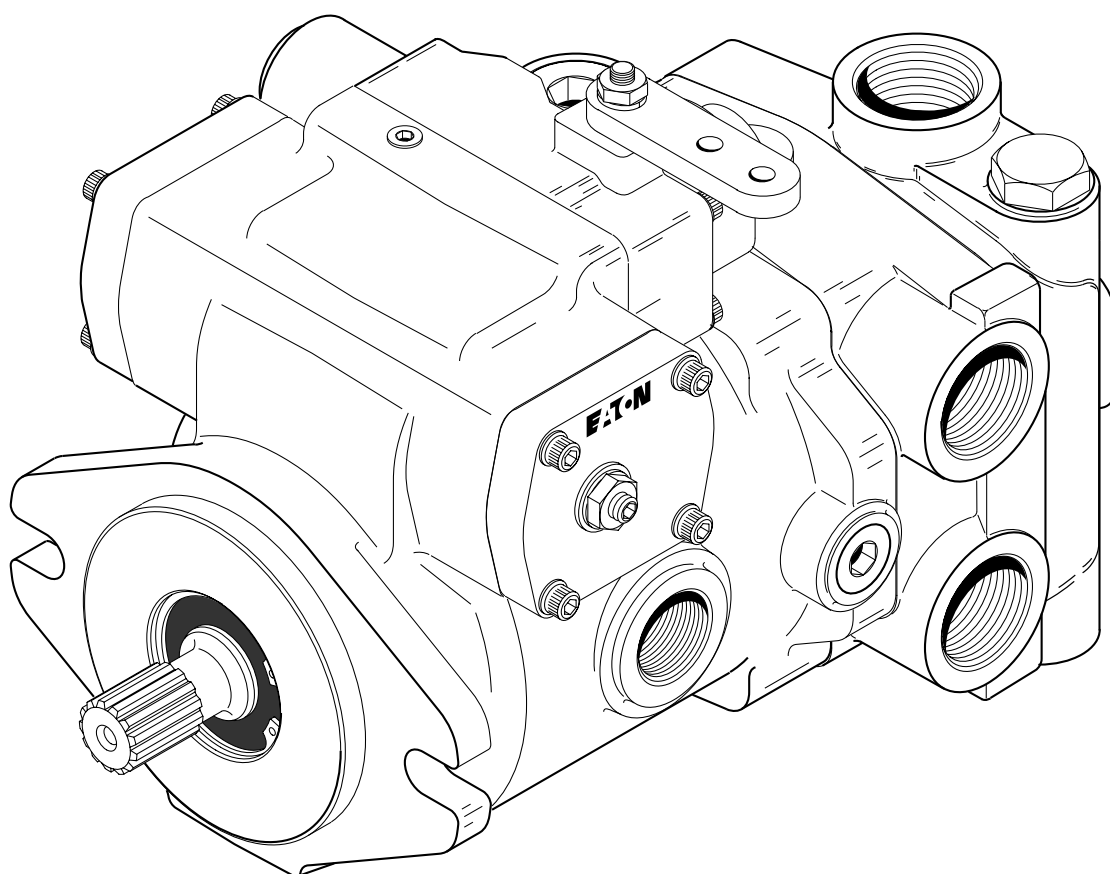




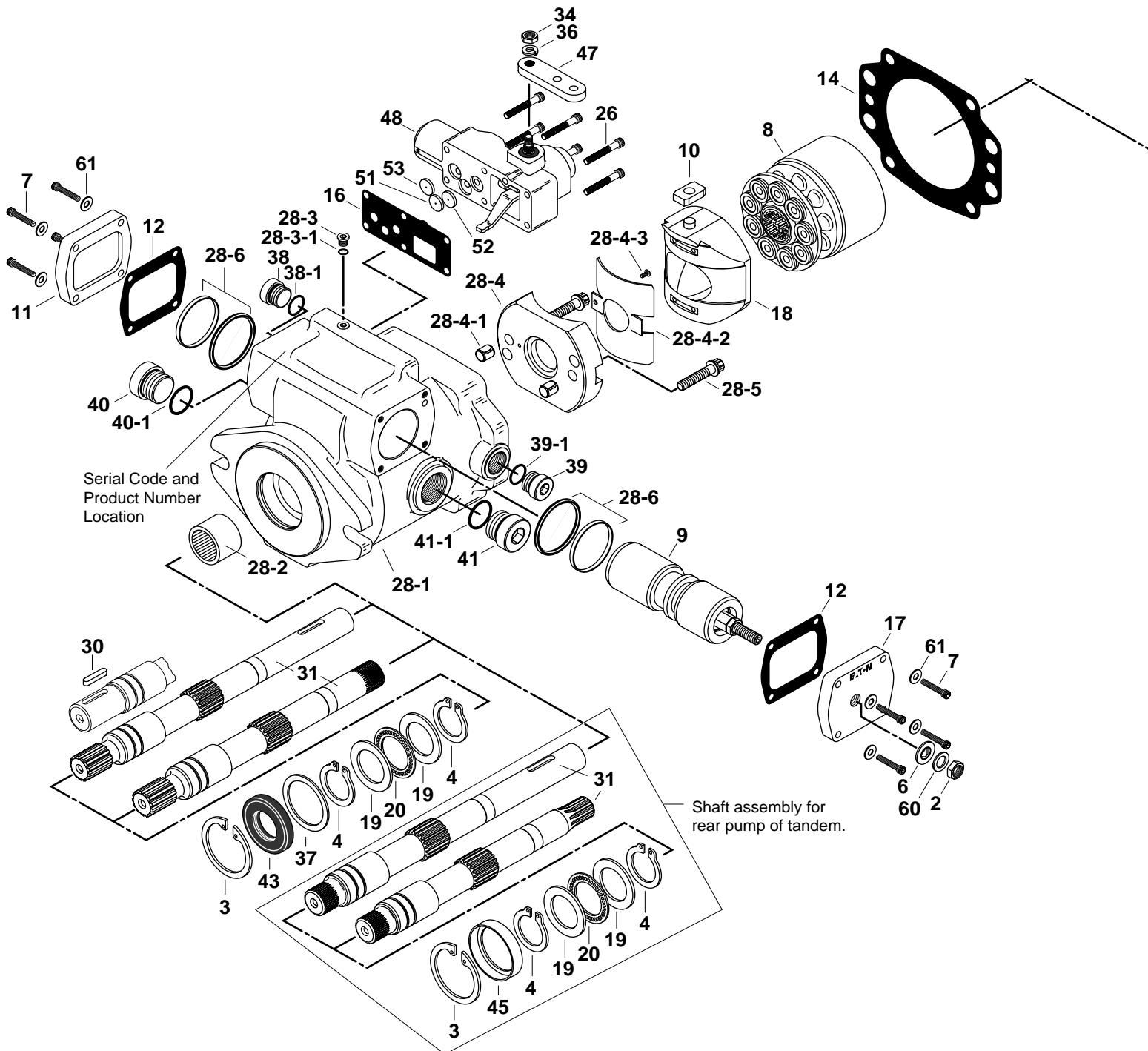
## Parts Information



Model 72400  
Servo Controlled Piston Pump

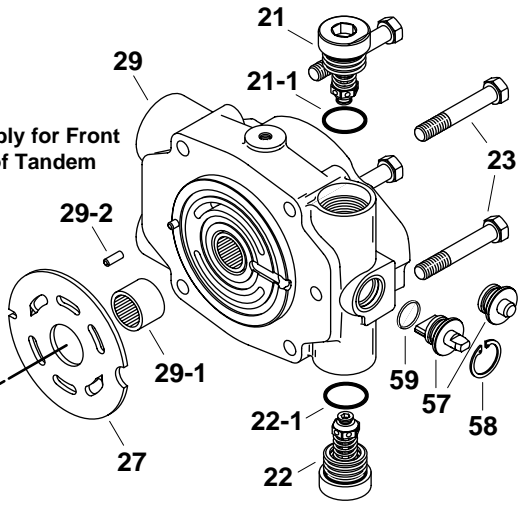
# Parts Drawing

Pump drawn below is typical of a righthand rotation with porting out the left side of pump.

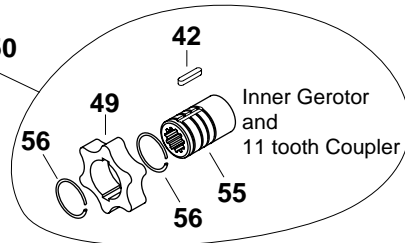
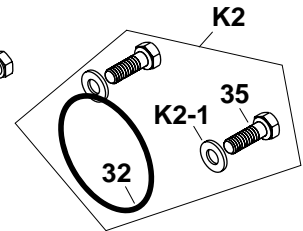
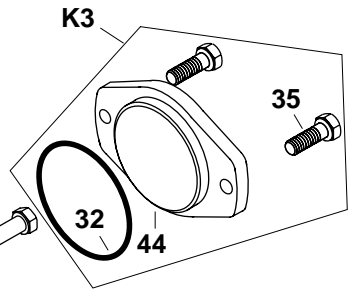
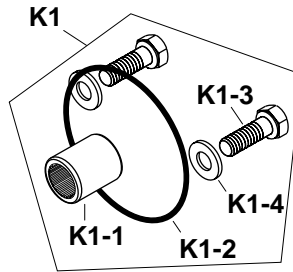
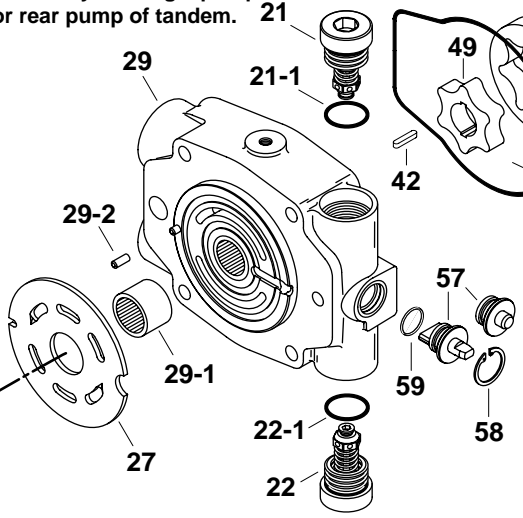


# Parts Drawing

Assembly for Front pump of Tandem

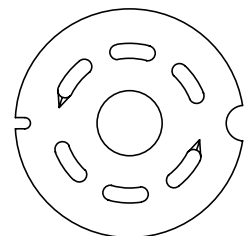
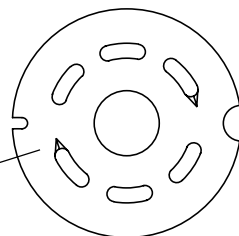


Assembly for single pump or rear pump of tandem.



## Valve Plate Identification

Note "V" notch locations



Lefthand Rotation

Righthand Rotation

# Parts List

Item	Part No.	Qty.	Description
	2	1	Jam Nut
+	3	1	Retaining Ring
+	4	2	Retaining Ring
+	6	1	Seal Washer
	7	8	Cap Screw, #10-24, 25.4 mm [1.0 in.] Long
	8	1	Rotating Kit Assembly, 2.48 in <sup>3</sup> /r (parts list on page 6)
	9	1	Servo Piston Assembly (parts list on page 6)
	10	1	Servo Piston Follower
	11	1	Cover Plate
+	12	2	Cover Plate Gasket
+	14	1	Housing Gasket
+	16	1	Control Housing Gasket
	17	1	Cover Plate
	18	1	Camplate
	19	2	Thrust Race
	20	1	Thrust Bearing
	21	1	Relief Valve for Port "C" (parts list on page 7)
+	21-1	1	O-ring, 2.95 mm Dia. x 23.47 mm I.D. [.116 in. Dia. x .924 in. I.D.]
	22	1	Relief Valve for Port "D" (parts list on page 7)
+	22-1	1	O-ring, 2.95 mm Dia. x 23.47 mm I.D. [.116 in. Dia. x .924 in. I.D.]
	23	4	Cap Screw, 3/8-16, 57.2 mm [2.25 in.] Long
	24	2	Cap Screw, 3/8-16, 88.9 mm [3.5 in.] Long
	25	2	Cap Screw, 3/8-16, 101.6 mm [4.0 in.] Long
	26	6	Cap Screw
	27	1	Valve Plate, 2.48 in <sup>3</sup> /r
			70344-51 Righthand (CW) Rotation
			70344-52 Lefthand (CCW) Rotation
	28	1	Housing Assembly (Identification on page 7)
	28-1	1	Housing (Identification on page 7)
	28-2	1	Bearing (press fit)
	28-3	1	Plug Sub-Assembly
+	28-3-1	1	O-ring, 1.63 mm Dia. x 6.1 mm I.D. [.064 in. Dia. x .239 in. I.D.]
	28-4	1	Cradle Sub-Assembly
	28-4-1	2	Dowel Bushing
	28-4-2	1	Bushing
	28-4-3	1	Cap Screw, Button Head
	28-5	2	Cap Screw
+	28-6	2	Seal Sub-Assembly
	29	1	Backplate Assembly (Identification on page 8 & 9)
	29-1	1	Bearing (press fit)
	29-2	1	Roll Pin
	30	1	Key
	31	1	Drive Shaft (Identification on page 15)
			72400-200 15 tooth, 16/32 DP - w/ 41 tooth, 48/96 DP (Tandem Front Pump)
			72400-201 41 tooth, 48/96 DP - w/ 11 tooth, 16/32 DP (Tandem Rear Pump)
			72400-202 41 tooth, 48/96 DP - w/ 9 tooth, 16/32 DP (Tandem Rear Pump)
			72400-204 15 tooth, 16/32 DP - w/ 9 tooth, 16/32 DP (Single Pump)
			72400-211 13 tooth, 16/32 DP - w/ 9 tooth, 16/32 DP (Single Pump)
			72400-212 15 tooth, 16/32 DP - w/ 11 tooth, 16/32 DP (Single Pump)
			72400-213 25.4 [1.00] Dia. Str., w/ keyway - w/ 9 tooth, 16/32 DP (Single Pump)
+	32	1	O-ring, 1.59 mm Dia. x 82.55 mm I.D. [.0625 in. Dia. x 3.25 in. I.D.]
+	33	1	Molded O-ring
	34	1	Nut
	35	2	Cap Screw, 3/8-16, 25.4 mm [1.0 in.] Long
	36	1	Lockwasher
	37	1	Washer
	38	1	Plug
4	+	38-1	1 O-ring, 2.21 mm Dia. x 16.36 mm I.D. [.087 in. Dia. x .644 in. I.D.]

# Parts List

Item	Part No.	Qty.	Description
	39	1	Plug
+	39-1	1	O-ring, 2.21 mm Dia. x 16.36 mm I.D. [.087 in. Dia. x .644 in. I.D.]
	40	1	Plug
+	40-1	1	O-ring, 2.95 mm Dia. x 23.47 mm I.D. [.116 in. Dia. x .924 in. I.D.]
	41	1	Plug
+	41-1	1	O-ring, 2.95 mm Dia. x 23.47 mm I.D. [.116 in. Dia. x .924 in. I.D.]
	42	1	Key Used with 9 tooth internal spline through shafts
	16246-429		Used on 11 tooth drive coupler with 12.7 mm [.5 in.] width gerotor
	16246-431		Used on 11 tooth drive coupler with 6.35 mm [.25 in.] width gerotor
	16244-443		Used on 11 tooth drive coupler with 6.35 mm [.25 in.] width gerotor
+	43	1	Shaft Seal
	44	1	Cover Plate
	45	1	Spacer
	46	1	Charge Pump Adapter Assembly (parts list & ID. on Page 10 & 11)
	47	1	Control Arm
	48	1	Servo Control Assembly (parts list & ID. on Page 12 & 13)
	49	1	Inner Ring Gerotor (match displacement with Item 46 & 50)
	79004-611		6.9 mL/r [.42 cu. in./r] displacement, 6.35 mm [.25 in.] width
	79004-605		13.8 mL/r [.84 cu. in./r] displacement, 12.7 mm [.5 in.] width
	72400-640		13.8 mL/r [.84 cu. in./r] displacement (used with Item 55 coupler)
50		1	Outer Ring Gerotor (match displacement with Item 46 & 49)
	79004-612		6.9 mL/r [.42 cu. in./r] displacement, 6.35 mm [.25 in.] width
	79004-606		13.8 mL/r [.84 cu. in./r] displacement, 12.7 mm [.5 in.] width
51	◆	1	Supply Orifice (orifice chart on page 14)
52	◆	1	Control Valve Orifice (orifice chart on page 14)
53	◆	1	Control Valve Orifice (orifice chart on page 14)
55	72400-639	1	Coupler, 11 tooth
56	72400-638	2	Retaining Ring, (used with Item 55)
57		1	Dump Valve
	72400-515		Dump Valve Actuator
	72400-518		Plug (selected when dump valve is not required)
+	58	1	Retaining Ring
+	59	1	Quad-ring, 1.59 mm Dia. x 15.9 mm I.D. [.0625 in. Dia. x .625 in. I.D.]
	60	1	Washer
	61	8	Washer
	62	4	Washer

## Kits

K1	72400-902	1	Tandem Servo Piston Pump Mounting Kit
K1-1	70411-622	1	Coupler, 41 tooth
+	K1-2	1	O-ring, 1.59 mm Dia. x 101.6 mm I.D. [.0625 in. Dia. x 4 in. I.D.]
	K1-3	2	Cap Screw, 3/8-16, 25.4 mm [1.0 in.] Long
	K1-4	2	Washer
K2	70442-929	1	Gear Pump Mounting Kit Includes Items 32 and 35
K2-1	16048-113	2	Washer
K3	70142-915	1	Cover Plate Kit for "A" SAE Flange Series 82-2 Mount Includes Items 32, 35, and 44
	72400-908	1	Seal Repair Kit for single pumps (Two Required for Tandem Units)
	72400-900	1	Dump valve kit, Includes Items 57 (Actuator), 58, & 59
	72400-901	1	Dump valve plug kit, Includes Items 57 (Plug), 58, & 59

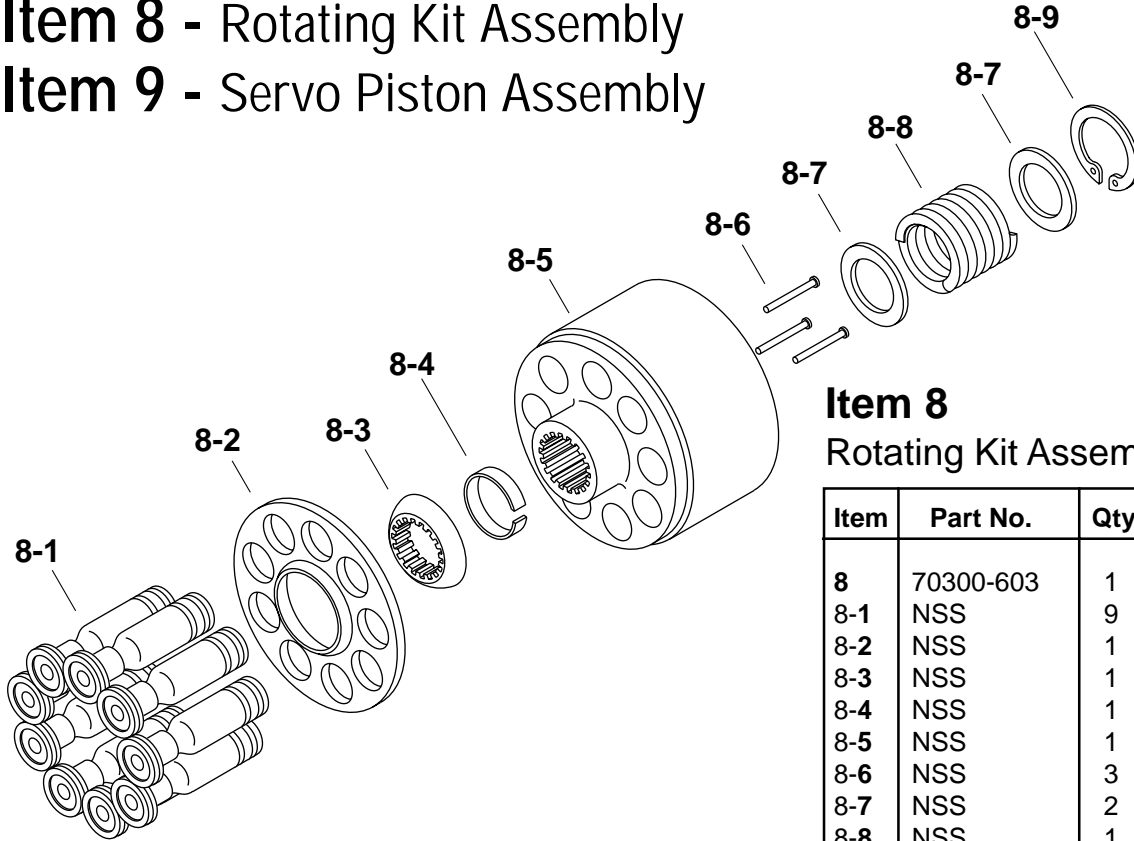
### Legend

- ◆ Refer to specific Item parts list.
- +

Parts included in 72400-908 Seal Repair kit.

# Item 8 - Rotating Kit Assembly

# Item 9 - Servo Piston Assembly

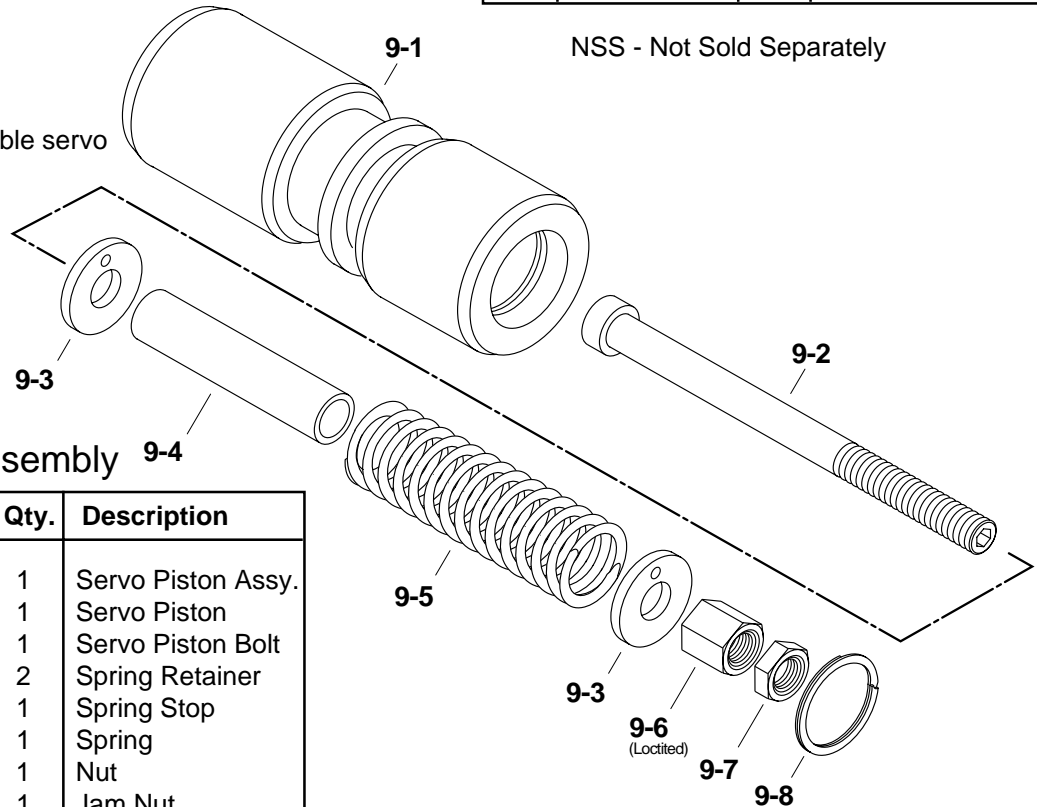


## Item 8 Rotating Kit Assembly

Item	Part No.	Qty.	Description
8	70300-603	1	Rotating Kit Assy.
8-1	NSS	9	Piston Assembly
8-2	NSS	1	Spider
8-3	NSS	1	Spider Pivot
8-4	NSS	1	Retainer
8-5	NSS	1	Piston Block
8-6	NSS	3	Pins
8-7	NSS	2	Washer
8-8	NSS	1	Spring
8-9	NSS	1	Retaining Ring

NSS - Not Sold Separately

Note: Do not disassemble servo piston assembly.



## Item 9 Servo Piston Assembly

Item	Part No.	Qty.	Description
9	72400-576	1	Servo Piston Assy.
9-1	NSS	1	Servo Piston
9-2	NSS	1	Servo Piston Bolt
9-3	NSS	2	Spring Retainer
9-4	NSS	1	Spring Stop
9-5	NSS	1	Spring
9-6	NSS	1	Nut
9-7	NSS	1	Jam Nut
9-8	NSS	1	Retaining Ring

NSS - Not Sold Separately

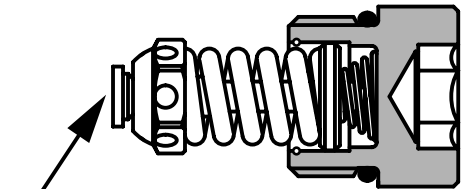
# Item 21 or 22 - Relief Valve

## Item 28 - Housing Identification

### Item 21 or 22

Internal Relief Valve Settings Available

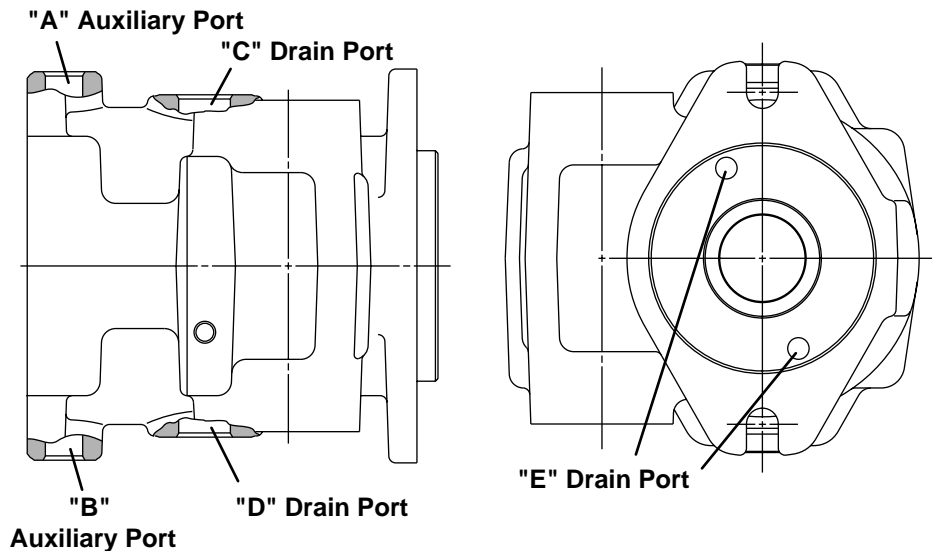
Part Number	bar [PSI]
106639-200	138 [2000]
106639-250	172 [2500]
106639-300	207 [3000]
106639-350	241 [3500]
106639-400	276 [4000]
106639-450	310 [4500]
106639-500	345 [5000]



Dash Number Stamped here for Valve Pressure Setting Identification  
 Example: 500 x 10 = [5000 PSI] 345 bar

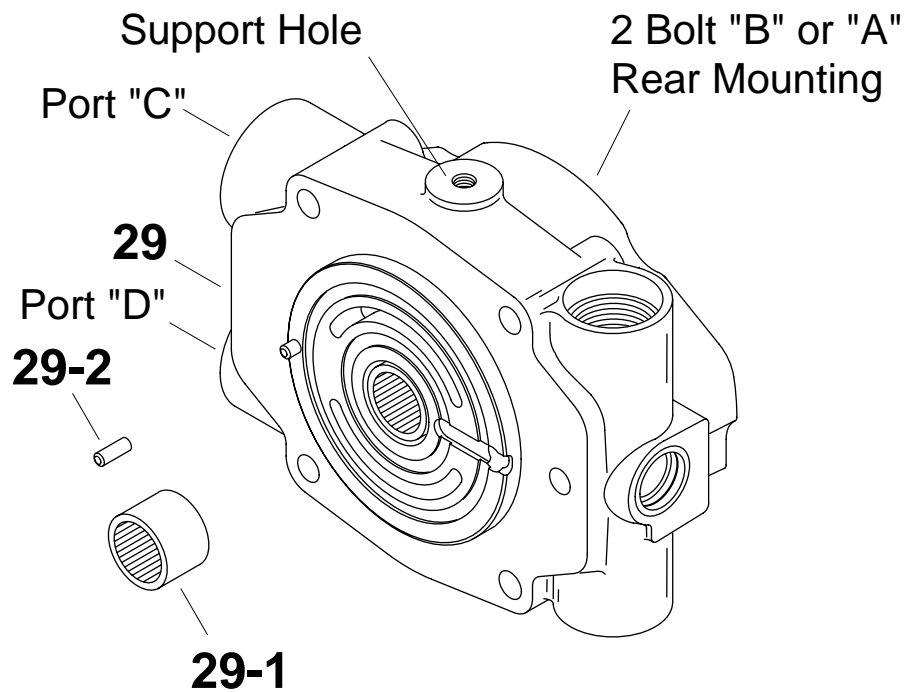
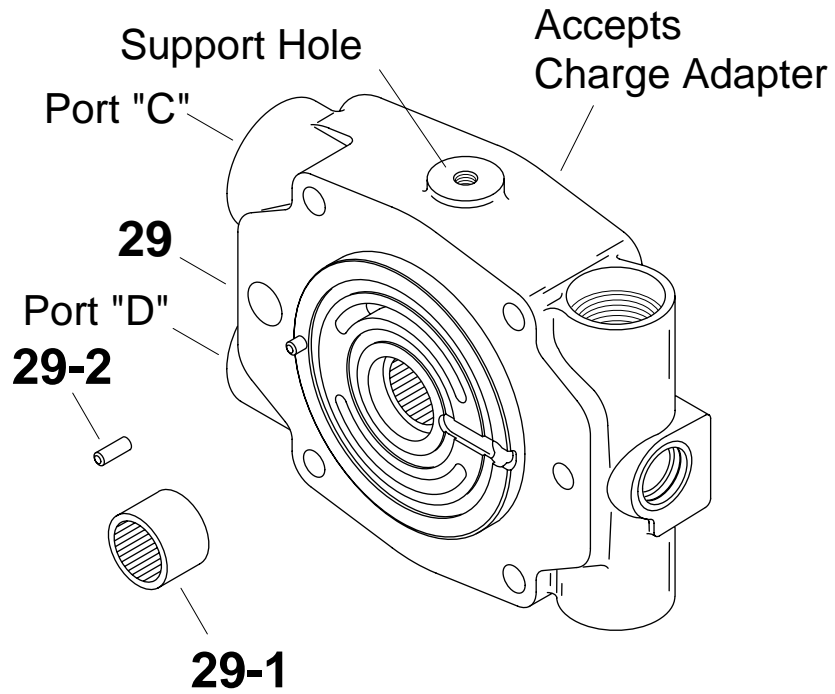
### Item 28

Housing Identification



Housing Assy. Item	Part No.	Housing Item	Part No.	Qty.	Port Machined
28	72339-001	28-1	72338-001	1	A, B, C, D
28	72339-012	28-1	72338-012	1	A, B, C, D, E
28	72339-013	28-1	72338-013	1	A, B, E

# Item 29 - Backplate Assembly Identification





# Item 29 - Parts List

## Parts List

Item	Part No.	Qty.	Description
<b>29</b>	Chart Below	1	Backplate Assembly
29-1	52200-23	1	Bearing (press fit)
29-2	16026-610	1	Roll Pin

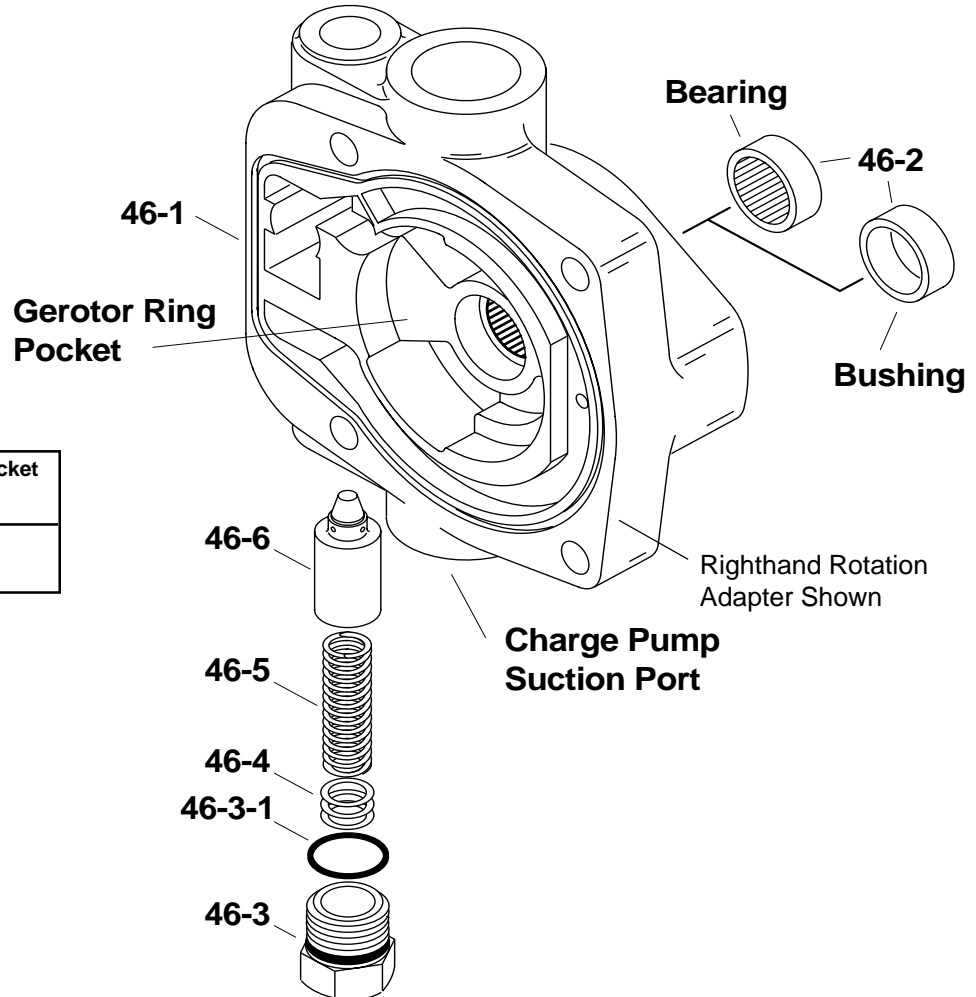
## Item 29 - Backplate Assembly Part Number Identification

<b>Rear Mounting</b>	<b>Support Hole</b>	<b>Item 29 Backplate Assembly Part Number</b>
Rear "B" Mount (no gerotor charge adapter)	with Hole	<b>72346-005</b>
	None	<b>72346-001</b>
Accepts Gerotor Charge Pump Adapter with "A" Mount	with Hole	<b>72342-005</b>
	None	<b>72342-001</b>
Rear "A" Mount (no gerotor charge adapter)	with Hole	<b>72344-005</b>
	None	<b>72344-001</b>

# Item 46 - Charge Pump Adapter Assembly

**Gerotor Pocket Depth**

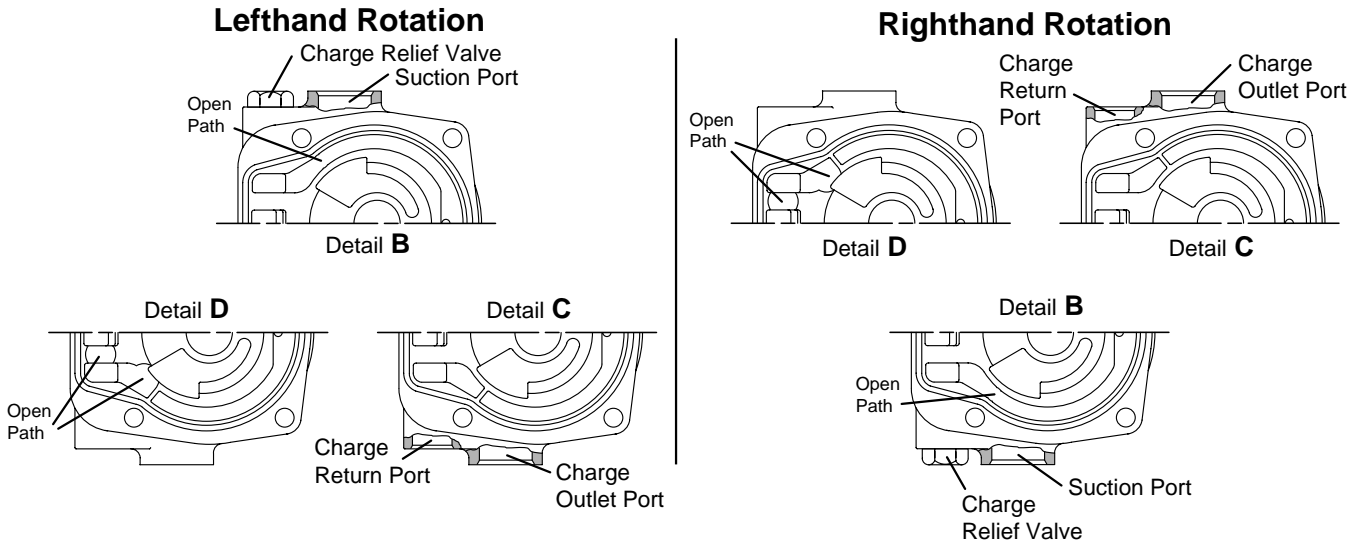
Displacement cm <sup>3</sup> /r [in <sup>3</sup> /r]	Depth of Pocket mm [in.]
6.9 [.42]	6.35 [.25]
13.8 [.84]	12.7 [.50]



Item	Part No.	Qty.	Description
<b>46</b>	See Chart	1	Assembly, Charge Pump Adapter
46-1	NSS	1	Charge Pump Adapter
46-2	16239-1148	1	Bearing (press fit), Used w/9 tooth output shaft
46-2	72400-637	1	Bushing (press fit), Used w/11 tooth output shaft
46-3	72400-659	1	Plug
+ 46-3-1	16133-10	1	O-ring
46-4	16048-597	<i>f</i>	Shims
46-5	17059-16	1	Spring
46-6	72400-679	1	Poppet

*f* - Shim as required  
 NSS - Not sold separately

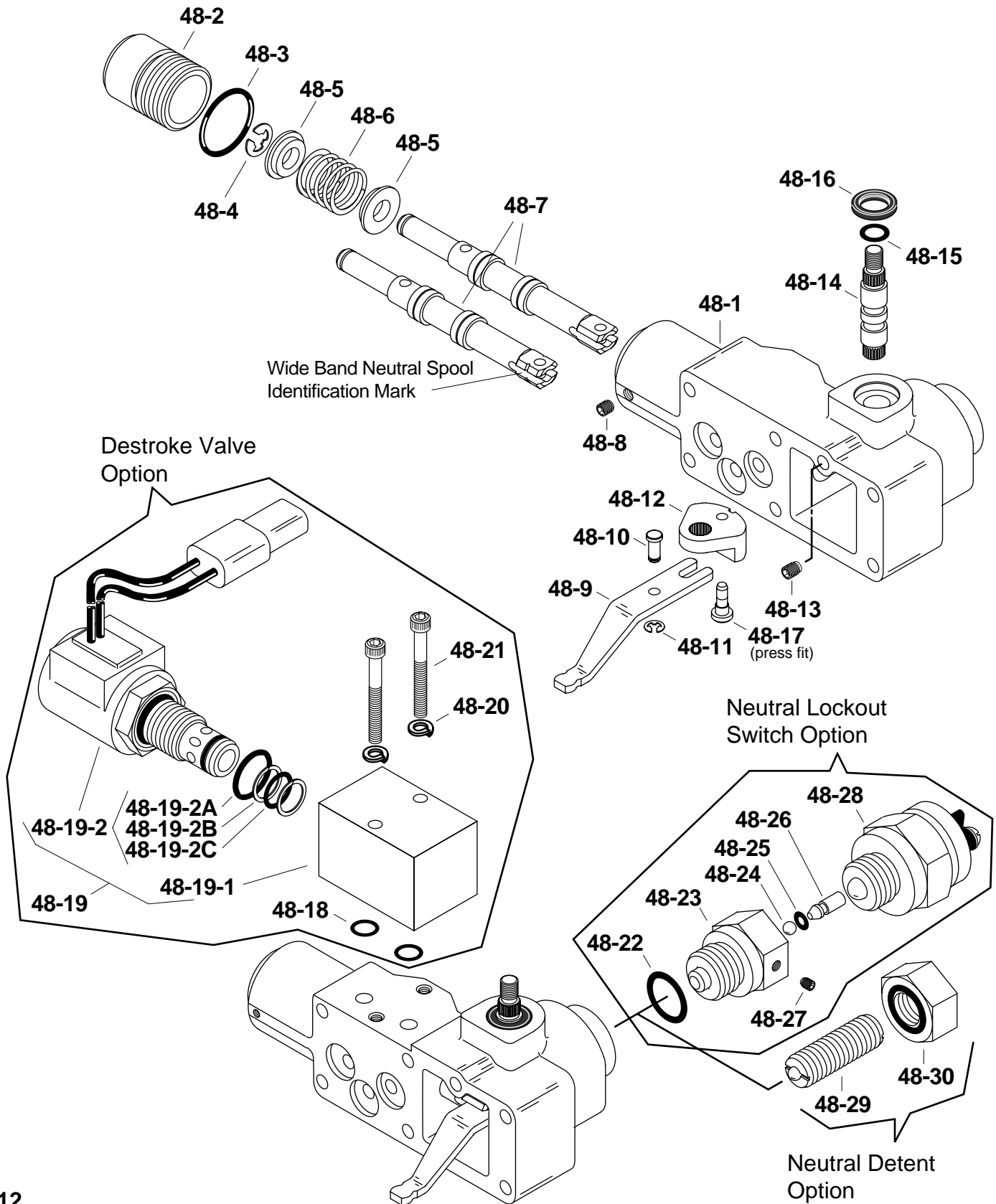
# Item 46 - Charge Pump Adapter Identification



## Adapter, Item 46, Identification Chart

Charge Pump Routing	Shaft Rotation	Refer to Detail	9 Tooth Output Shaft		11 Tooth Output Shaft	
			6.9 cm <sup>3</sup> /r [.42 in <sup>3</sup> /r] Displacement	13.8 cm <sup>3</sup> /r [.84 in <sup>3</sup> /r] Displacement	6.9 cm <sup>3</sup> /r [.42 in <sup>3</sup> /r] Displacement	13.8 cm <sup>3</sup> /r [.84 in <sup>3</sup> /r] Displacement
Charge Relieved to Case	Righthand	B & D	72356-010	72356-011	72348-010	72348-011
	Lefthand	B & D	72358-010	72358-011	72360-010	72360-011
Remote Filter and Charge Relieved to Case	Righthand	B & C	72356-007	72356-008	72348-007	72348-008
	Lefthand	B & C	72358-007	72358-008	72360-007	72360-008

# Item 48 - Manual Servo Control Assembly



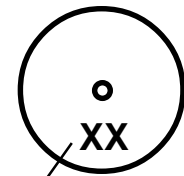
# Item 48 - Parts List

Item	Part No.	Qty	Description	-AA	-AB	-AC	-AD	-AE	-AF	-AG	-AH
48	72401-AA		Assembly with no additional features								
48	72401-AB		Assembly with Neutral Lockout, Destroke valve & Wide Band Neutral								
48	72401-AC		Assembly with Neutral Lockout & Wide Band Neutral								
48	72401-AD		Assembly with Destroke Valve								
48	72401-AE		Assembly with Neutral Detent & Wide Band Neutral								
48	72401-AF		Assembly with Neutral Detent, Destroke valve & Wide Band Neutral								
48	72401-AG		Assembly with W/B Neutral Spool								
48	72401-AH		Assembly with W/B Neutral Spool & Destroke Valve								
48		1	<b>Manual Servo Control Assembly</b>								
48-1		1	Control Housing								
	72319-001		Control Housing	X						X	
	72319-002		Control Housing			X					
	72319-003		Control Housing				X				X
	72319-004		Control Housing		X						
	72319-005		Control Housing					X			
	72319-006		Control Housing						X		
48-2	72400-507	1	Plug	X	X	X	X	X	X	X	X
+ 48-3	16015-8	1	O-ring	X	X	X	X	X	X	X	X
48-4	16124-31	1	Retaining Ring	X	X	X	X	X	X	X	X
48-5	72400-504	2	Spring Retainer	X	X	X	X	X	X	X	X
48-6	17073-14	1	Spool Centering Spring	X	X	X	X	X	X	X	X
48-7		1	Valve Spool								
	72400-501		Standard	X			X				
	72400-544		Wide Band Neutral		X	X		X	X	X	X
48-8	102149-019	1	Set Screw	X	X	X	X	X	X	X	X
48-9	72400-502	1	Feedback Link	X	X	X	X	X	X	X	X
48-10	72400-508	1	Dowel Pin	X	X	X	X	X	X	X	X
48-11	16124-15	1	Retaining Ring	X	X	X	X	X	X	X	X
48-12	72400-519	1	Bell Crank	X	X	X	X	X	X	X	X
48-13	16139-304	1	Set Screw	X	X	X	X	X	X	X	X
48-14	72400-505	1	Input Shaft	X	X	X	X	X	X	X	X
+ 48-15	16003-5	1	O-ring	X	X	X	X	X	X	X	X
+ 48-16	16074-106	1	Wiper Seal	X	X	X	X	X	X	X	X
48-17	72400-520	1	Headed Pin (press fit)	X	X	X	X	X	X	X	X
48-18	16003-6	2	O-ring		X		X		X		X
48-19	72420-AA	1	Destroke Valve Assy.		X		X		X		X
48-19-1	72400-522	1	Manifold		X		X		X		X
48-19-2		1	Destroke Valve								
	72400-521		w/12 VDC coil, Weatherpak Conn.		X		X		X		X
	72400-548		w/24 VDC coil, Weatherpak Conn.								
	72400-549		w/12 VDC coil, Din 43650 Conn.								
	72400-550		w/24 VDC coil, Din 43650 Conn.								
48-19-2A	16133-10	1	O-ring		X		X		X		X
48-19-2B	16101-102	2	Back-up Washer		X		X		X		X
48-19-2C	16015-2	1	O-ring		X		X		X		X
48-20	16045-103	2	Lock Washer		X		X		X		X
48-21	16147-316	2	Cap Screw		X		X		X		X
48-22	16133-8	1	O-ring		X	X					
48-23	72400-545	1	Adapter, Neutral Lockout		X	X					
48-24	16006-6	1	Ball		X	X					
48-25	16003-500	1	O-ring		X	X					
48-26	72400-546	1	Pin		X	X					
48-27	102149-019	1	#10-32, Set Screw		X	X					
48-28	102147	1	Neutral Lockout Switch		X	X					
48-29	98193	1	Ball Plunger					X	X		
48-30	101335	1	Nut, Seal					X	X		

# Item 51, 52, or 53 - Orifice Sizes Available

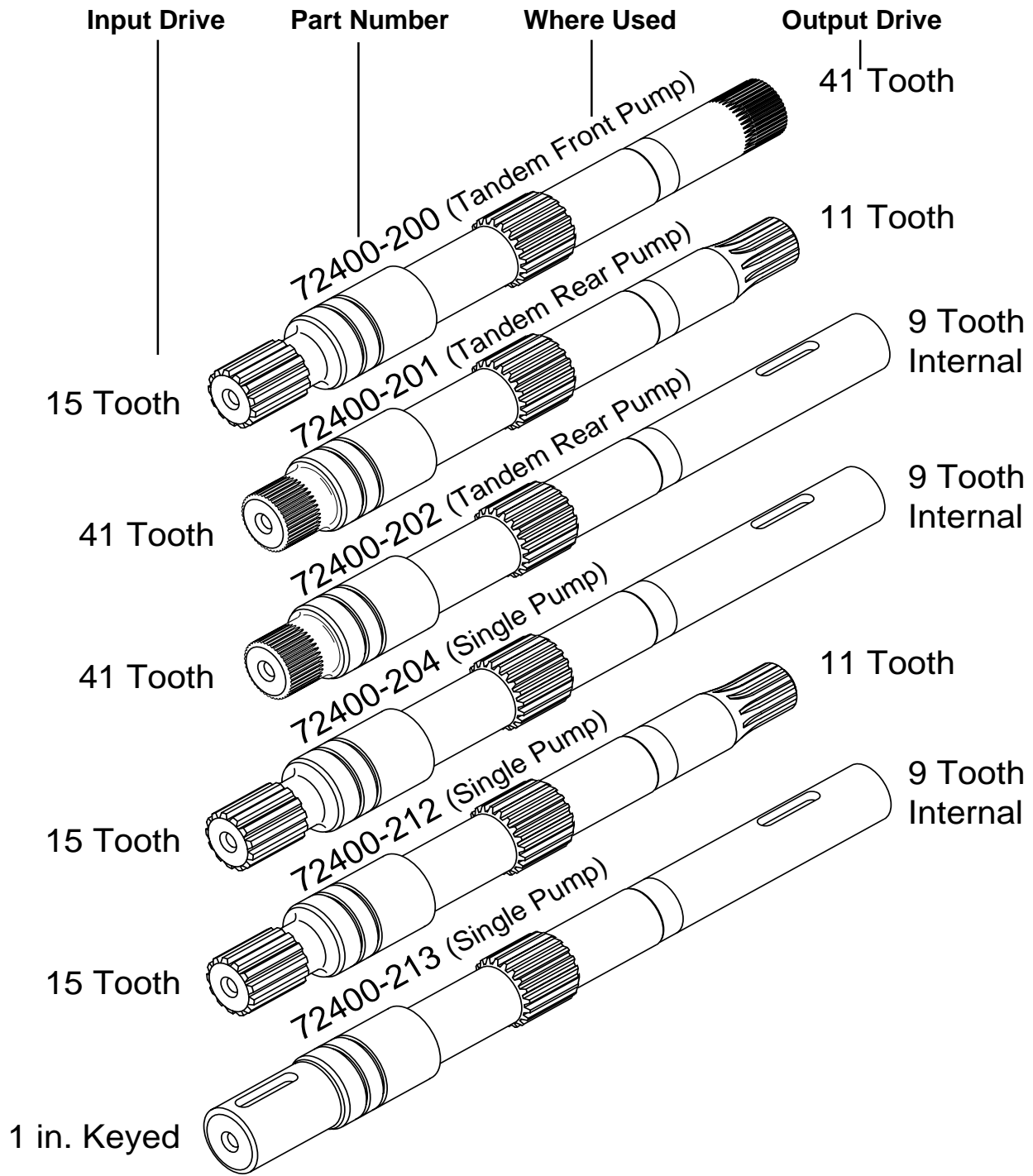
## Item 51, 52, or 53 Orifice Sizes Available

Part Number	Hole Dia. mm [inches]
101619-021	.53 [.021]
101619-028	.71 [.028]
101619-036	.91 [.036]
101619-040	1.02 [.040]
101619-044	1.12 [.044]
101619-048	1.22 [.048]
101619-052	1.32 [.052]
101619-057	1.45 [.057]
101619-065	1.65 [.065]
101619-073	1.85 [.073]
101619-094	2.38 [.094]
101619-102	2.59 [.102]



Last two digits  
of dash number  
stamped on face  
of orifice.

# Item 31 - Drive Shaft Identification



**Each order must include the following information.**

1. Product and/or Part Number
2. Serial Number Code
3. Part Name
4. Quantity

**Identification Numbers - Servo Control Piston Pump**

Stamped on each units mounting flange.

- A - Product Number Discription  
 72400 = Single Piston Pump  
 78461 = Tandem Piston Pump  
 78462 = Single or Tandem  
 Piston Pump with Gear Pump
- B - Sequential Numbering
- C - Design Code Number

**Single Pump - Product Number:**

**7 2 4 0 0 - 0 0 2 - 0 3**

A                      B                      C

**Tandem Pumps - Product Number:**

**7 8 4 6 1 - 0 0 2 - 0 3**

A                      B                      C

**Serial Number Code:**

**B 91 01 31 JB**

- Revision level of parts list. ———|
- Last two digits of year built. ———| ( 91 for 1991 etc.)
- Month (two digits) ———|
- Day of Month (two digits) ———|
- Testers Initials ———|

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 Products in this catalog are manufactured  
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