

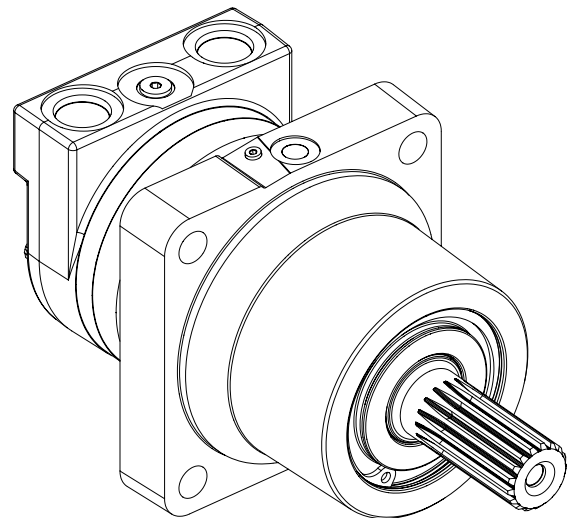
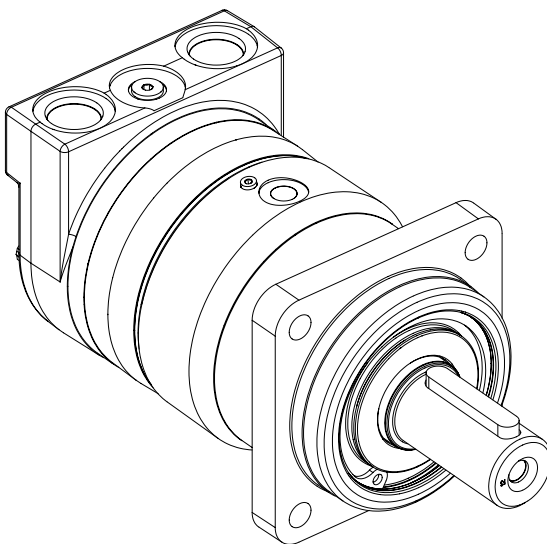
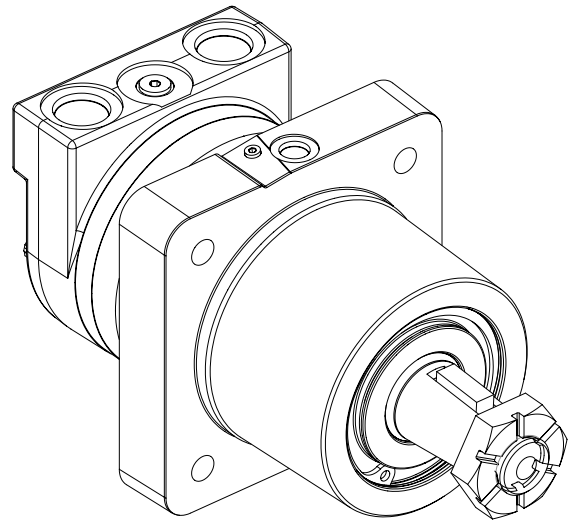
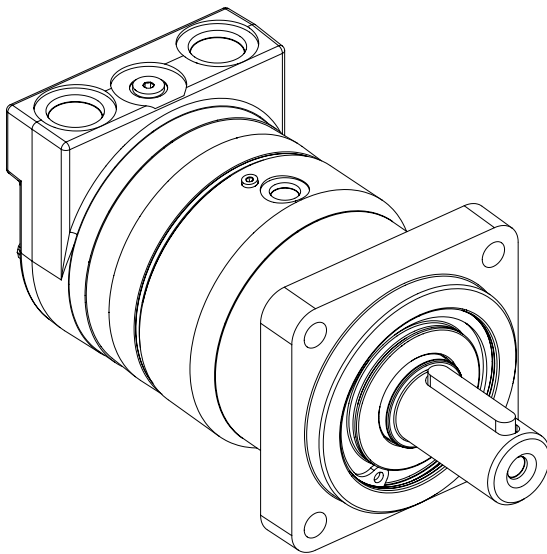


Char-Lynn

VIS Standard and Wheel Motors 40 Series

Parts and Repair Information

-005

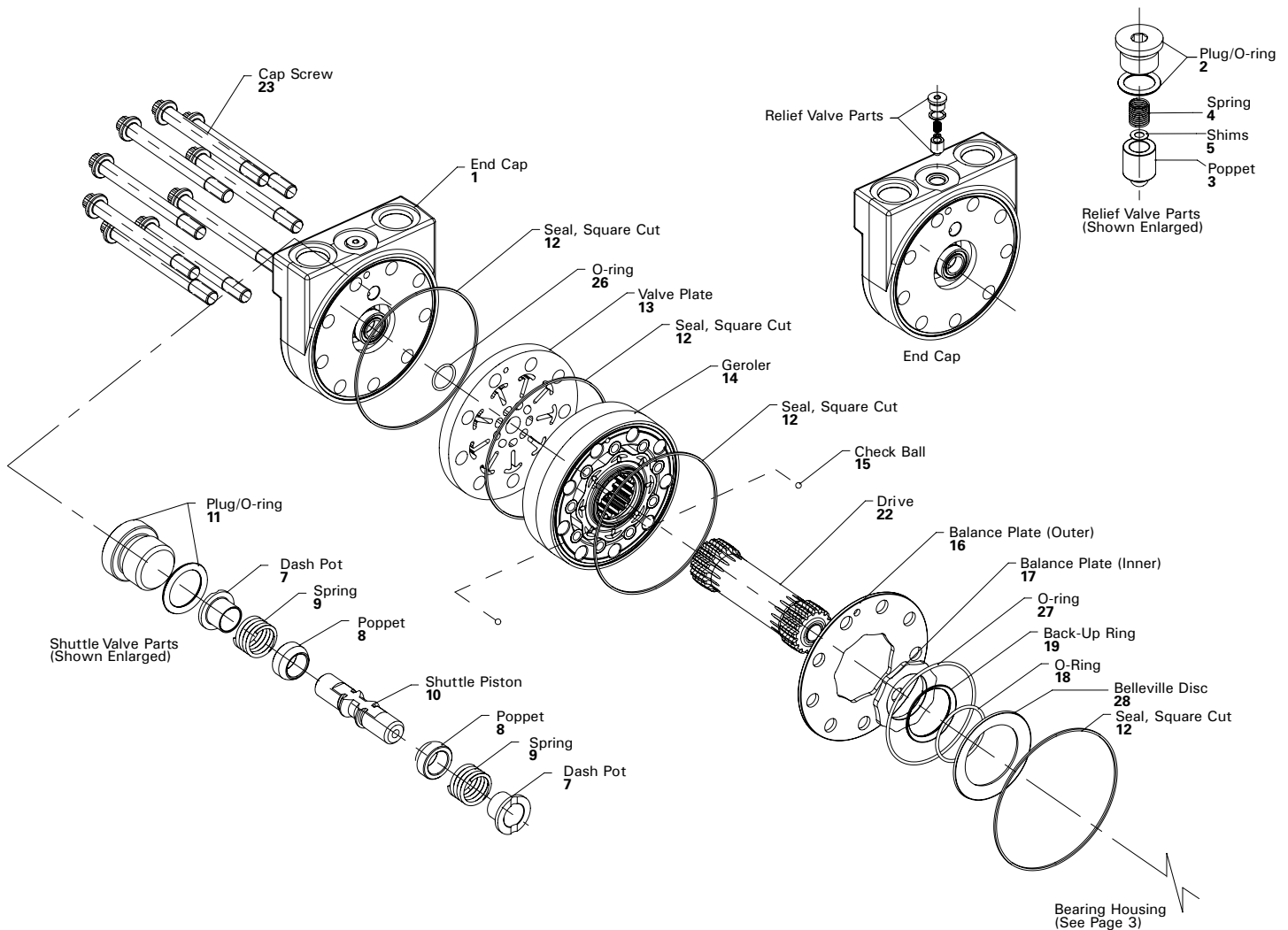


VIS Standard and Wheel Motors - 40 Series

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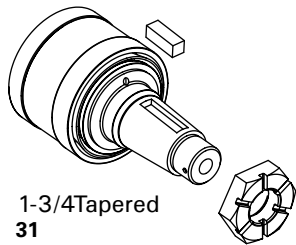
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Exploded View

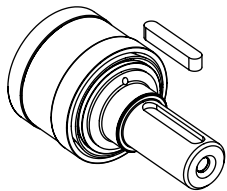


VIS Standard and Wheel Motors - 40 Series

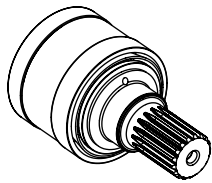
Exploded View



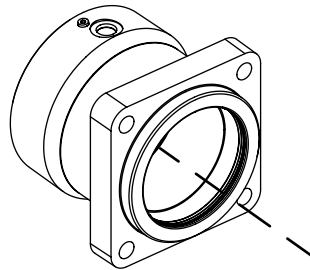
1-3/4 Tapered
31



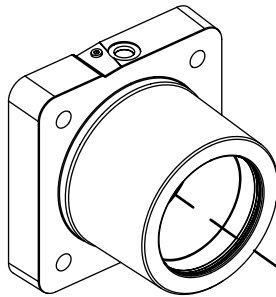
40mm Straight
31



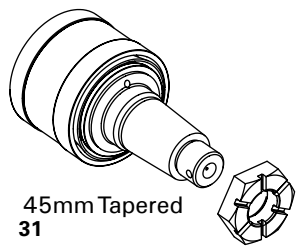
1-1/2" 17T Spline
31



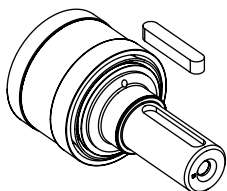
Standard Mount (SAE)
20



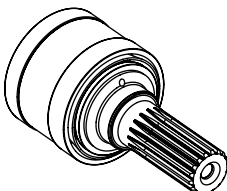
Wheel Mount (SAE)
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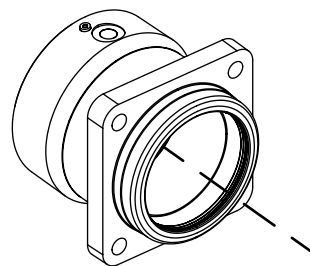
45mm Tapered
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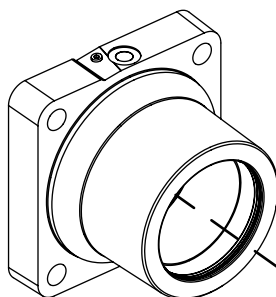
40mm Straight
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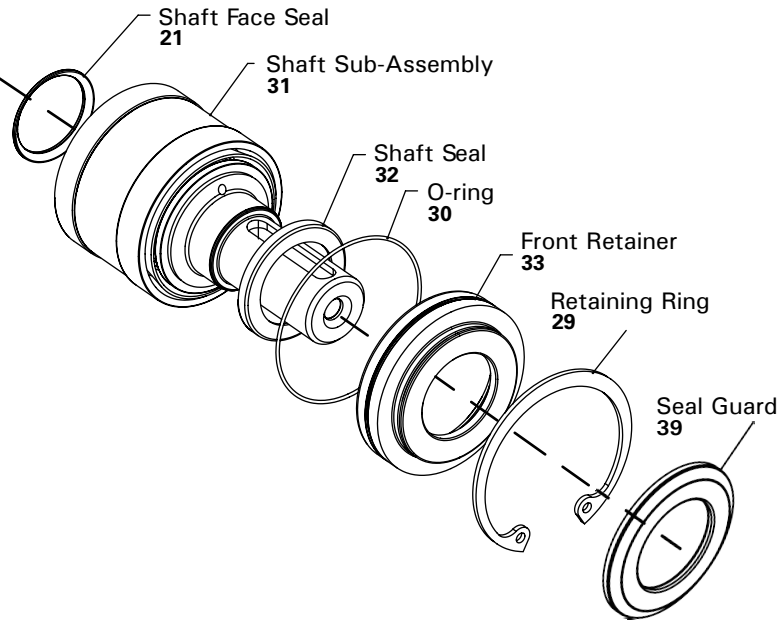
1-1/2" 17T Spline
31



Standard Mount (ISO)
20



Wheel Mount (ISO)
20



VIS Standard and Wheel Motors - 40 Series

Parts List

Ref. No.	Part No.	Description	Quantity
1	5986496-001	End Cap Assembly 1-1/16-12 O-ring Ports (2) - SAE	1
	5991620-001	End Cap Assembly 1-1/16-12 O-ring Ports (2) - for Disp. (41.7) with Straight or Splined Shaft - SAE	1
	5986496-002	End Cap Assembly G 3/4 (BSP) O-ring Ports (2) - ISO	1
	5991620-002	End Cap Assembly G 3/4 (BSP) O-ring Ports (2) - for Disp. (41.7) - ISO	1
2	9072-004	Plug Sub Assembly	1
X	250003-905	O-ring	1
3	113538-001	Poppet (for relief valve unit only)	1
4	113186-001	Spring (for relief valve unit only)	1
5	16048-500	Shim (for relief valve unit only)	A/R
7	112126-001	Sleeve, Dash Pot	2
8	8567-000	Poppet	2
9	230079-000	Spring	2
10	201494-002	Piston, Shuttle	1
11	9266-006	Plug Sub Assembly	1
X	250003-906	O-ring	1
X 12	14559-015	Seal	4
13	5986477-001	Plate, Valve	1
14	*	Geroler	1
15	285020-060	Ball	2
16	5986478-001	Plate, Balancing (Outer)	1
17	203516-001	Plate, Balancing (Inner)	1
X 18	112530-135	O-ring	1
X 19	14649-001	Ring, Back-up	1
20	6028283-021	Bearing Housing (Standard) 9/16-18 O-ring Case Drain Port - SAE	1
	6028283-005	Bearing Housing (Wheel) 9/16-18 O-ring Case Drain Port - SAE	1
	6028283-037	Bearing Housing (Standard) G 1/4 (BSP) O-ring Case Drain Port - ISO	1
	6028283-004	Bearing Housing (Wheel) G 1/4 (BSP) O-ring Case Drain Port - ISO	1
X 21	9080-001	Seal, Shaft Face	1
22	*	Drive	1
23	*	Screw, 12 PT	9
X 26	250183-002	O-ring	1
X 27	112530-179	Seal	1
28	203542-001	Spring, Belleville Disc	1
29	16077-063	Ring, Retaining	1
30	112530-044	O-ring	1
31	5993173-010	Shaft S/A (40mm Straight) - SAE	1
	5993173-009	Shaft S/A (1-1/2" 17 Tooth Splined) - SAE	1
	5993173-006	Shaft S/A (1-3/4" Tapered) - SAE	1
	5993173-012	Shaft S/A (40mm Straight) - ISO	1
	5993173-014	Shaft S/A (1-1/2" 17 Tooth Splined) - ISO	1
	5993173-004	Shaft S/A (45mm Tapered) - ISO	1
X 32	14812-001	Seal, Shaft	1
33	5993079-001	Front Retainer	1
39	14628-010	Seal Guard	1
	9900349-000	Seal Kit - Contains Parts Indicated by X	

* = See Chart

A/R = As Required

Displacement cm ³ /r [in ³ /r]	Ref. No. 14 Geroler	Width mm [inch]	Ref. No. 22 Drive	Length mm [inch]	Ref. No. 23 Cap Screw	Length mm [inch]
505 [30.7]	5986480-006	44,7 [1.76]	4992211-006	144,8 [5.70]	114154-006	131,1 [5.16]
570 [34.9]	5986480-010	50,8 [2.00]	4992211-010	151,1 [5.95]	114154-007	135,6 [5.34]
630 [38.5]	5986480-007	56,0 [2.21]	4992211-007	156,2 [6.15]	114154-008	142,2 [5.60]
685 [41.7]	5986480-011	60,7 [2.39]	4992211-011	160,8 [6.33]	114154-008	142,2 [5.60]
785 [48.0]	5986480-008	69,9 [2.75]	4992211-008	170,2 [6.70]	114154-011	156,7 [6.17]
940 [57.4]	5986480-009	83,6 [3.29]	4992211-009	183,9 [7.24]	114154-015	170,4 [6.71]

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Disassembly

Tools Required

- 1/4 inch Hex Key (Relief Valve Plug)
- 3/16 inch Hex Key (Shuttle Valve Plug)
- 1/2 Socket (12 Point Drive)
- Torque wrench - 68 Nm [600 lb-in] capacity

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 Figure 1.
Note placement of small ball checks in Geroler.
3. Remove shuttle valve (and relief valve if applicable) from end cap.
4. 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.

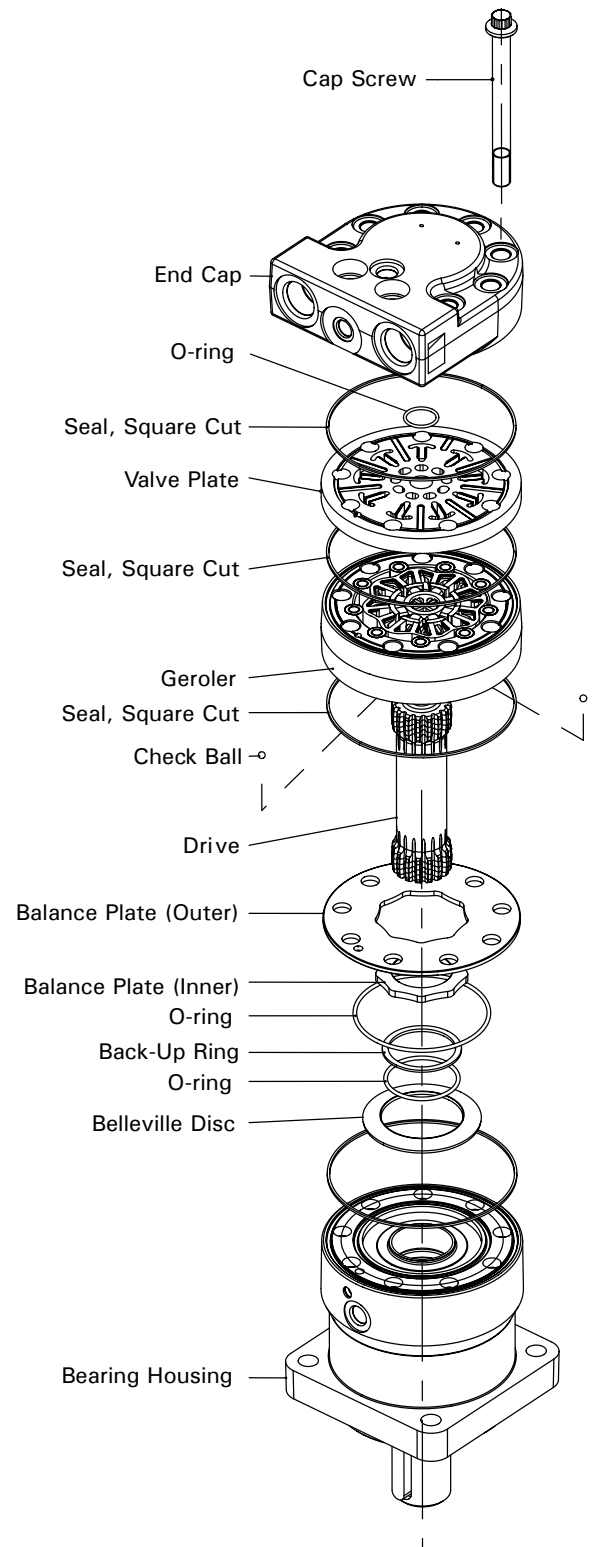
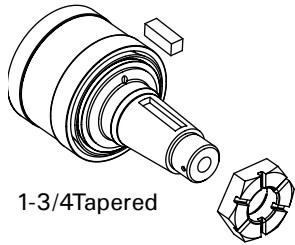
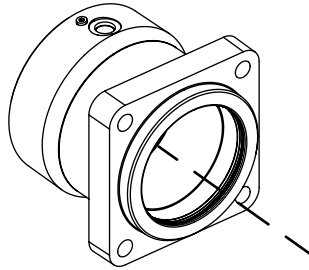


Figure 1

VIS Standard and Wheel Motors - 40 Series Disassembly



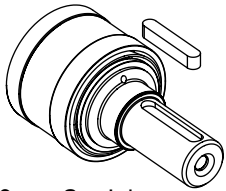
1-3/4 Tapered



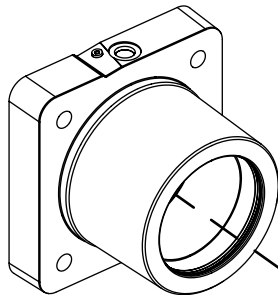
Standard Mount (SAE)

5. Disassemble bearing housing (4 bearing housings, and 6 shaft sub-assembly options are shown).

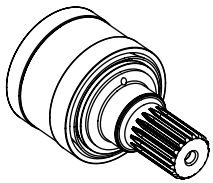
Note: Do NOT disassemble shaft sub-assembly.



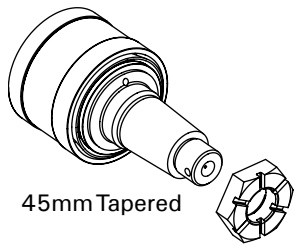
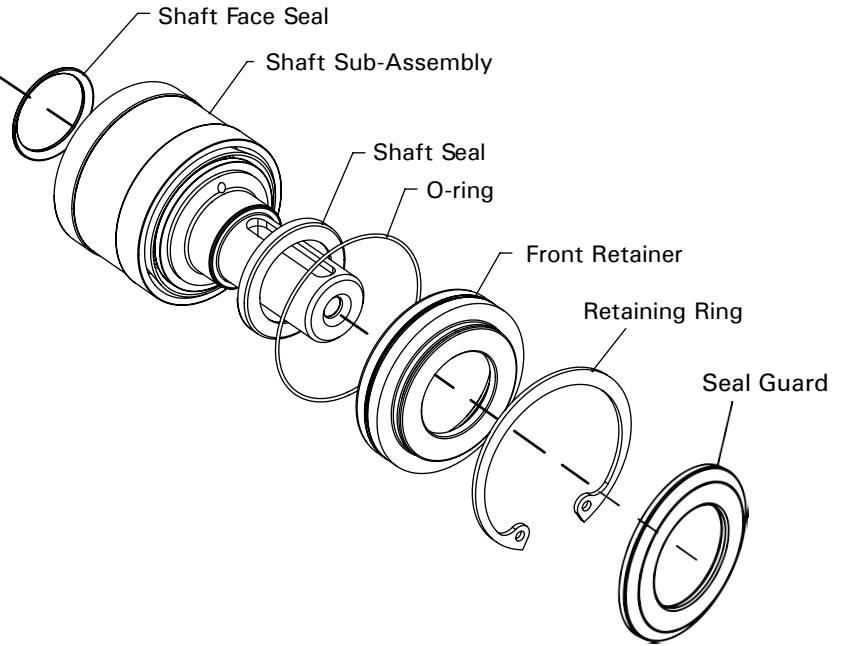
40mm Straight



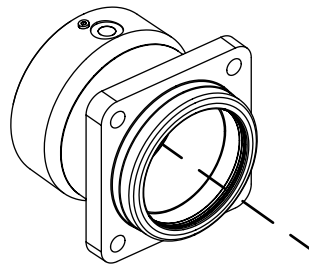
Wheel Mount (SAE)



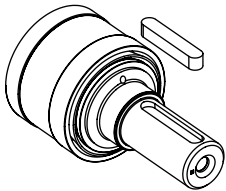
1-1/2" 17T Spline



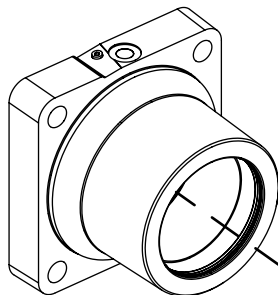
45mm Tapered



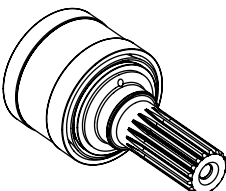
Standard Mount (ISO)



40mm Straight



Wheel Mount (ISO)



1-1/2" 17T Spline

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Reassembly

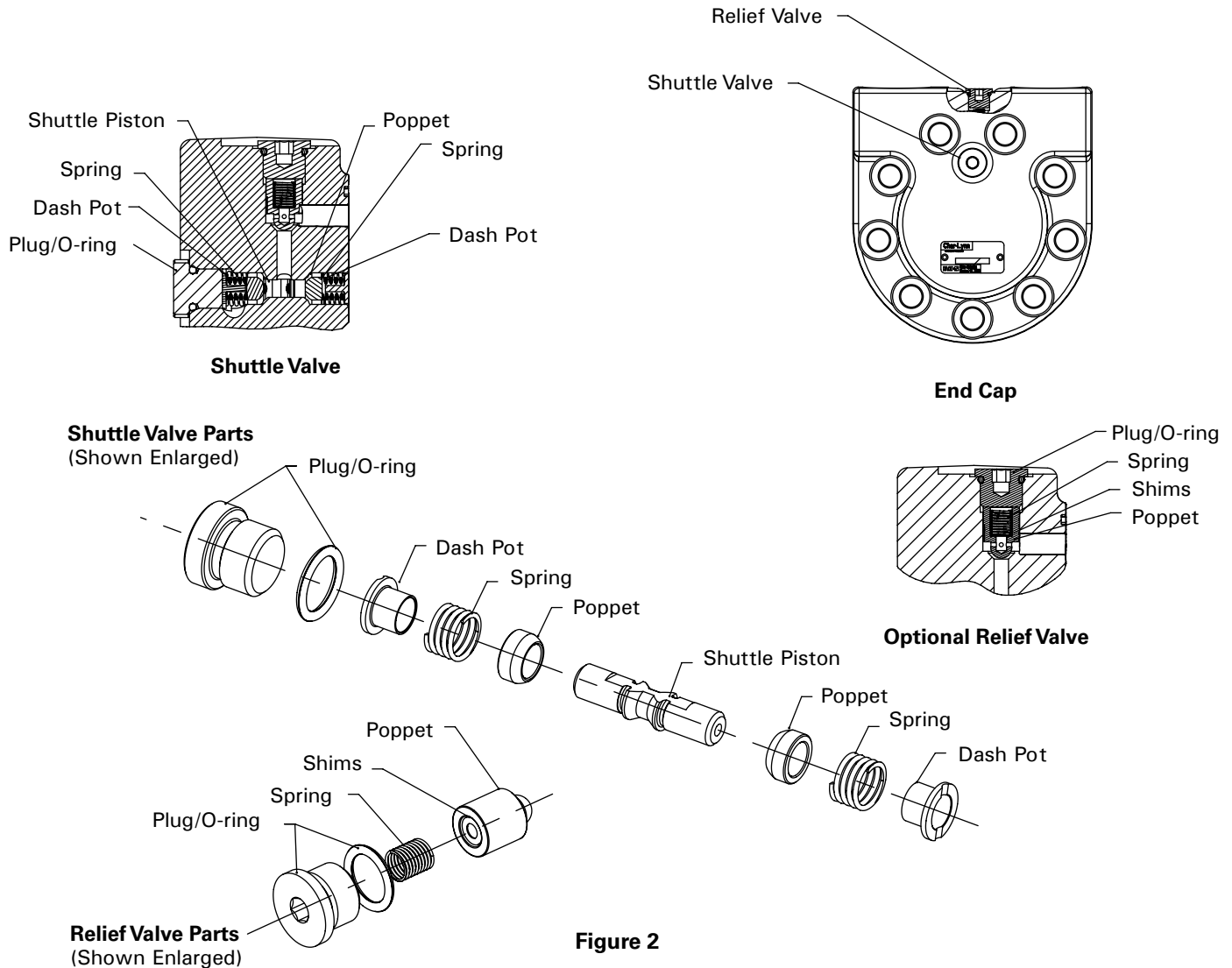


Figure 2

Reassembly

Note: Always use new seals when reassembling hydraulic motors. Refer to parts information 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 shuttle piston from opposite end of shuttle valve cavity.
8. Install one shuttle valve poppet, spring and dash pot onto piston.
9. 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 360+/-36 lb-in.
10. 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 180+/-18 lb-in.

VIS Standard and Wheel Motors - 40 Series

Reassembly

Note: Always use new seals when reassembling hydraulic motors. Refer to parts list 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.

11. Install shaft face seal into bearing housing. Use an installation tool as shown, lubricate seal with Mobil EP -2 grease or petroleum jelly (e.g. Vaseline) and compress seal into place. (Figure 4)
12. Lightly lubricate O-Ring with Mobil EP -2 grease or petroleum jelly (e.g. Vaseline). Install in groove on front retainer. (Figure 5)

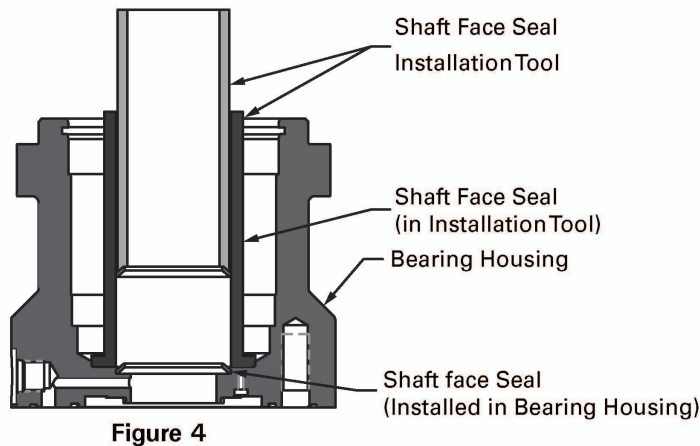


Figure 4

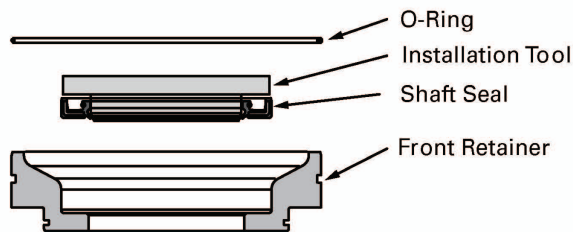


Figure 5

13. Lightly lubricate seal lip of shaft seal with Mobil EP-2 grease or petroleum jelly (e.g. Vaseline). Place seal on assembly tool, and press into bore of front retainer. Press until seal makes positive stop with front retainer shoulder. Protect inside diameter shaft seal area from damage. (Figure 5)
14. Install shaft and bearing assembly in bearing housing, you may need a press to install shaft and bearing assembly.
15. Before installing retainer, place a protective sleeve or bullet over shaft. Grease inside diameter of shaft seal. To prevent damage to seal, install front retainer over shaft with a twisting motion. Do not cut or distort shaft seal. Damage to shaft seal will cause external leakage. (Figure 6)

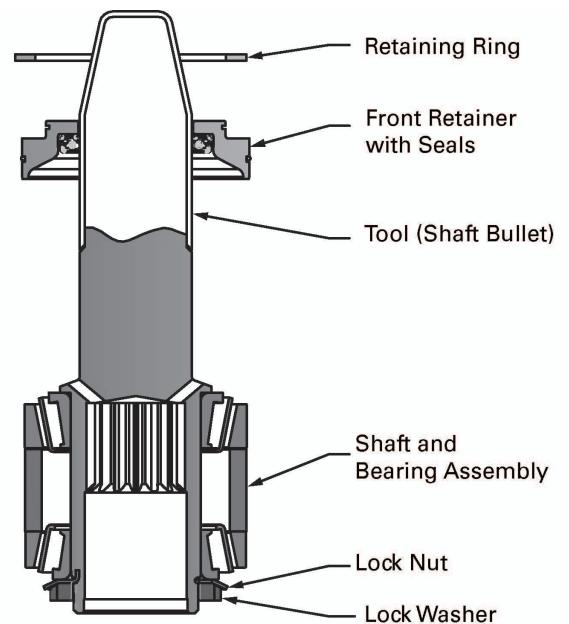
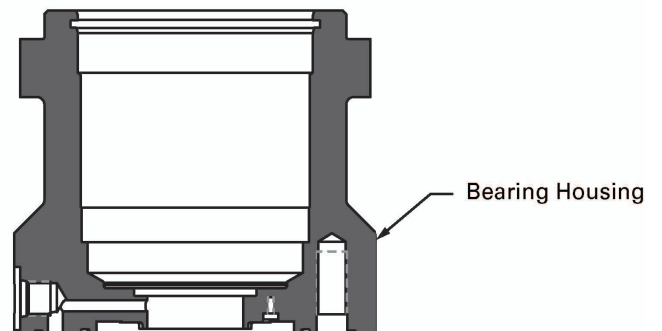


Figure 6



VIS Standard and Wheel Motors - 40 Series Reassembly

16. Install two O-ring seals (130,9 [5.16] ID & 92,3 [3.63] ID) into the face grooves of the bearing housing. Install back-up ring (56,1 [2.21] OD) over O-ring (48,9 [1.93] ID) with flat side up. Back-up ring and O-rings may be greased to assist in retaining parts.
17. Install main drive with longest spline length (if asymmetric) into output shaft spline.
18. Place outer and inner balance plate on the bearing housing. Align shuttle flow cavity of outer balance plate with the shuttle flow cavity of the bearing housing.
19. Grease and place two O-ring seals (130,9 [5.16] ID) into the grooves on both sides of the Geroler.
20. Place two steel balls into seats of star (one per seat). Grease sufficiently to retain balls when Geroler is assembled.
21. Place Geroler onto the outer balance plate making sure that the steel balls stay seated. Align the shuttle flow cavity of the Geroler with the shuttle flow cavity of the outer balance plate.
22. Install valve plate on Geroler making sure to align necessary shuttle flow holes.
23. Place O-ring (130,9 [5.16] ID) into large face groove of the end cap. Place O-ring (21,0 [0.83] ID) into small face groove of the end cap. Seals must have sufficient coating of petroleum jelly to assist in retaining the seal in the groove.
24. Carefully invert end cap and place onto valve plate making sure that the shuttle flow cavities are aligned.
25. Lubricate nine caps screws with DTE-26 and install into flange-Geroler-end cap stack. In a crisscross pattern (See Figure 8), pre-torque screws to 60+/-10 lb-ft. Finally, in a crisscross pattern, tighten screws to 105+/-5 lb-ft.
26. Install two cap plugs in main ports (Optional).
27. Install key and hex nut into shaft if required.

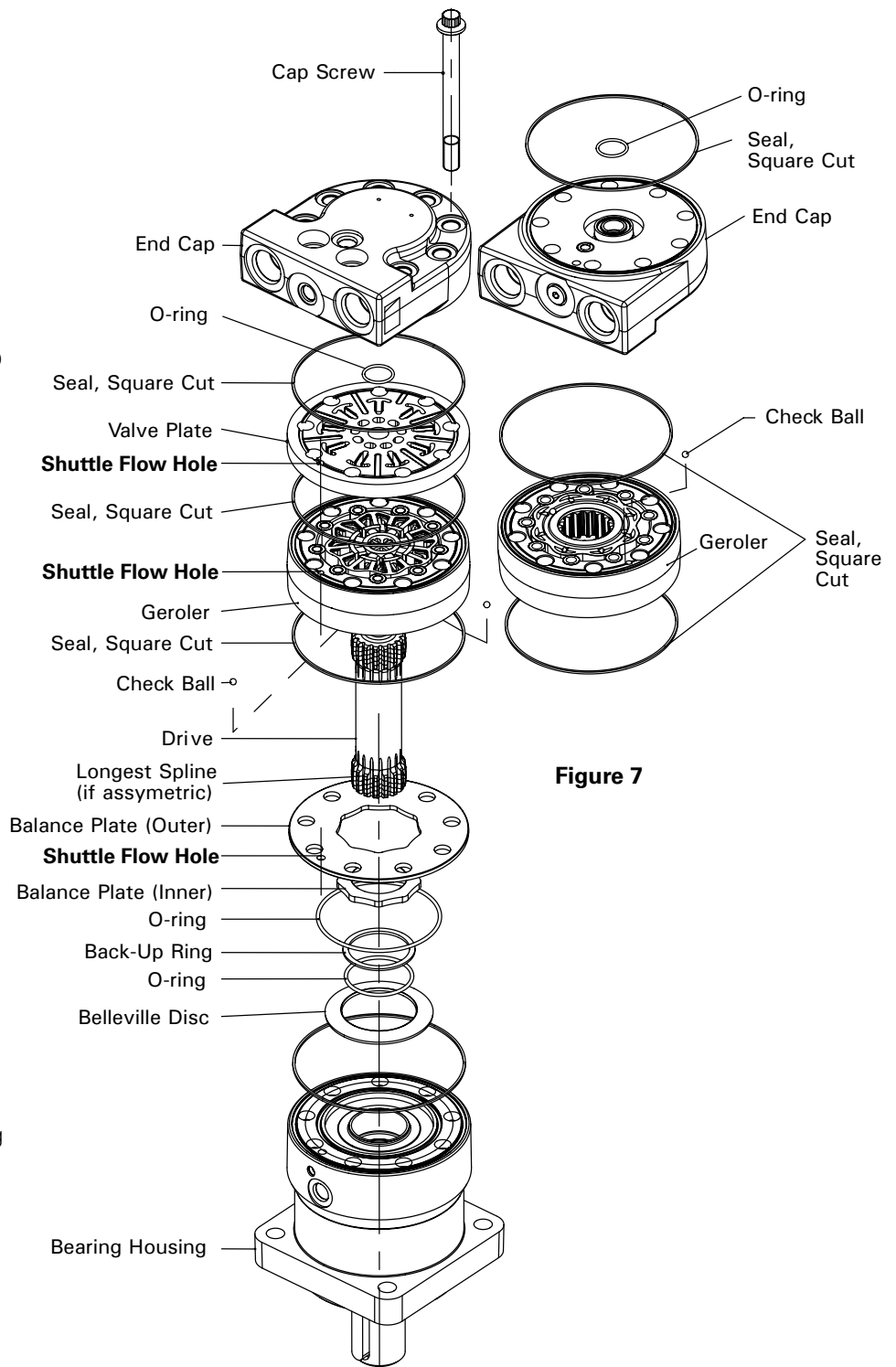


Figure 7

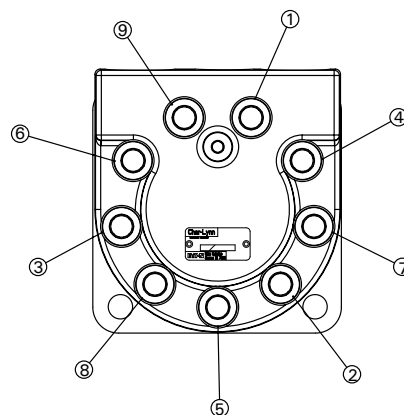


Figure 8

VIS Standard and Wheel Motors - 40 Series

How to Order Replacement Parts

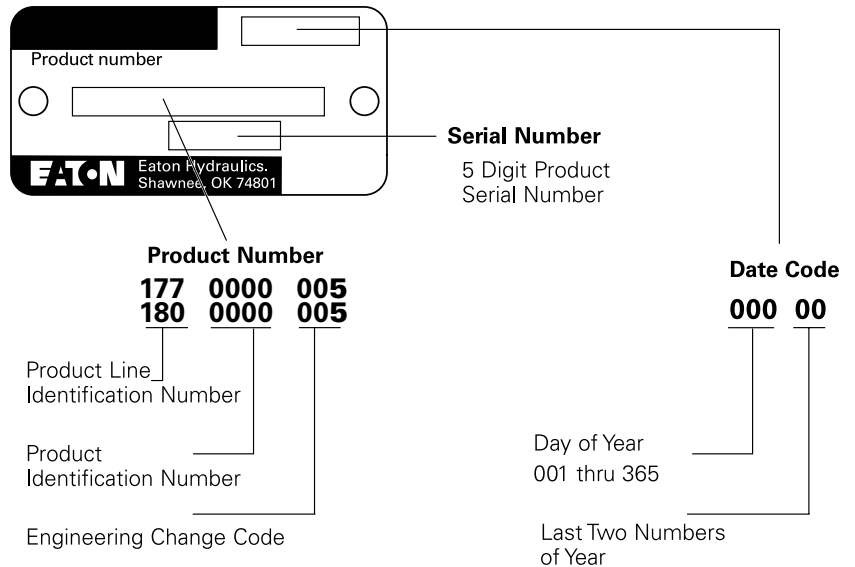
Each order must include the following:

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

For more detailed information, please contact:

Eaton's Hydraulics Operations
14615 Lone Oak Road
Eden Prairie, MN 55344

For specification and performance data, refer to
catalog E-MOLO-MC001-E3.



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