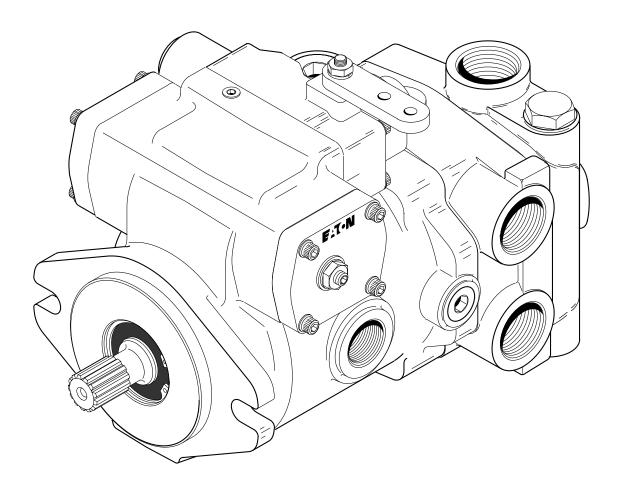
FAT-N Hydraulics

Model 72400 Servo Controlled Piston Pump

Parts Information

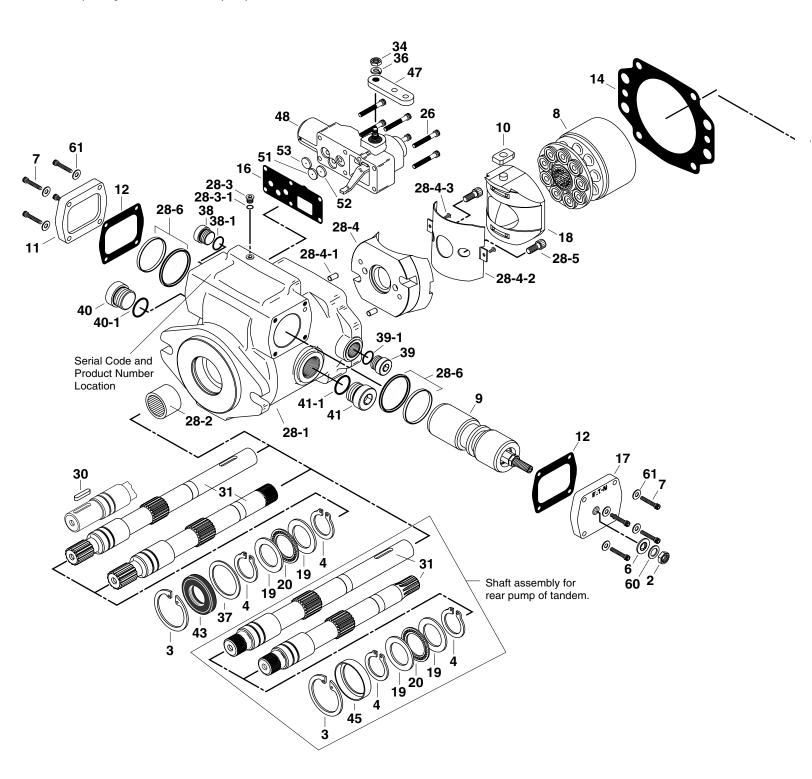
EN-0801





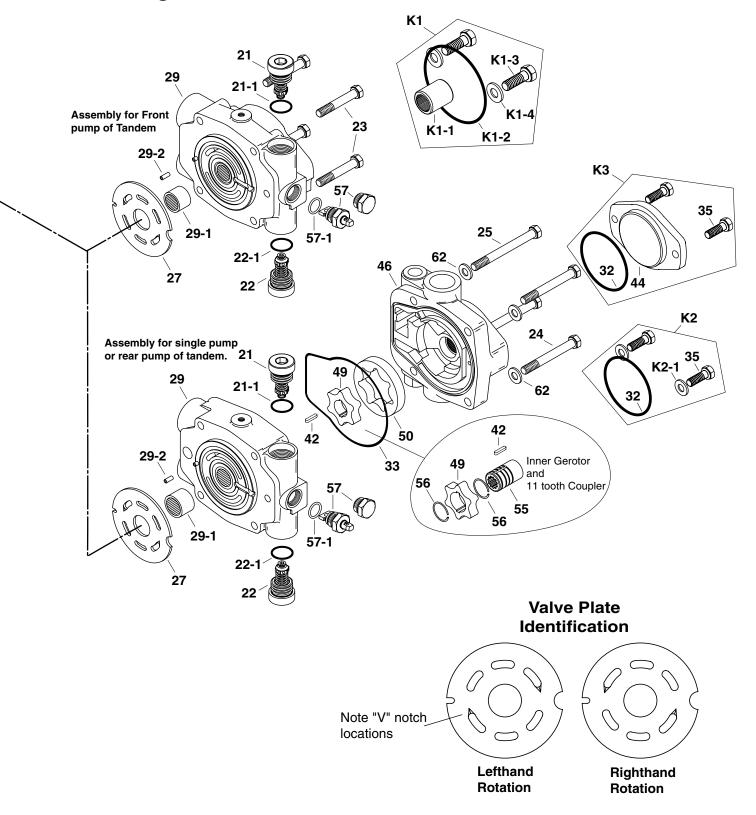
Parts Drawing

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





Parts Drawing





Parts List

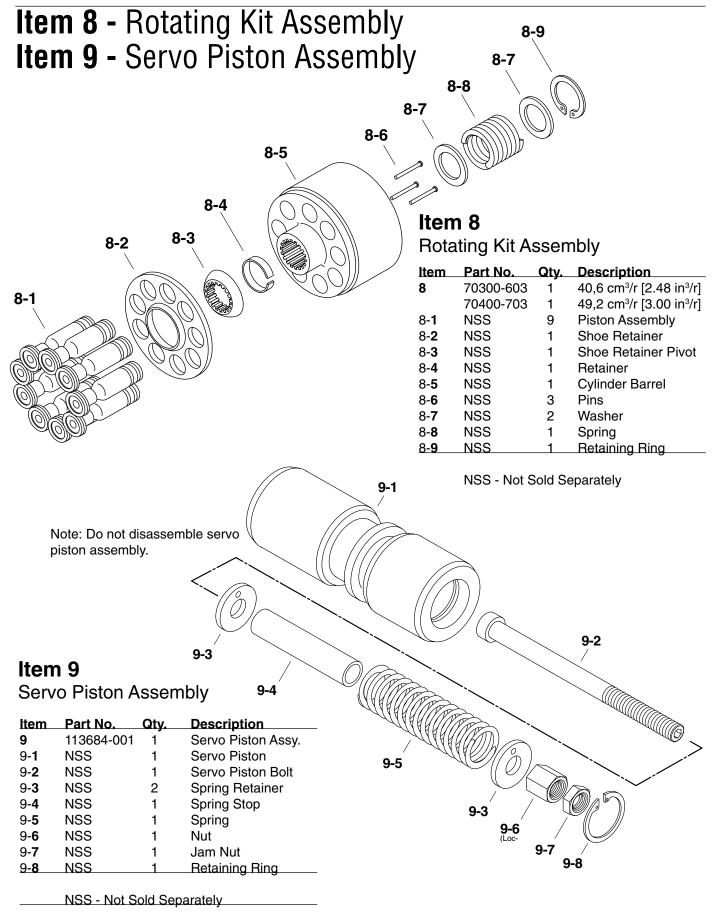
ltem	Part No.	Qty.	Description
2	16024-6	1	Jam Nut
+ 3	16077-32	1	Retaining Ring
+ 4	16078-18	2	Retaining Ring
+ 6	16254-6	1	Seal Washer
7	16147-310	8	Cap Screw, #10-24, 25,4 mm [1.0 in.] Long
8	\rightarrow	1	Rotating Kit Assembly (parts list on page 6)
9	113684-001	1	Servo Piston Assembly (parts list on page 6)
10	72400-585	1	Servo Piston Follower
11	72400-620	1	Cover Plate
+ 12	72400-621	2	Cover Plate Gasket
+ 14	72400-626	1	Housing Gasket
+ 16	72400-631	1	Control Housing Gasket
17	72400-651	1	Cover Plate
18	72400-677	1	Swashplate
19	74308-100	2	Thrust Race
20	74308-101	1	Thrust Bearing
21	→ 4.04.00.40	1	Relief Valve for Port "A" (parts list on page 7)
+ 21-1	16133-12	1	O-ring, 2,95 mm Dia. x 23,47 mm I.D. [.116 in. Dia. x .924 in. I.D.]
22	→ 40400 40	1	Relief Valve for Port "B" (parts list on page 7)
+ 22-1	16133-12	1	O-ring, 2,95 mm Dia. x 23,47 mm I.D. [.116 in. Dia. x .924 in. I.D.]
23	16136-622	4	Cap Screw, 3/8-16, 57,2 mm [2.25 in.] Long
24	16136-634	2	Cap Screw, 3/8-16, 88,9 mm [3.5 in.] Long
25 26	16136-640 16147-314	2 6	Cap Screw, 3/8-16, 101,6 mm [4.0 in.] Long Cap Screw
27	10147-314	1	Valve Plate, 2.48 in ³ /r
21	70344-51	'	Righthand (CW) Rotation
	70344-51		Lefthand (CCW) Rotation
28	→ →	1	Housing Assembly (Identification on page 7)
28-1	→	1	Housing (Identification on page 7)
28-2	16238-11816	1	Bearing (press fit)
28-3	025083-002	1	Plug Sub-Assembly
+ 28-3-1	008785-002	1	O-ring, 1,63 mm Dia. x 6,1 mm I.D. [.064 in. Dia. x .239 in. I.D.]
28-4	112258-001	1	Cradle Sub-Assembly
28-4-1	16028-404	2	Dowel Pin
28-4-2	112256-001	1	Bushing
28-4-3	16269-106	2	Cap Screw, Button Head
28-5	16148-506	2	Cap Screw
+ 28-6	72400-583	2	Seal Sub-Assembly
29	\rightarrow	1	Endcover Assembly (Identification on page 8)
29-1	52200-23	1	Bearing (press fit)
29-2	16026-610	1	Roll Pin
30	16246-516	1	Key
31	→	1	Drive Shaft (Identification on page 9)
	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)
, 22	72400-213 16007-14	4	25.4 [1.00] Dia. Str., w/ keyway - w/ 9 tooth,16/32 DP (Single Pump) O-ring,1.59 mm Dia. x 82.55 mm I.D. [.0625 in. Dia. x 3.25 in. I.D.]
+ 32	72400-646	1	Molded O-ring Molded O-ring
+ 33 34	16021-4	1 1	Nut
35	16032-610	2	Cap Screw, 3/8-16, 25,4 mm [1.0 in.] Long
36	16045-104	1	Lockwasher
37	16048-319	1	Washer
01	100 10 010		Travelor



Parts List

	Item	Part No.	Qty.	Description
	38	16103-308	1	Plug
+	38-1	16133-8	1	O-ring, 2,21 mm Dia. x 16,36 mm I.D. [.087 in. Dia. x .644 in. I.D.]
	39	16103-308	1	Plug
+	39-1	16133-8	1	O-ring, 2,21 mm Dia. x 16,36 mm I.D. [.087 in. Dia. x .644 in. I.D.]
	40	16103-312	1	Plug
+	40-1	16133-12	1	O-ring, 2,95 mm Dia. x 23,47 mm I.D. [.116 in. Dia. x .924 in. I.D.]
	41	16103-312	1	Plug
_	41-1	16133-12	1	O-ring, 2,95 mm Dia. x 23,47 mm I.D. [.116 in. Dia. x .924 in. I.D.]
	42	10100-12	1	Key
	72	16246-429	,	Used with 9 tooth internal spline through shafts
		16246-431		Used on 11 tooth drive coupler with 12,7 mm [.5 in.] width gerotor
		16244-443		Used on 11 tooth drive coupler with 6,35 mm [.25 in.] width gerotor
	40		4	
+		16253-18	1	Shaft Seal, Vitage
	43	16253-218	1	Shaft Seal, Viton
	44	70142-600	1	Cover Plate
	45 46	70400-620	1	Spacer Charge Buren Adamter Assembly (north list & ID, on Born 10 811)
	46	→ 70400 500	1	Charge Pump Adapter Assembly (parts list & ID. on Page 10 &11)
	47	72400-506	1	Control Arm
	48	\rightarrow	1	Servo Control Assembly (parts list & ID. on Page 12 &16)
	49	70004044	1	Inner Ring Gerotor (match displacement with Item 46 & 50)
		79004-611		6,9 cm³/r [.42 in³/r] displacement, 6,35 mm [.25 in.] width
		79004-605		13,8 cm³/r [.84 in³/r] displacement, 12,7 mm [.5 in.] width
		72400-673		6,9 cm³/r [.42 in³/r] displacement (used with Item 55 coupler)
		72400-640		13,8 cm³/r [.84 in³/r] displacement (used with Item 55 coupler)
	50		1	Outer Ring Gerotor (match displacement with Item 46 & 49)
		79004-612		6,9 cm ³ /r [.42 in ³ /r] displacement, 6,35 mm [.25 in.] width
		79004-606		13,8 cm³/r [.84 in³/r] displacement, 12,7 mm [.5 in.] width
	51	\rightarrow	1	Supply Orifice (orifice chart on page 17)
	52	\rightarrow	1	Control Valve Orifice (orifice chart on page 17)
	53	→	1	Control Valve Orifice (orifice chart on page 17)
	55	72400-639	1	Coupler, 11 tooth
	56	72400-638	2	Retaining Ring, (used with Item 55)
	57		1	Bypass Valve
		113578-001		Bypass Valve Actuator
		16103-108		Plug (selected when bypass valve is not required)
	57-1	16133-8	1	O-ring, 2,21 mm Dia. x 16,36 mm I.D. [.087 in. Dia. x .644 in. I.D.]
	60	16254-26	1	Washer
	61	16048-672	8	Washer
	62	106013-038	4	Washer
	Kits			
	K1	72400-902	1	Tandem Servo Piston Pump Mounting Kit
	K1-1	70411-622	1	Coupler, 41 tooth
+		16007-17	1	O-ring, 1,59 mm Dia. x 101,6 mm I.D. [.0625 in. Dia. x 4 in. I.D.]
	K1-3	16032-812	2	Cap Screw, 1/2-13, 31,75 mm [1.25 in.] Long
	K1-4	16048-72	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
	-	, , <u>, , , , , , , , , , , , , , , , , </u>	•	Includes Items 32, 35, and 44
		72400-908	1	Seal Repair Kit for single pump (Two required for tandem units).
		72400-916	1	Seal Repair Kit for single pump with Viton shaft seal (Two required for tandem units).
		Logond		Pofor to engelia Itom parte liet
		Legend	→	Refer to specific Item parts list. Parts included in 72400-908 Seal Repair kit.
				i ano moiaded in 12-too-300 Oedi Nepali Nil.





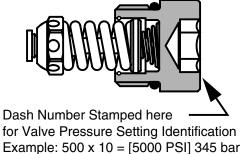


Item 21 or 22 - Relief Valve S/A Item 28 - Housing Identification

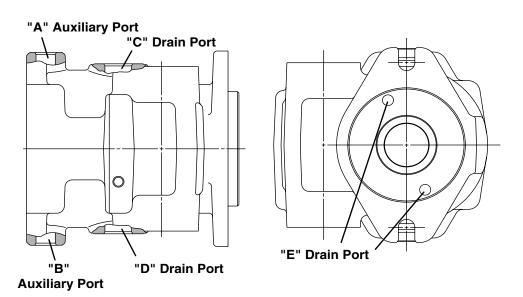
Item 21 or 22

Internal Relief Valve Settings Available

Part Number	bar [PSI]
110700- 200	138 [2000]
110700- 250	172 [2500]
110700- 300	207 [3000]
110700- 350	241 [3500]
110700- 400	276 [4000]
110700- 450	310 [4500]
110700- 500	345 [5000]



Item 28 Housing Identification



Housing Assy. Item Part No.		Housi Item	ng Part No.	Qty.	Port Machined
28 28 28	112259- 001 112259- 012 112259- 013	28-1 28-1 28-1	72373- 001 72373- 012 72373- 013	1 1 1	A, B, C, D A, B, C, D, E A, B, E



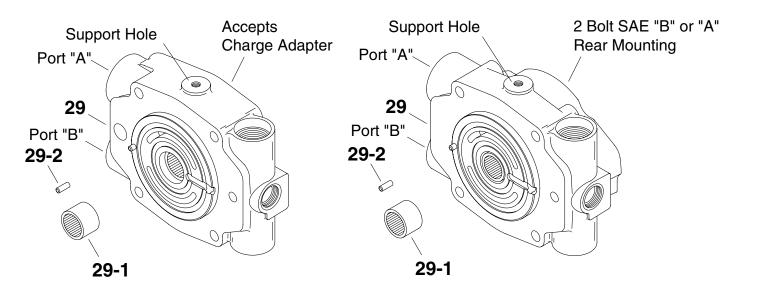
Item 29 -Endcover Assembly Identification

Parts List

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

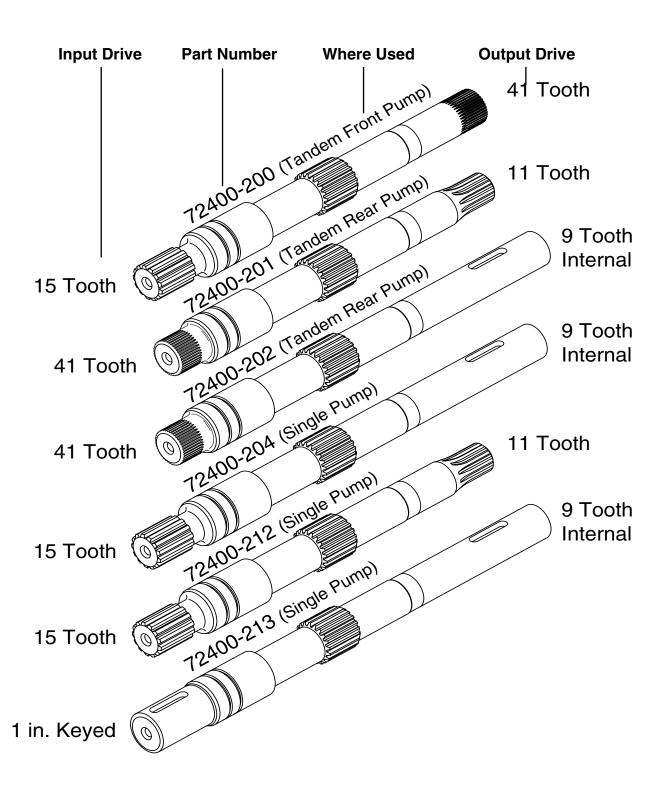
Item 29 - Endcover Assembly Part Number Identification

Rear Mounting	Support Hole	Item 29 Endcover Assembly Part Number
Rear "B" Mount	with Hole	113585-002
(no gerotor charge adapter)	None	113585-001
Accepts Gerotor Charge Pump	with Hole	113581-002
Adapter with "A" Mount	None	113581-001
Rear "A" Mount	with Hole	113583-002
(no gerotor change adapter)	None	113583-001



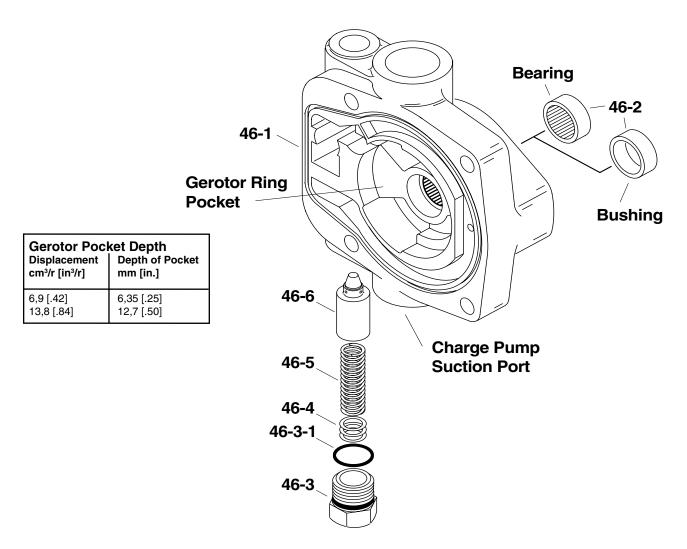


Item 31 -Drive Shaft Identification





Item 46 -Charge Pump Adapter Assembly

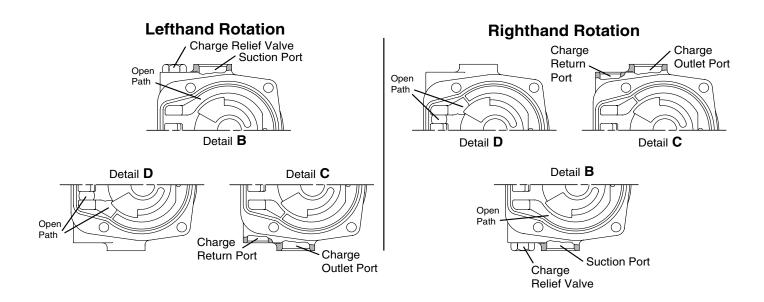


Item	Part No.	Qty.	Description	
46 46-1 46-2 46-2 46-3 46-3-1 46-4 46-5 46-6	See Chart NSS 16239-1148 72400-637 72400-659 16133-10 16048-597 17059-16 72400-682	1 1 1 1 1 1 f	Assembly, Charge Pump Adapter Charge Pump Adapter Bearing (press fit), Used w/9 tooth output shaft Bushing (press fit), Used w/11 tooth output shaft Plug O-ring Shims Spring Poppet	

f - Shim as requiredNSS - Not sold separately



Item 46 -Charge Pump Adapter Identification



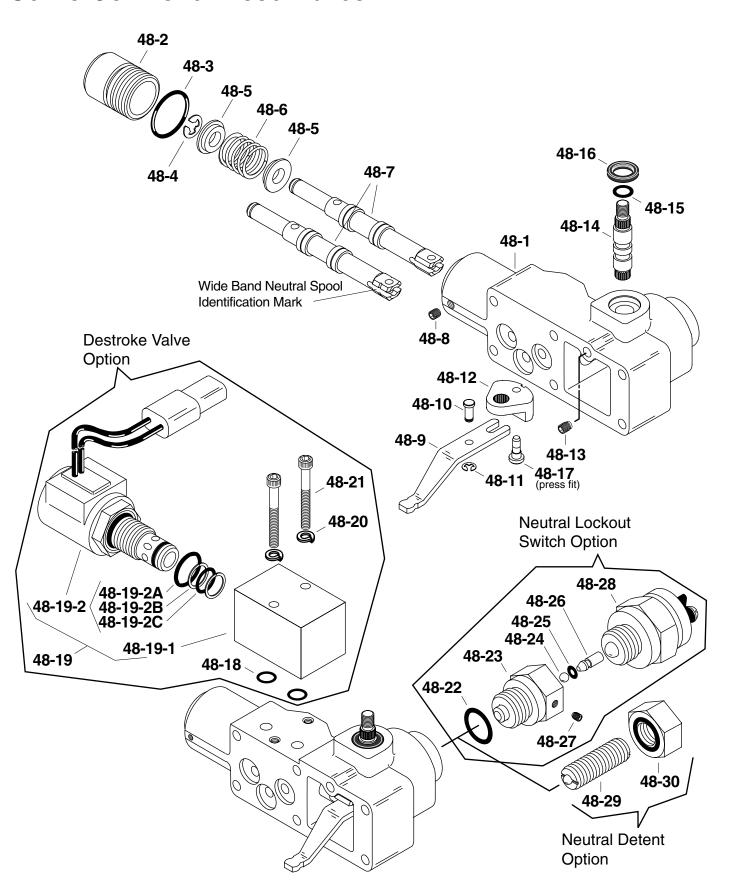
Adapter, Item 46, Identification Chart

			9 Tooth O	utput Shaft	11 Tooth Output Shaft	
Charge Pump Routing	Shaft Rotation	Refer to Detail	6,9 cm ³ /r [.42 in ³ /r] Displacement	13,8 cm ³ /r [.84 in ³ /r] Displacement	6,9 cm³/r [.42 in³/r] Displacement	13,8 cm ³ /r [.84 in ³ /r] Displacement
Charge	Righthand	B&D	72356-010	72356-011	72348-010	72348-011
Relieved to Case	Lefthand	B&D	72358-010	72358-011	72360-010	72360-011
Remote Filter and	Righthand	B & C	72356-007	72356-008	72348-007	72348-008
Charge Relieved to Case	Lefthand	B & C	72358-007	72358-008	72360-007	72360-008



Item 48 -

Servo Controller Assemblies





Item 48 -Servo Controllers - Parts List

Index of	Controllers	Page
72401-AA	with No Additinal Features	13
72401-AD	with Destroke Valve	13
72401-AE	with Neutral Detent & Wide Band Neutral	13
72401-AF	with Neutral Detent, Destroke Val & Wide Band Neutral	
72401-AG	with Wide Band Neutral	14
72401-AH	with Destroke Valve & Wide Band Neutral	l 14
72401-AR	with Neutral Lockout, Destroke Va & Wide Band Neutral	
72401-AS	with Neutral Lockout & Wide Band Neutral	d 15
72401-AL	with High Gain Control	16

72401-AA

Re	m	Part No.	Qty	Description
48	1	72401-AA		Assembly with no additional features
48	-1	72319-001	1	Control Housing
48	-2	72400-507	1	Plug
48	-3	16015-8	1	0-ring
48	-4	16124-31	1	Retaining Ring
48	-5	72400-504	2	Spring Retainer
48	9-6	17073-14	1	Spool Centering Spring
48	-7	72400-563	1	Valve Spool - Standard
48	8-8	102149-019	1	Set Screw
48	9-9	72400-502	1	Feedback Link
48	-10	72400-508	1	Dowel Pin
48	-11	16124-15	1	Retaining Ring
48	-12	72400-519	1	Bell Crank
48	-13	16139-304	1	Set Screw
48	-14	72400-505	1	Input Shaft
48	-15	16003-5	1	0-ring
48	-16	16074-106	1	Wiper Seal
48	-17	72400-520	1	Headed Pin (press fit)

72401-AD

Item	Part No.	Qty	Description
48	72401-AD		Assembly with Destroke Valve
48-1	72319-003		Control Housing
48-2	72400-507	1	Plug
48-3	16015-8	1	O-ring
48-4	15124-31	1	Retaining Ring
48-5	72400-504	2	Spring Retainer
48-5	17073-14	1	Spool Centering Spring
48-7	72400-563	1	Valve Spool - Standard
48-8	102149-019	1	Set Screw
48-9	72400-502	1	Feedback Link
48-10	72400-508	1	Dowel Pin
48-11	15124-15	1	Retaining Ring
48-12	72400-519	1	Bell Crank
48-13	15139-304	1	Set Screw
48-14	72400-505	1	Input Shaft
48-15	16003-5	1	O-ring
48-15	16074-106	1	Wiper Seal
48-17	72400-520	1	Headed Pin (press fif)
48-18	16003-6	2	O-ring
48-19	72420-AE	1	Destroke Valve Assy.
48-19-1	72400-719	1	Marviold
48-19-2	72400-521	1	Destroke Valve w/12 VDC coil, Weatherpak Conn.
48-19-2A	16133-10	1	O-ring
48-19-2B	15101-102	2	Back-up Washer
48-19-2C	16015-2	1	O-ring
48-20	16045-103	2	Lock Washer
48-21	16148-316	2	Cap Screw

72401-AE

Item	Part No.	Qty	Description
48	72401-AE		Assembly with Neutral Detent & Wide Band Neutral
48-1	72319-005	1	Control Housing
48-2	72400-507	1	flug
48-3	16015-8	1	O-ring
48-4	15124-31	1	Retaining Ring
48-5	72400-504	2	Spring Retainer
48-6	17073-14	1	Spool Centering Spring
48-7	72400-544	1	Valve Spool - Wide Band Neutral
48-8	102149-019	1	Set Screw
48-9	72400-502	1	Feedback Link
48-10	72400-508	1	Dowel Pin
48-11	15124-15	1	Retaining Ring
48-12	72400-519	1	Bell Crank
48-13	16139-304	1	Set Screw
48-14	72400-505	1	Input Shaft
48-15	16003-5	1	O-ring
48-15	16074-106	1	Wiper Seal
48-17	72400-520	1	Headed Pin (press fil)
48-29	98193	1.	Ball Plunger
48-30	101335	1	Nut, Seal



Item 48 - Servo Controllers - Parts List

72401-AF

Item	Part No.	Qty	Description
48	72401-AF		Assembly with Neutral Detent, Destroke valve & Wide Band Neutral
48-1	72319-006	1	Control Housing
48-2	72400-507	1	Plug
48-3	16015-8	1	0-ring
48-4	16124-31	1	Retaining Ring
48-5	72400-504	2	Spring Retainer
48-6	17073-14	1	Spool Centering Spring
48-7	72400-544	1	Valve Spool - Wide Band Neutral
48-8	102149-019	1	Set Screw
48-9	72400-502	1	Feedback Link
48-10	72400-508	1	Dowel Pin
48-11	16124-15	1	Retaining Ring
48-12	72400-519	1	Bell Crank
48-13	16139-304	1	Set Screw
48-14	72400-505	1	Input Shaft
48-15	16003-5	1	0-ring
48-16	16074-106	1	Wiper Seal
48-17	72400-520	1	Headed Pin (press fit)
48-18	16003-6	2	0-ring
48-19	72420-AE	1	Destroke Valve Assy.
48-19-1	72400-719	1	Manifold
48-19-2	72400-521	1	Destroke Valve - w/12 VDC coil, Weatherpak Conn.
48-19-2A	16133-10	1	O-ring
48-19-2B	16101-102	2	Back-up Washer
48-19-2C	16015-2	1	0-ring
48-20	16045-103	2	Lock Washer
48-21	16148-316	2	Cap Screw
48-29	98193	1	Ball Plunger
48-30	101335	1	Nut, Seal

72401-AH

	Item	Part No.	Qty	Description	
	48	72401-AH		Assembly with Wide Band Neutral & Destroke Valve	
	48-1	72319-003		Control Housing	
	48-2	72400-507	1	flug	
+	48-3	16015-8	1	O-ring	
	48-4	16124-31	1	Retaining Ring	
	48-5	72400-504	2	Spring Retainer	
	48-6	17073-14	1	Spool Centering Spring	
	48-7	72400-544	1	Valve Spool - Wide Band Neutral	
	48-8	102149-019	1	Set Screw	
	48-9	72400-502	1	Feedback Link	
	48-10	72400-508	1	Dowel Pin	
	48-11	15124-15	1	Retaining Ring	
	48-12	72400-519	1	Bell Crank	
	48-13	16139-304	1	Set Screw	
	48-14	72400-505	1	Input Shaft	
+	48-15	16003-5	1	O-ring	
+	48-15	16074-106	1	Wiper Seal	
	48-17	72400-520	1	Headed Pin (press fil)	
	48-18	16003-6	2	O-ring	
	48-19	72420-AE	1	Destroke Valve Assy.	
	48-19-1	72400-719	1	Marvfold	
	48-19-2	72400-521	1	Destroke Valve w/12 VDC coil, Weatherpak Conn.	
	48-19-2A	16133-10	1	O-ring	
	48-19-2B	15101-102	2	Back-up Washer	
	48-19-2C	16015-2	1	O-ring	
	48-20	16045-103	2	Lock Washer	
	48-21	16148-316	2	Cap Screw	

72401-AG

	tem	Part No.	Qty	Description
	48	72401-AG		Assembly with Wide Band Neutral Spool
	48-1	72319-001	1	Control Housing
	48-2	72400-507	1	Plug
+	48-3	16015-8	1	O-ring
	48-4	16124-31	1.	Retaining Ring
	48-5	72400-504	2	Spring Retainer
	48-6	17073-14	1	Spool Centering Spring
	48-7	72400-544	1	Valve Spool - Wide Band Neutral
	48-8	102149-019	1	Set Screw
	48-9	72400-502	1	Feedback Link
	48-10	72400-508	1	Dowel Pin
	48-11	16124-15	1	Retaining Ring
	48-12	72400-519	1	Bell Crank
	48-13	16139-304	1	Set Screw
	48-14	72400-505	1	Input Shaft
+	48-15	16003-5	1	O-ring
+	48-16	16074-106	1	Wiper Seal
	48-17	72400-520	1	Headed Pin (press fit)



Item 48 - Servo Controllers - Parts List

72401-AR

	Item	Part No.	Фtу	Description
	48	72401-AR		Assembly with Neutral Lockout, Destroke valve & Wide Band Neutral
	48-1	72319-004	1	Control Housing
	48-2	72400-507	1	Plug
+	48-3	16015-8	1	O-ring
	48-4	15124-31	1	Retaining Ring
	48-5	72400-504	2	Spring Retainer
	48-6	17073-14	1	Spool Centering Spring
	48-7	72400-544	1	Valve Spool - Wide Band Neutral
	48-8	102149-019	1	Set Screw
	48-9	72400-502	1	Feedback Link
	48-10	72400-508	1	Dowel Pin
	48-11	16124-15	1	Retaining Ring
	48-12	72400-519	1	Bell Crank
	48-13	15139-304	1	Set Screw
	48-14	72400-505	1	Input Shaft
+	48-15	16003-5	1	O-ring
+	48-15	16074-106	1	Wiper Seal
	48-17	72400-520	1	Headed Pin (press fil)
+	48-18	16003-6	2	O-ring
	48-19	72420-AE	1	Destroke Valve Assy.
	48-19-1	72400-719	1	Marvfold
	48-19-2	72400-521	1	Destroke Valve - w/12 VDC coil, Weatherpak Conn.
+	48-19-2A	16133-10	1	O-ring
+	48-19-2B	15101-102	2	Back-up Washer
+	48-19-2C	16015-2	1	O-ring
	48-20	16045-103	2	Lock Washer
	48-21	15148-315	2	Cap Screw
+	48-22	16133-8	1	O-ring
	48-23	72400-722	1	Adapter Assy, Neutral Lockout
	48-24	16006-6	1	Ball
+	48-25	16003-589	1	O-ring
	48-25	72400-725	1	Pin
	48-27	102149-019	1	#10-32, Set Screw
	48-28	109791-001	1	Neutral Lockout Switch Assy.

72401-AS

	Item	Part No.	Qty	Description		
	48	72401-AS		Assembly with Neutral Lockout & Wide Band Neutral		
	48-1	72319-002	1	Control Housing		
	48-2	72400-507	1	Plug		
+	48-3	16015-8	1	0-ring		
	48-4	16124-31	1	Retaining Ring		
	48-5	72400-504	2	Spring Retainer		
	48-6	17073-14	1	Spool Centering Spring		
	48-7	72400-544	1	Valve Spool - Wide Band Neutral		
	48-8	102149-019	1	Set Screw		
	48-9	72400-502	1	Feedback Link		
	48-10	72400-508	1	Dowel Pin		
	48-11	16124-15	1	Retaining Ring		
	48-12	72400-519	1	Bell Crank		
	48-13	16139-304	1	Set Screw		
	48-14	72400-505	1	Input Shaft		
+	48-15	16003-5	1	0-ring		
+	48-16	16074-106	1	Wiper Seal		
	48-17	72400-520	1	Headed Pin (press fit)		
+	48-22	16133-8	1	O-ring		
	48-23	72400-722	1	Adapter Assy., Neutral Lockout		
	48-24	16006-6	1	Ball		
+	48-25	16003-500	1	0-ring		
Ž.	48-26	72400-546	1	Pin		
	48-27	102149-019	1	#10-32, Set Screw		
	48-28	109791-001	1	Neutral Lockout Switch Assy.		



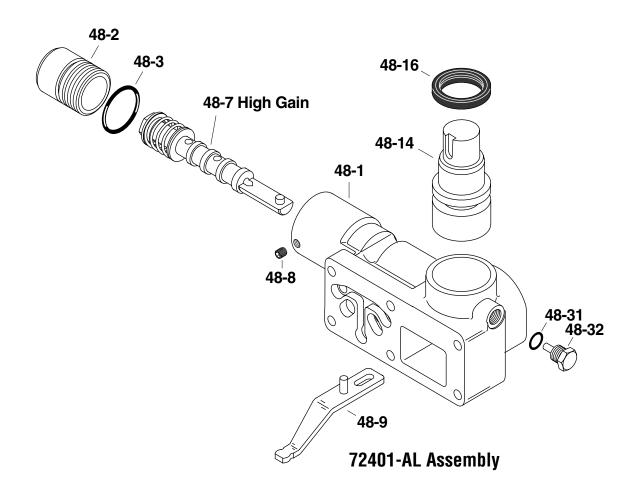
Item 48 -

High - Gain Servo Control Assembly - Parts List

72401-AL

Item	Part No.	Q ty	Description
48	72401-AL		Assembly with High Gain Selvo Control
48-1	72401-500	1	Control Housing
48-2	72401-505	1:	Plug
48-3	15015-8	1	O-ring
48-7	72401-516	1	Valve Spool - High Gain
48-8	102149-019	1	Set Screw
48-9	72401-508	1	Feedback Link Weldment
48-14	72401-502	1	Input Control Shaft
48-15	72401-503	1	Wiper Seal
48-31	16133-2	1	O-ring
48-32	72401-506	1	Plug

⁺ Included in Seal Repair Kit 72400-915

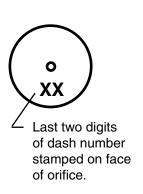




Item 51, 52, or 53 - Orifice Sizes Available

Item 51,52, or 53Orifice Sizes Available

Part Number	Hole Dia. mm [inches]
101619-021 101619-028 101619-036 101619-040 101619-044 101619-052 101619-057 101619-065 101619-073 101619-094	0,53 [.021] 0,71 [.028] 0,91 [.036] 1,02 [.040] 1,12 [.044] 1,22 [.048] 1,32 [.052] 1,45 [.057] 1,65 [.065] 1,85 [.073] 2,38 [.094] 2,59 [.102]





Notes:		



Notes:		

Eaton 14615 Lone Oak Road Eden Prairie, MN 55344 USA Tel: 952 937-9800 Fax: 952 974-7722 www.hydraulics.eaton.com Eaton 20 Rosamond Road Footscray Victoria 3011 Australia Tel: (61) 3 9319 8222 Fax: (61) 3 9318 5714 Eaton Dr.-Reckeweg-Str. 1 D-76532 Baden-Baden Germany Tel: (49) 7221 682-0 Fax: (49) 7221 682-788



