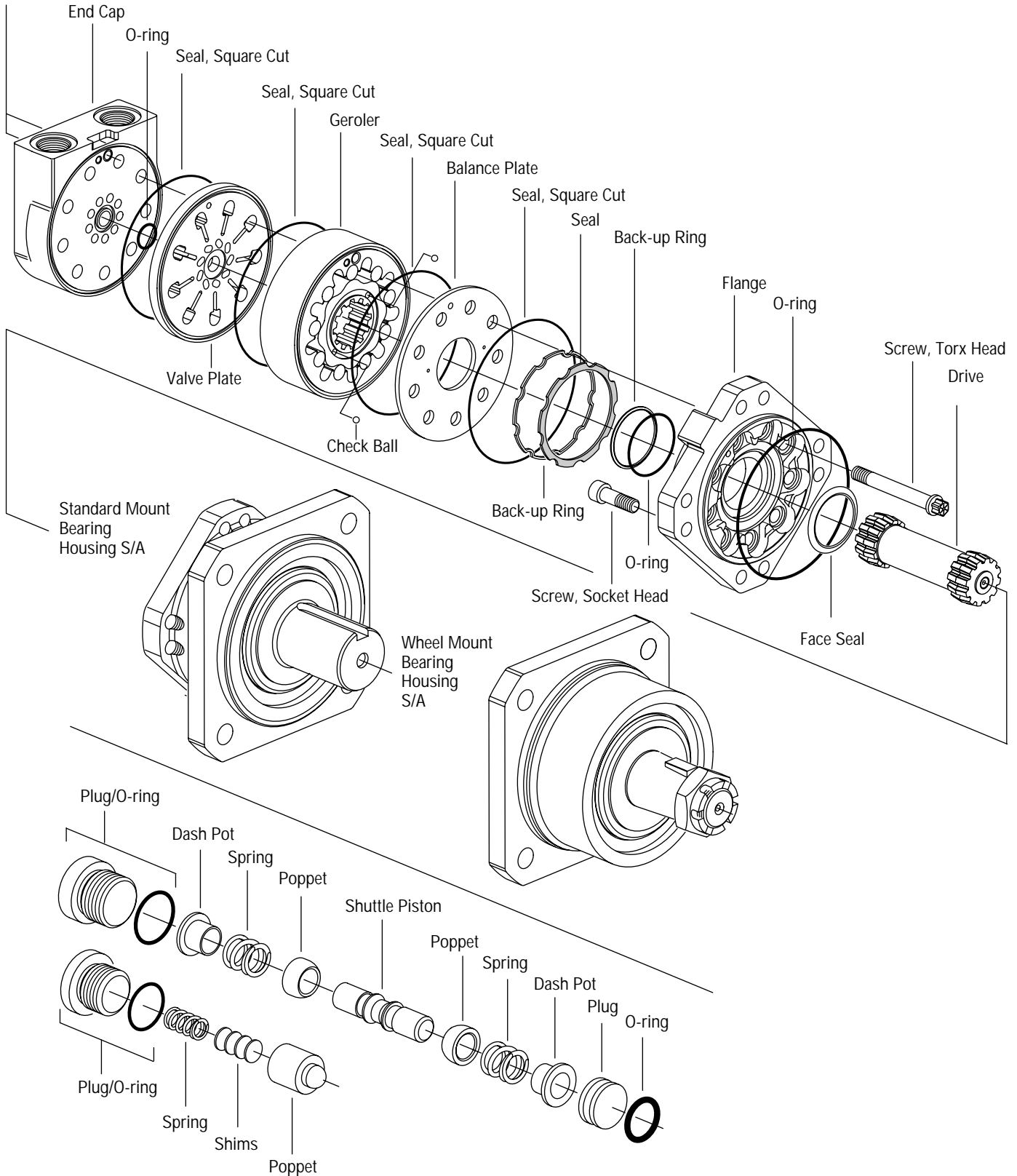


Series VIS 45
Standard and Wheel Motor

003

Parts Drawing

Shuttle/Relief Valve Parts Shown
Enlarged Below

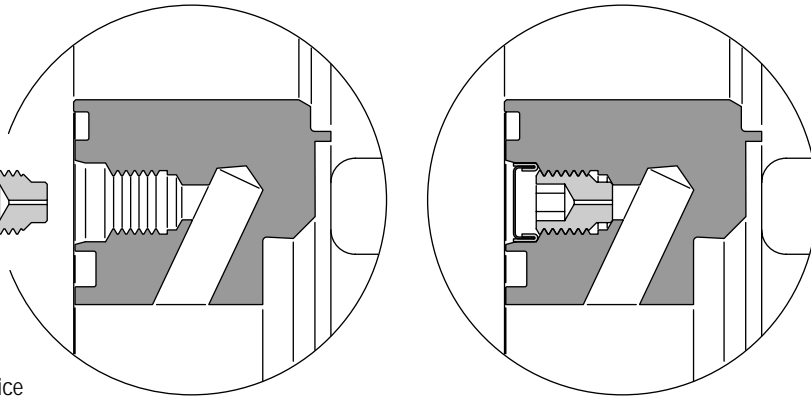


Parts Drawing — Continued

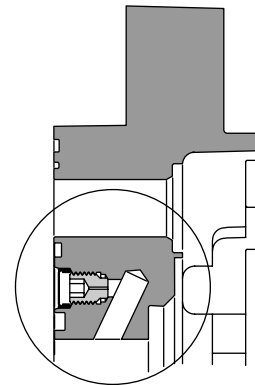
Flanges with Leakage Orifice

Strainer

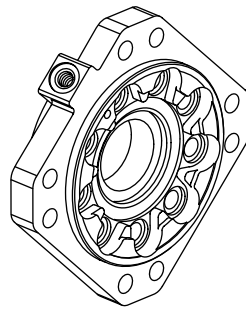
Orifice



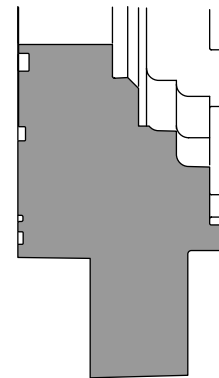
Flange

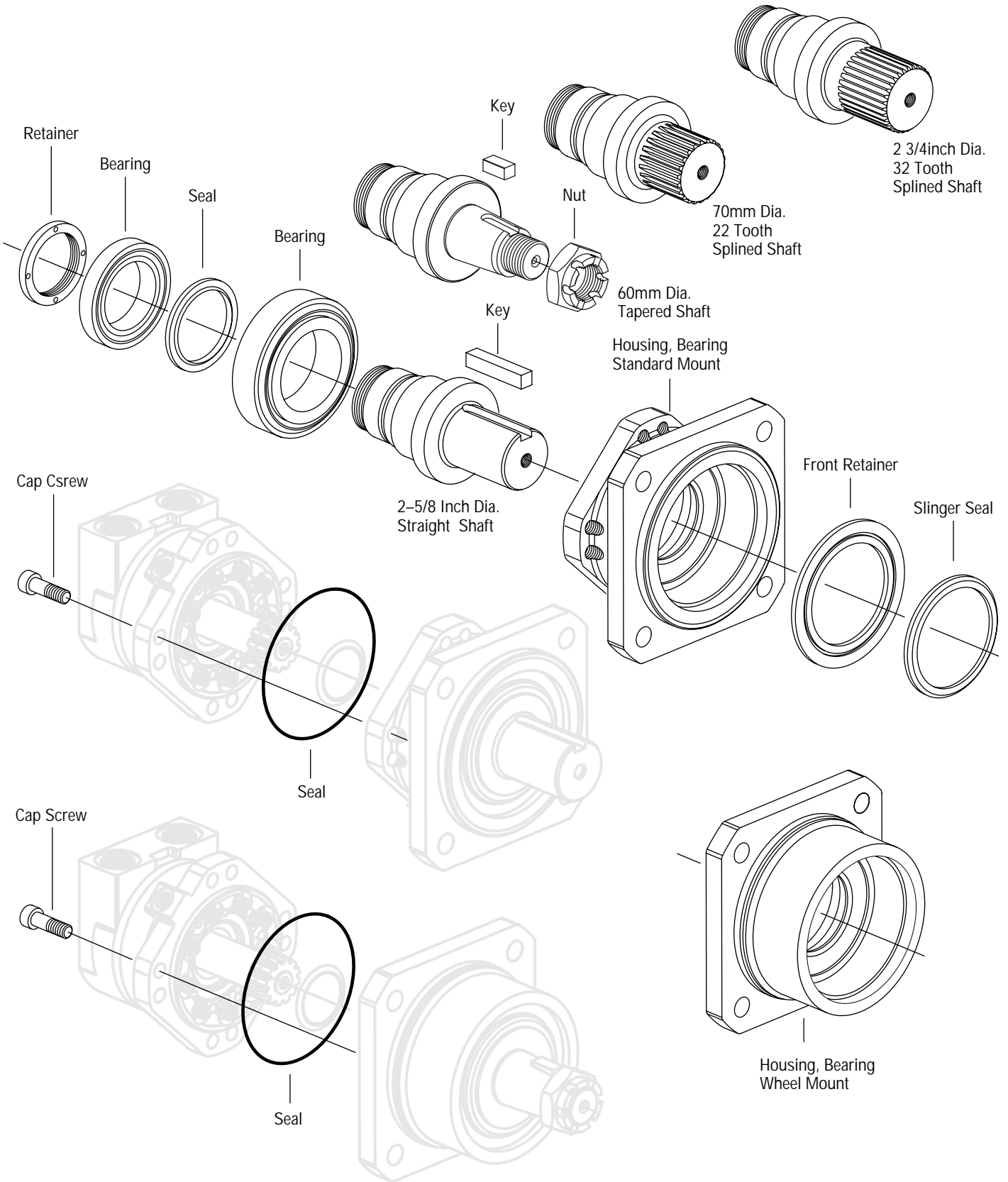


Flange Section
with Strainer
and Leakage
Orifice



Flange with Case Drain
8 Mounting Bolts

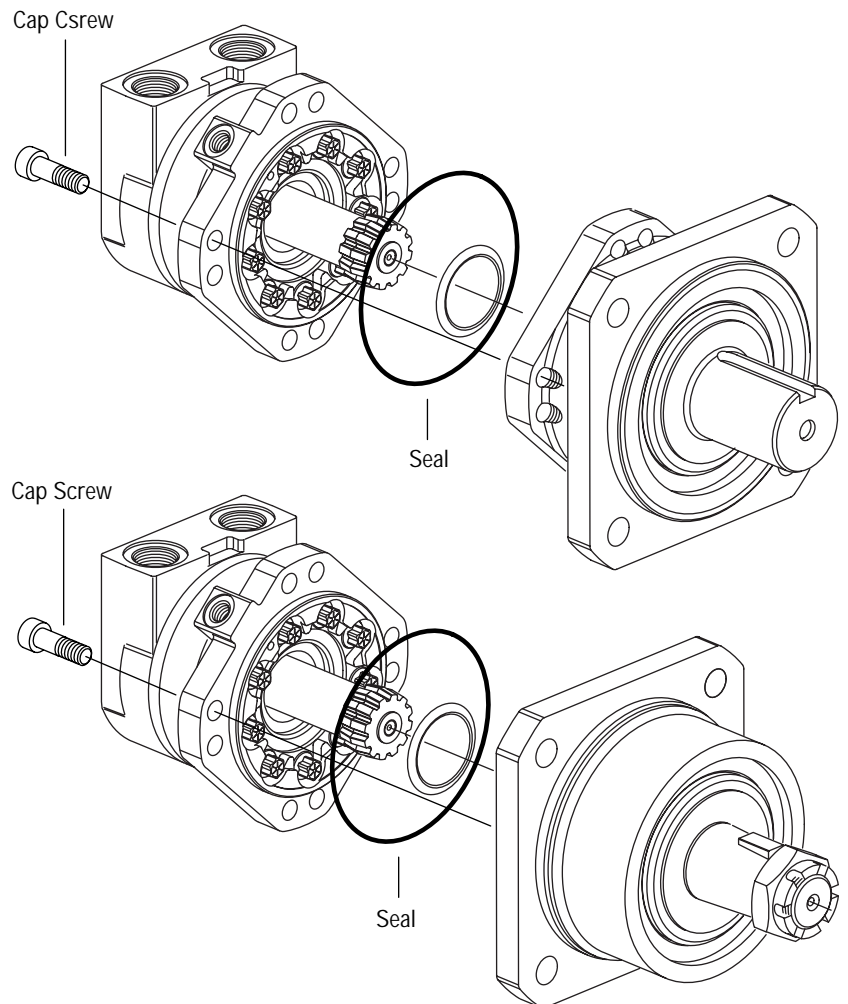




Disassembly

Tools Required

- 1/4 inch Hex Key
- 3/16 inch Hex Key
- 5/8 inch Hex Key (End Ported Motor Only)
- Torque wrench - 200 Nm [150 lb-ft] capacity
- Retaining ring tool 202842-003 (for threaded nut)
- Shaft pressure seal installation tool - No. 202842-001
- Shaft bullet tool No. 202842-002
- Shaft Face Seal Installation tool - No. 606137-000



Disassembly

Disassembly

1 Cleanliness is extremely important when repairing hydraulic motors. Work in a clean area. Before disconnecting the hydraulic motor thoroughly clean the exterior. Remove motor from application and drain the oil from the motor before disassembly.

2 Remove the 9 cap screws and disassemble the motor in the vertical position as shown in figures 1 and 2. **Note placement of small ball checks in Geroler.**

3 Remove shuttle valve (and relief valve if applicable) from end cap.

4 Remove two plugs from end cap, end ported motors only.

5 Check all mating surfaces. To reduce the chance of leakage, replace any parts that have scratches or burrs. Wash all metal parts in clean solvent. Blow them dry with pressurized air. Do not wipe parts dry with paper towels or cloth as lint in a hydraulic system will cause damage.

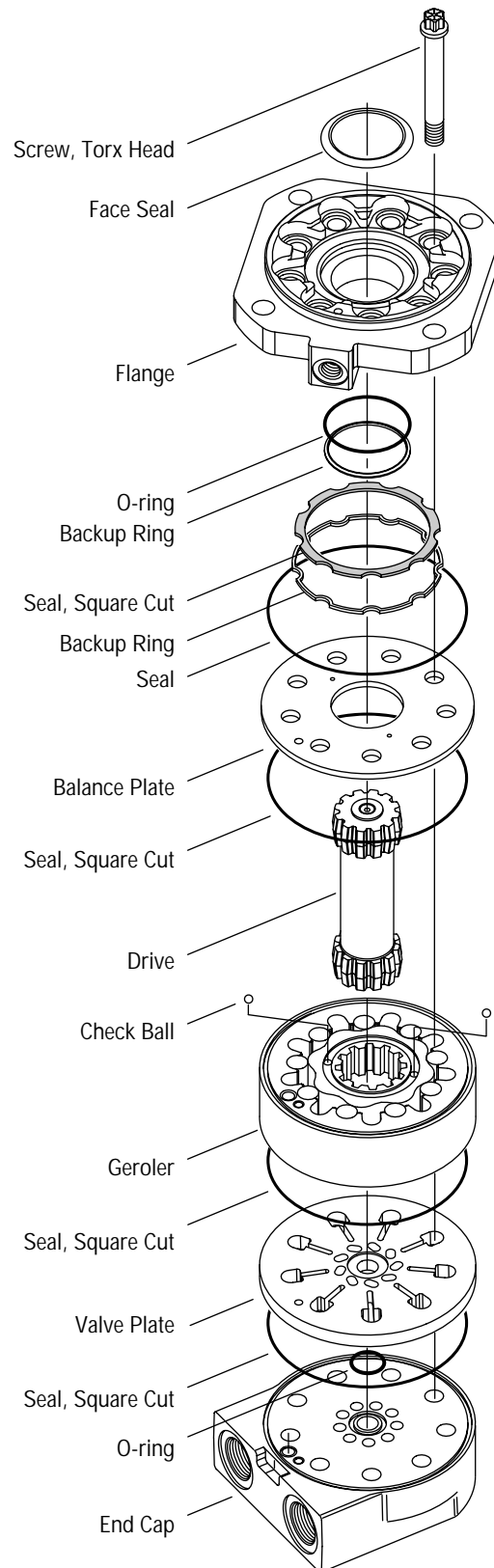


Figure 1

Disassembly

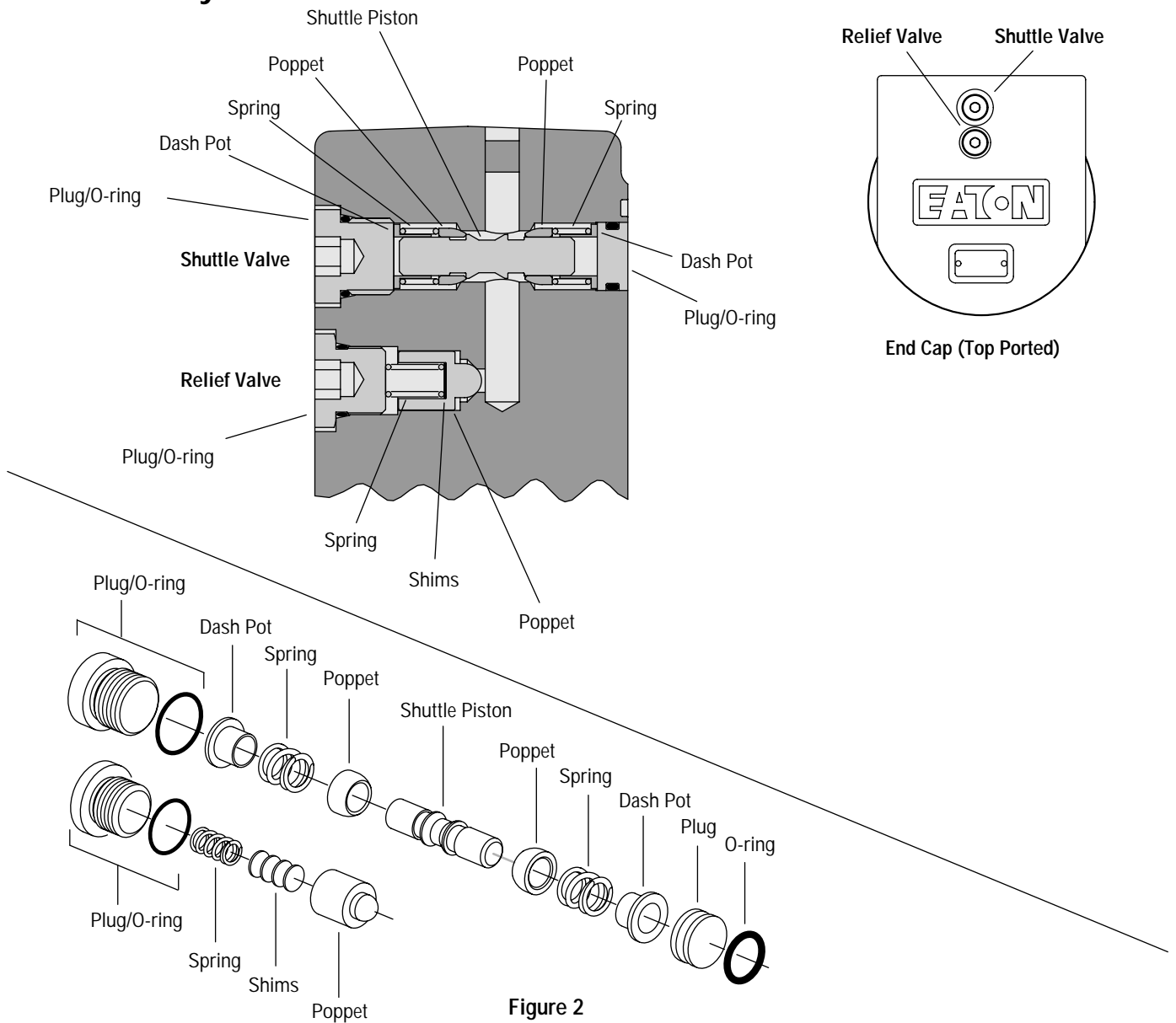


Figure 2

Reassembly

Note: Always use new seals when reassembling hydraulic motors. Refer to parts list 6-156 for seal kit number, replacement parts, and ordering information.

Important: During reassembly, lubricate the new seals with a petroleum jelly such as Vaseline®. Also lubricate machined surfaces with clean hydraulic fluid.

- 6 Install one poppet, spring and dash pot into shuttle valve bore from valve plate side of end cap.
- 7 Install non-threaded plug with o-ring into end cap shuttle valve bore. O-ring and plug are to be lightly coated with petroleum jelly to ease assembly and a plug should be inserted flush with end cap mounting surface.
- 8 Install shuttle piston from opposite end of shuttle valve cavity.
- 9 Install one shuttle valve poppet, spring and dash pot onto piston.
- 10 Install one shuttle valve threaded internal hex plug with o-ring. Shuttle plug threads may have light coat of oil or preservative. Torque plug to 37-45 Nm [324-396 lb-in].
- 11 For a motor with low pressure relief valve, install poppet, shims, spring and plug. Plug threads may have light coat of oil or preservative. Torque plug to 23-29 Nm [207-253 lb-in].
- 12 For a motor without low-pressure relief valve, install plug with o-ring and torque plug to 23-29 Nm [207-253 lb-in].

Reassembly

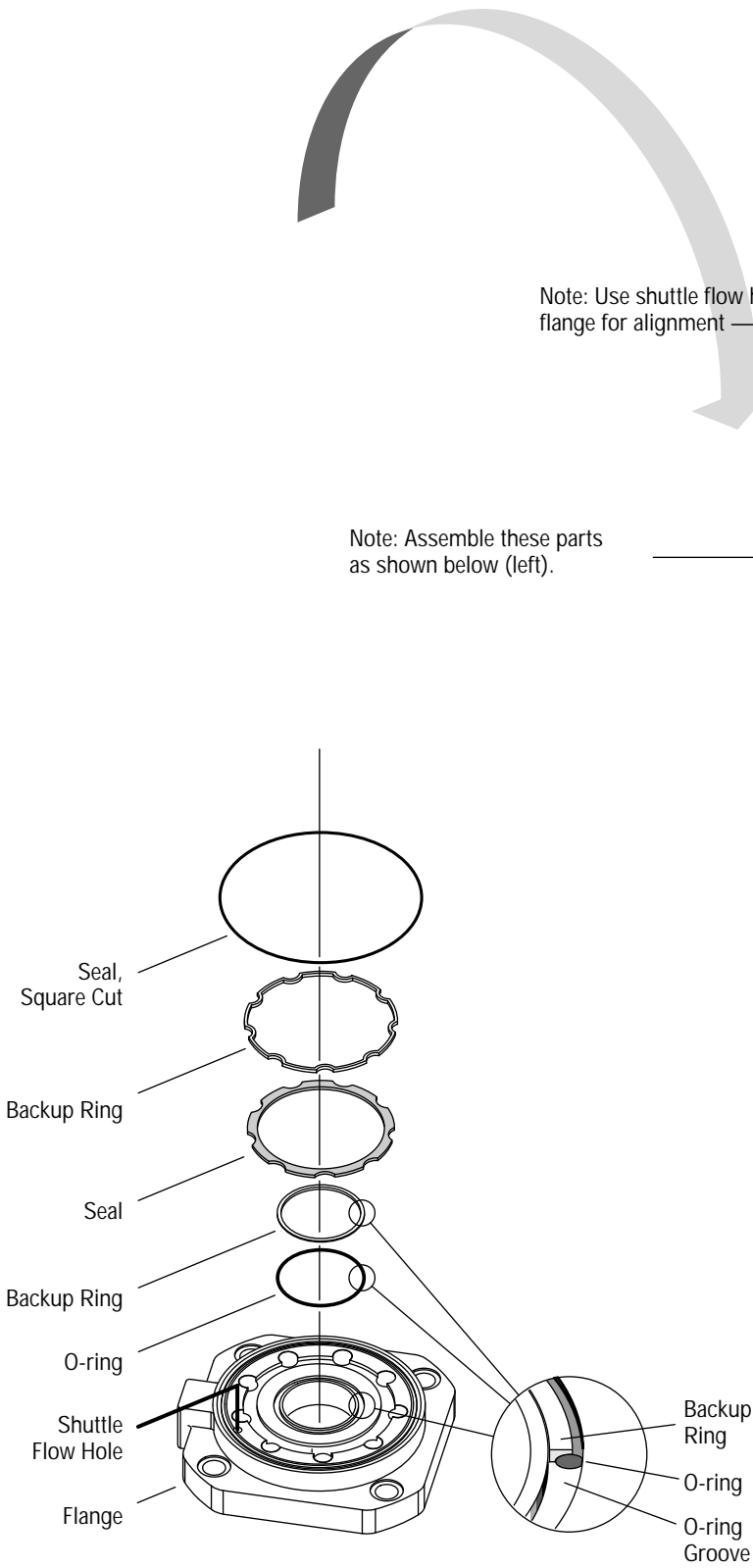


Figure 3

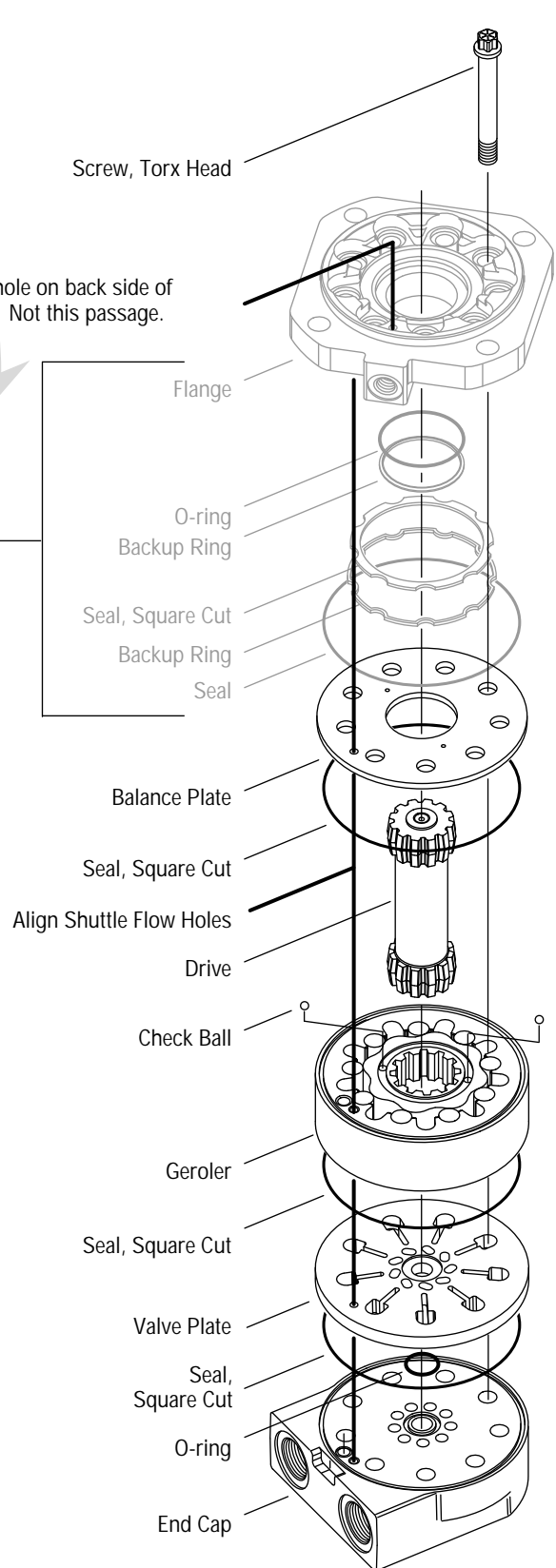


Figure 4

Reassembly

Flange Assembly

Note: Backup rings and seals must have a coating of petroleum jelly to assist in retaining these parts in a inverted position later on in final assembly.

13 Position flange on work bench. With seal grooves up (see Figure 3), install square cut seal, backup ring, seal, backup ring, and o-ring in flange. Set flange assembly aside, seal side up.

Final Assembly

14 Place end cap on work bench name tag side down, seal grooves up (see Figure 4). Install o-ring (26,7 [1.05] ID) and square cut seal (150,8 [5.94] ID) in appropriate grooves.

15 Place valve plate onto end cap. Align bolt holes and shuttle flow hole on valve plate with mating holes on end cap.

16 Install two square cut seals, one on each side of the Geroler. Seal on valve side of Geroler must have a sufficient coating of petroleum jelly to assist in retaining seal in groove.

17 Place Geroler over valve plate. Align bolt holes and shuttle flow hole on Geroler with mating holes on valve plate. Position valve side of star down and spline side up.

18 Place drive into spline of Geroler star with recessed end down.

19 Place two steel balls into seats of Geroler star (one per seat).

20 Place balance plate on Geroler. Align bolt holes and shuttle flow hole on balance plate with mating holes on Geroler.

Note: Before placing flange assembly from step 13, note the location of the shuttle flow hole. This will expedite the move from the work bench over onto the balance plate.

21 Carefully invert flange assembly and place onto balance plate with bolt holes and shuttle flow holes in line. **Do Not** displace seals and backup rings.

22 Install nine screws lubricated with DTE-26. Pre-torque each in a crisscross pattern to 61-75 Nm [45-55 lb-ft]. Finally in a crisscross pattern, tighten screws to 136-149 Nm [100-110 lb-ft].

Note: All bearingless motors must be handled with the drive end up. Damage to the balance plate will occur if these bearingless motors are lifted by the drive.

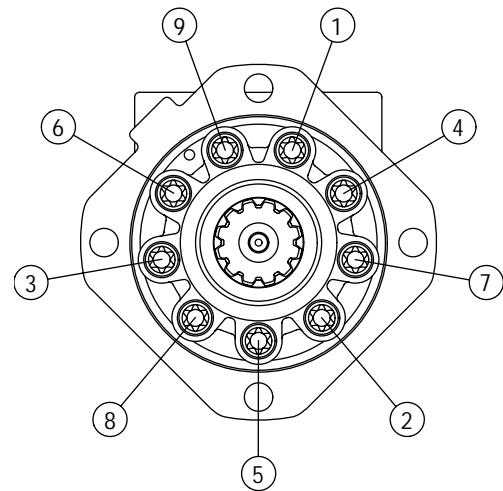


Figure 5

Disassembly

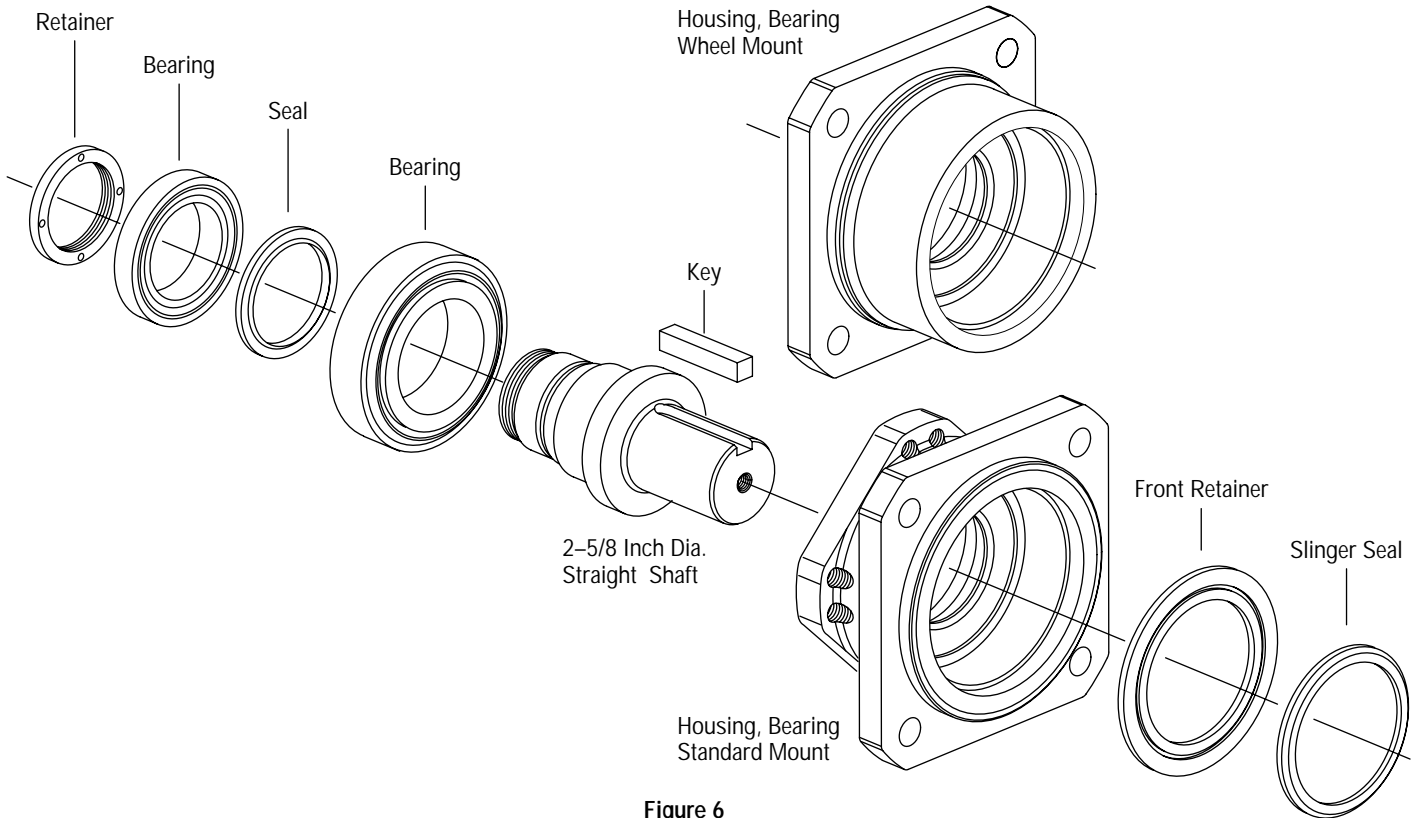


Figure 6

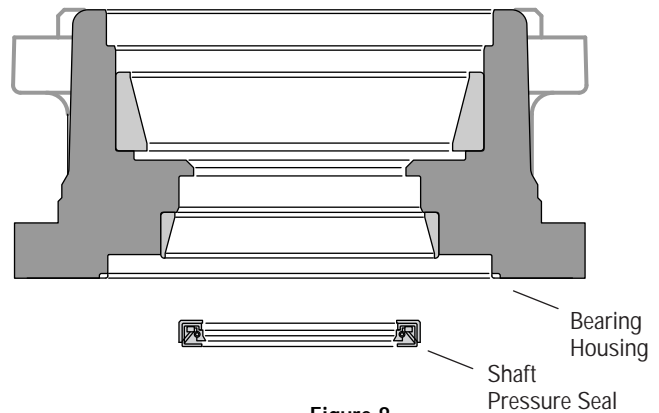
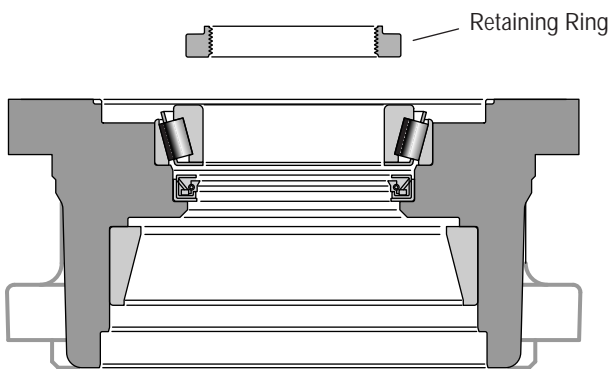


Figure 8

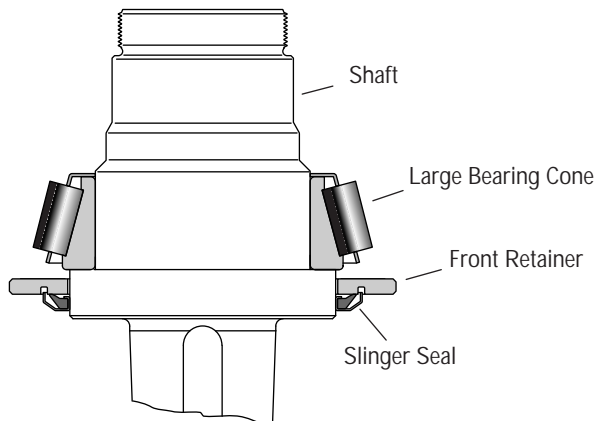


Figure 7

Disassembly Bearing Housing Subassembly

23 Remove retaining ring, use tool No. 202842-003 (the crimp lock should be rounded away from flat on shaft before turning retaining ring). Carefully press shaft from housing as shown (see figure 7).

24 Remove shaft pressure seal and discard.

25 Inspect bearings to determine a need for replacement, if you choose to replace shaft pressure seal only ignore steps 26, 28, and 30.

Reassembly

Reassembly Bearing Housing

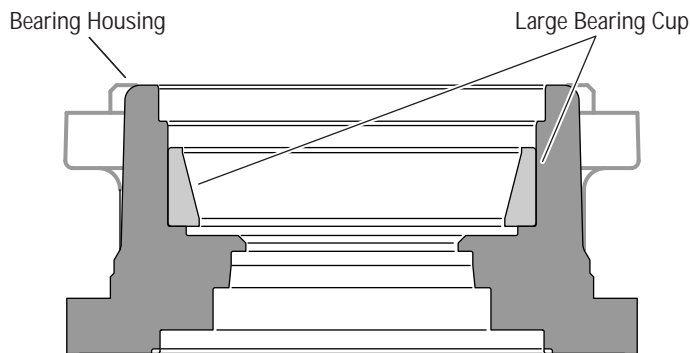


Figure 9

26 Place large bearing cup into 152,37 [5.999] dia. of bearing housing with taper facing outward. Protect taper surface from damage.

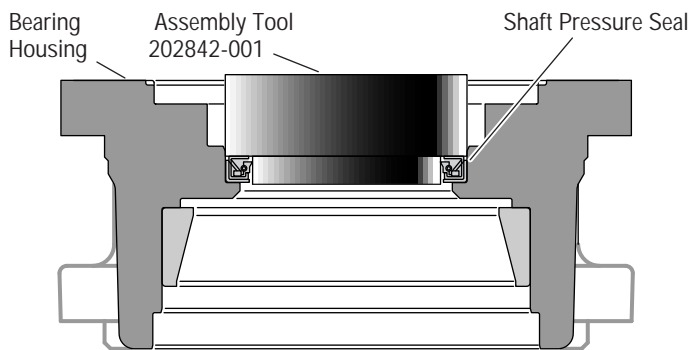


Figure 10

27 Lightly lubricate seal lip of shaft pressure seal with Mobil EP-2 grease or petroleum jelly (e.g. Vaseline). Place seal on assembly tool No. 202842-001, and press into 105,00 [4.134] dia. bore of bearing housing. Press until seal makes positive stop with bearing housing shoulder. Protect 80,01 [3.150] diameter shaft seal area from damage.

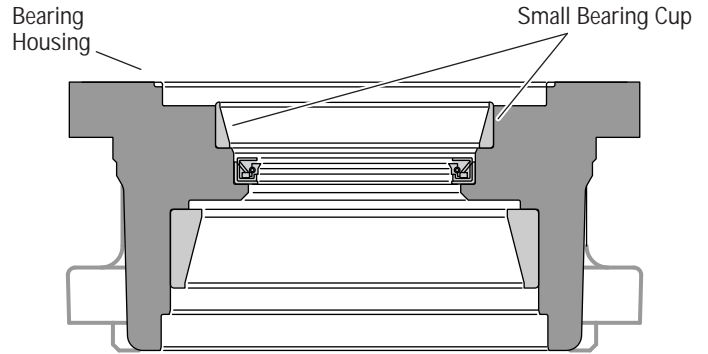


Figure 11

28 Place small bearing cup into 114,96 [4.526] dia. of bearing housing with taper facing outward. Protect taper surface from damage.

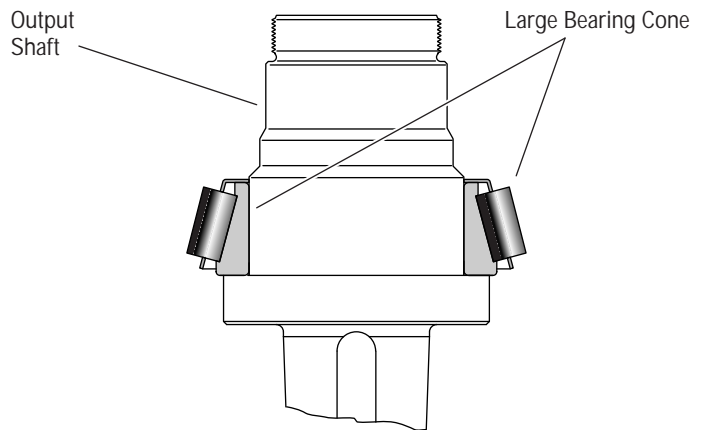


Figure 12

29 Grease pack large bearing cone with Mobile SHC 220 Grease.

30 Place large bearing cone against shaft shoulder with 22241 ± 890 N [5000 ± 200 lbf].

Reassembly

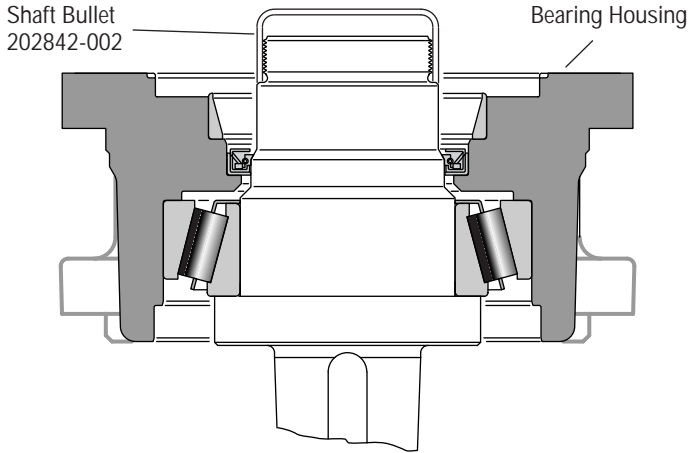


Figure 13

31 Lightly lubricate seal lip of shaft pressure seal with Mobil EP-2 grease or petroleum jelly (e.g. Vaseline). Assemble bearing housing over shaft so that large bearing cup is mating with large bearing cone use shaft bullet (tool No. 202842-002) to prevent seal lip damage during installation.

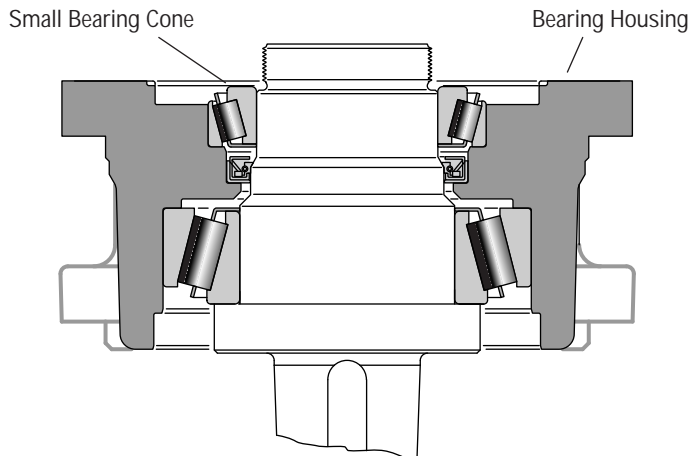


Figure 14

32 Place small bearing cone onto 75,052 [2.9548] dia. with 22241 ± 890 N [5000 ± 200 lbf].

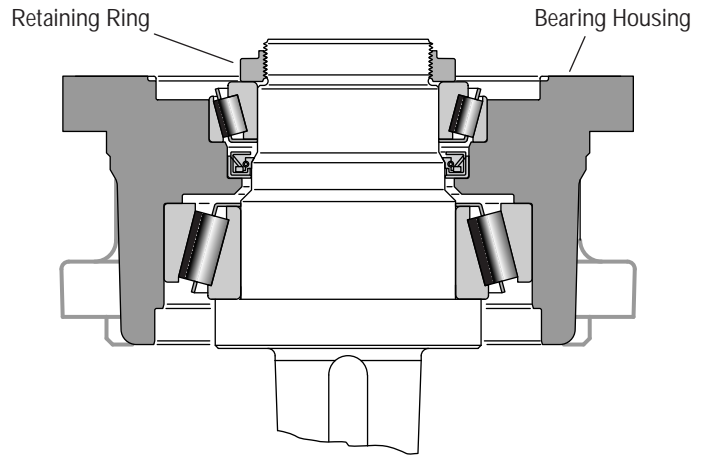


Figure 15

Important: Bearings to be rotated when force is being applied or rotated after pressing to insure proper seating of rollers. **Note:** If it loosens, replace bearings.

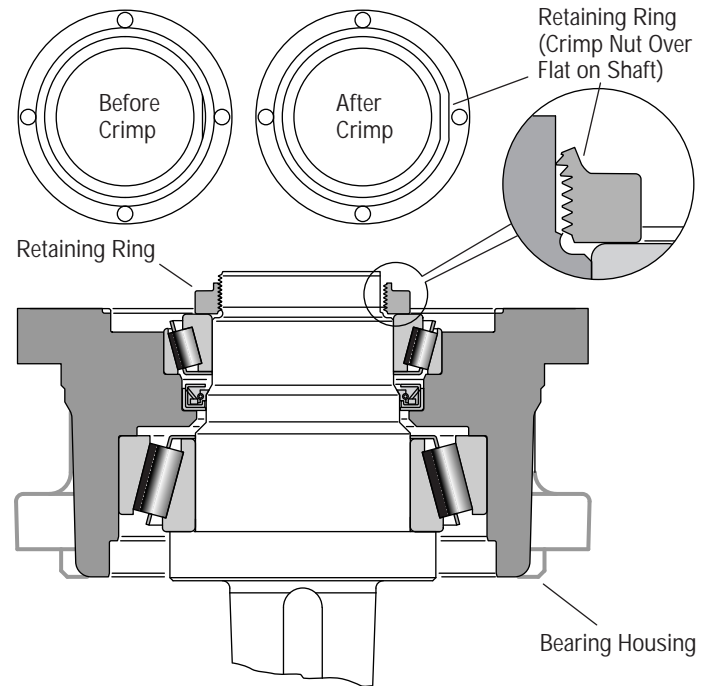


Figure 16

33 Immediately after assembly of small bearing cone, install retaining ring onto shaft and torque to 244 Nm [180 ft-lb] using tool No. 202842-003. Crimp nut over flat surface on shaft thread to prevent nut from loosening. Crimp should be at least 10 [0.4] long with no gap between nut and shaft.

Reassembly

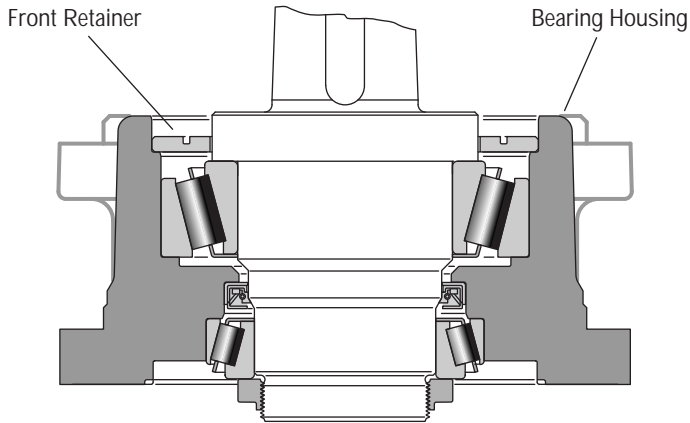


Figure 17

34 Fill cavity containing large bearing with Mobil SHC 220 grease.

35 Place front retainer onto 158,22 [6.299] dia. bore of bearing housing with light press force until seated. The groove in the front retainer should be visible after installation.

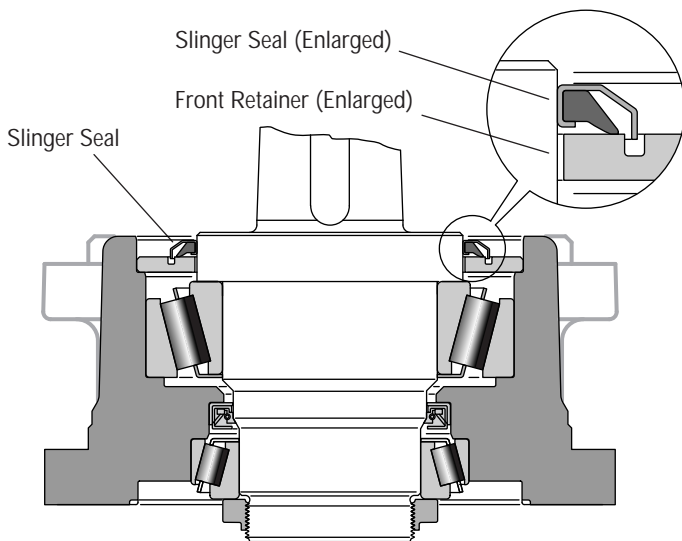


Figure 18

36 Place slinger seal onto 110,01 [4.331] dia. of output shaft with light press force until outer diameter of seal locates into groove of front retainer.

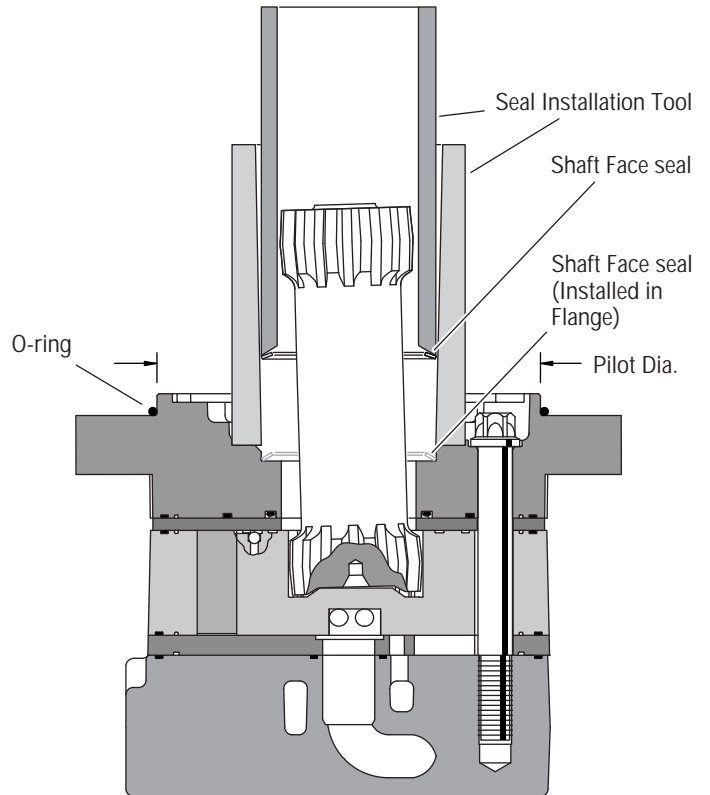


Figure 19

Reassembly of bearing subassembly to bearingless motor.

37 Install shaft face seal into flange of bearingless portion of motor. Use an installation tool (No. 606137-000) as shown, lubricate seal with Mobil EP-2 grease or petroleum jelly (e.g. Vaseline) and compress seal into place.

38 Lightly lubricate o-ring with Mobil EP-2 grease or petroleum jelly (e.g. Vaseline). Install onto pilot diameter of bearingless motor.

Reassembly

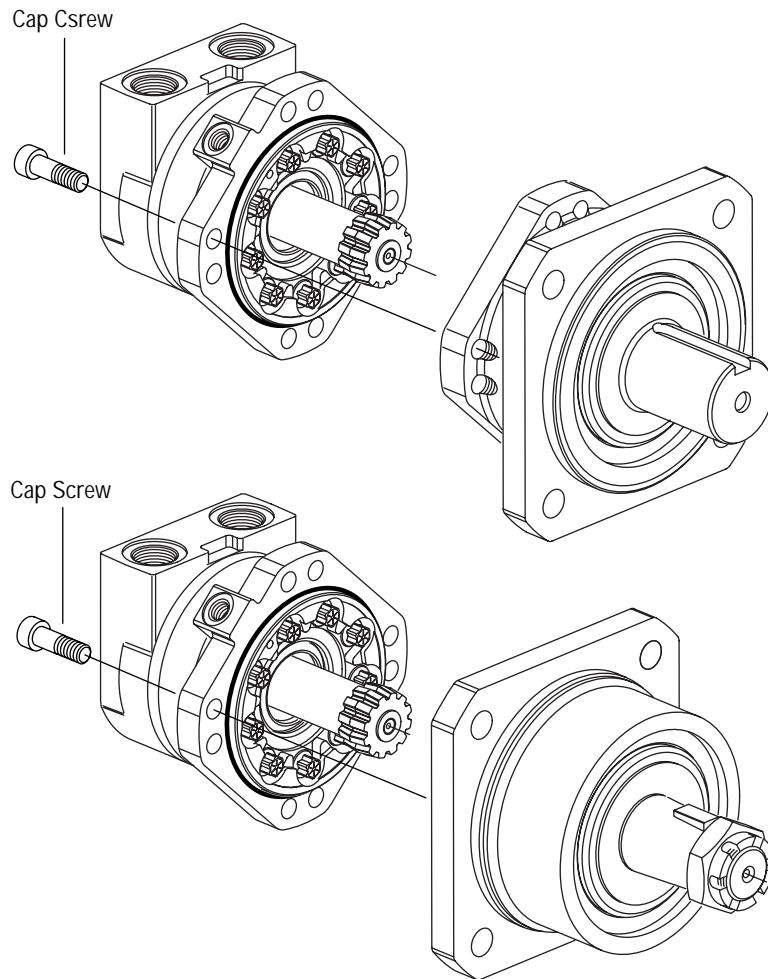


Figure 20

39 Assemble bearing subassembly to bearingless motor and install 8 mounting bolts. Torque bolts to 203 Nm [150 ft-lb] using criss-cross pattern.

Series VIS 45 Geroler Motors

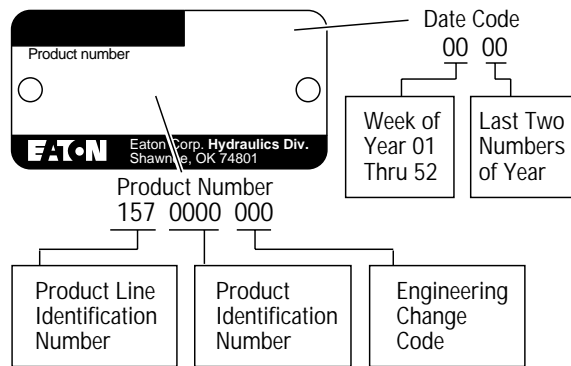
How to Order Replacement Parts

Each Order Must Include the Following:

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

For more detailed information contact Eaton Corp. Hydraulics Division 15151 Highway 5 Eden Prairie, MN 55344.

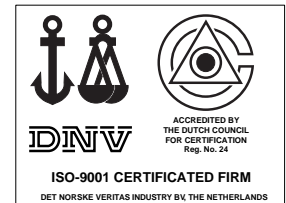
- Specifications and performance data, Catalog No. 11-112.
- Replacement part numbers and kit information — Parts Information No. 6-156.



Information contained in this catalog is accurate as of the publication date and is subject to change without notice. Performance values are typical values. Customers are responsible for selecting products for their applications using normal engineering methods.

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