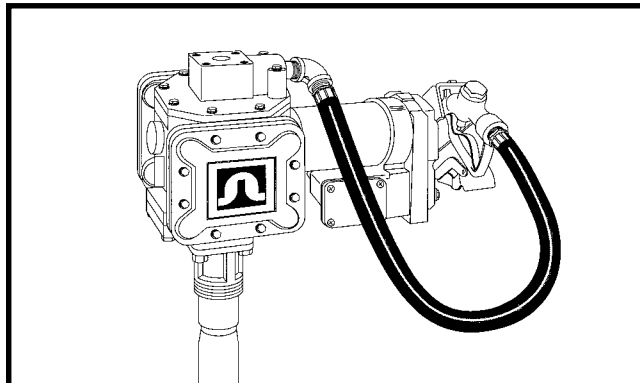


***FILL-RITE***

Owner's Operation & Safety Manual

**SERIES 400 DIAPHRAGM PUMP**  
**For Industrial Fluid Transfer**

For models: 405, 410, 411, 412, 205, 210, 211, 212 (DC)  
& 450, 450E, 451, 452 (AC)



Model 410

Patent #5,219,274

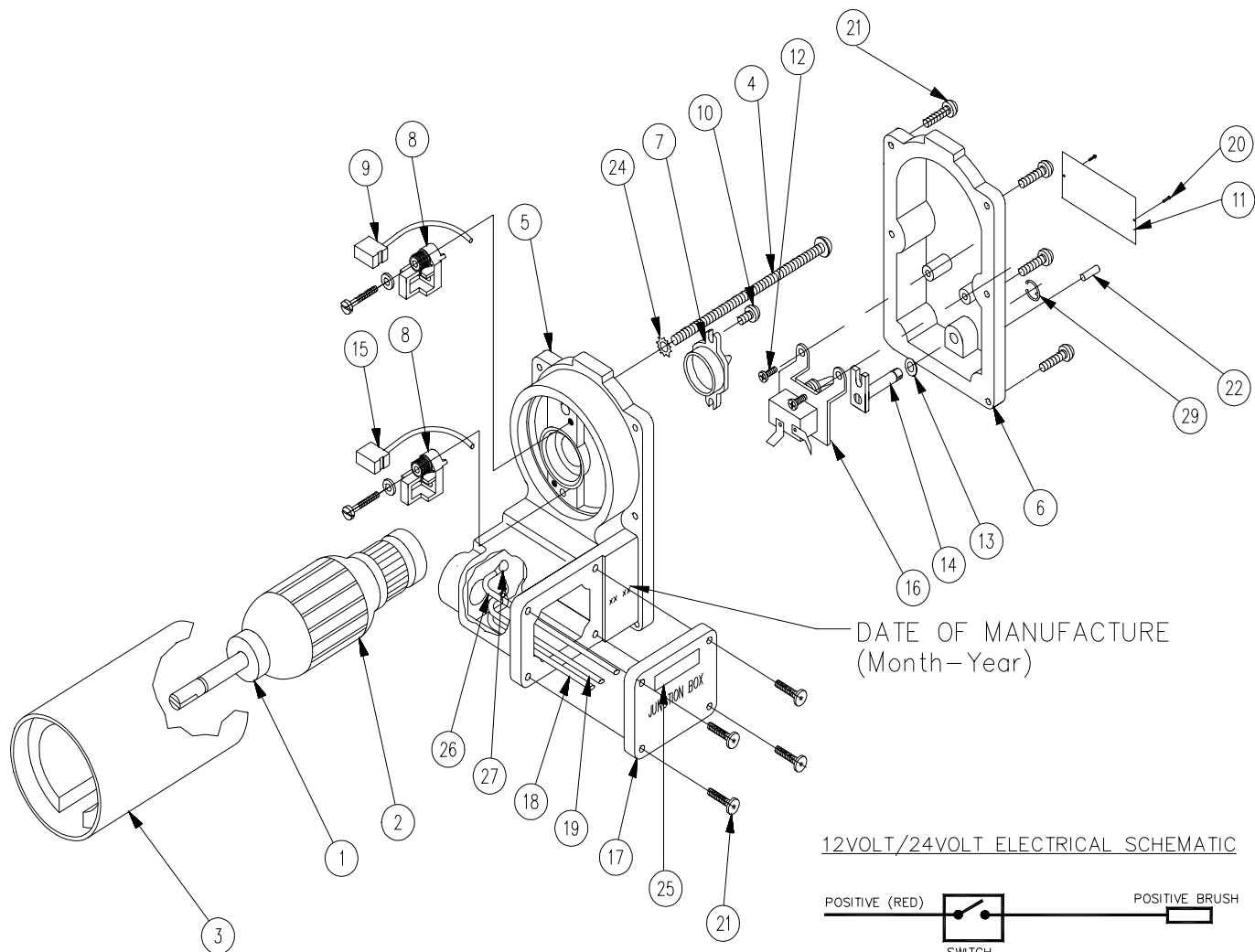
**OUTSTANDING FEATURES**

- Up to 13 GPM / 49 LPM
- Double diaphragm for smooth flow
- Spring driven diaphragm for continuously variable displacement
- Pumps 1 to 3000 CPS fluids without motor overloading

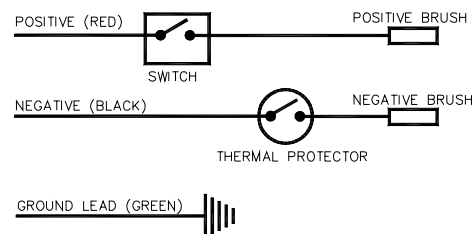
## 12V/24V MOTOR PARTS LIST

ITM. NO.	PART NO.	DESCRIPTION	QTY.
1	1200F6545	Ball Bearing	2
2	400F6552	Armature Assembly, 12V (Includes Item 1)	1
	400F6662	Armature Assembly, 24V (Includes Item 1)	Opt.
3	1200F6526	Motor Frame and Magnet Assembly	1
4	1200F6475	1/4-20 x 5 Thru-Bolt	2
5	1200F6444	Motor Casting (Includes Items 18, 19, 26, 27)	1
6	1200F6413	Switch Plate with Bushing (Includes Items 22)	1
7	1200F6645	Thermal Protector, 12V	1
	2400F6646	Thermal Protector, 24V	Opt.
8	1200F7239	Brush Holder Assembly	2
9	4200G7364	Brush Assembly, Negative	1
10	VP1400F8821	#8-32 x 1/2 Torx	1
11	-----	Motor Nameplate	1
12	VP1400F8820	#8-32 x 3/8 Torx	2
13	700F3167	5/16 Spring Washer	1

ITM. NO.	PART NO.	DESCRIPTION	QTY.
14	700F3149	Switch Shaft Assembly	1
15	4200G7363	Brush Assembly, Positive	1
16	1200F3170	Line Switch	1
17	1200F6527	Junction Box Cover	1
18	1200F6668	Wire Lead - Negative/Black (Included with Item 5)	1
19	1200F6661	Wire Lead - Positive/Red (Included with Item 5)	1
20	700G1906	3/32 Blind Rivet	2
21	VP1400F8822	#10-32 x 1/2 Torx	10
22	1200F6650	5/32 x 1/2 Pin (Included with Item 6)	1
24	1200F8209	1/4 External Lockwasher	2
25	-----	Decal, 24V	Opt.
26	1200F6726	Ground Wire, Green (Included with Item 5)	1
27	1200F7342	#8-32 x 3/8 Ground Screw (Type F) (Included with Item 5)	1
28	VP1400F8823	#10-24 x 3/4 Torx	1
29	700F3161	5/16 Retaining Ring	1



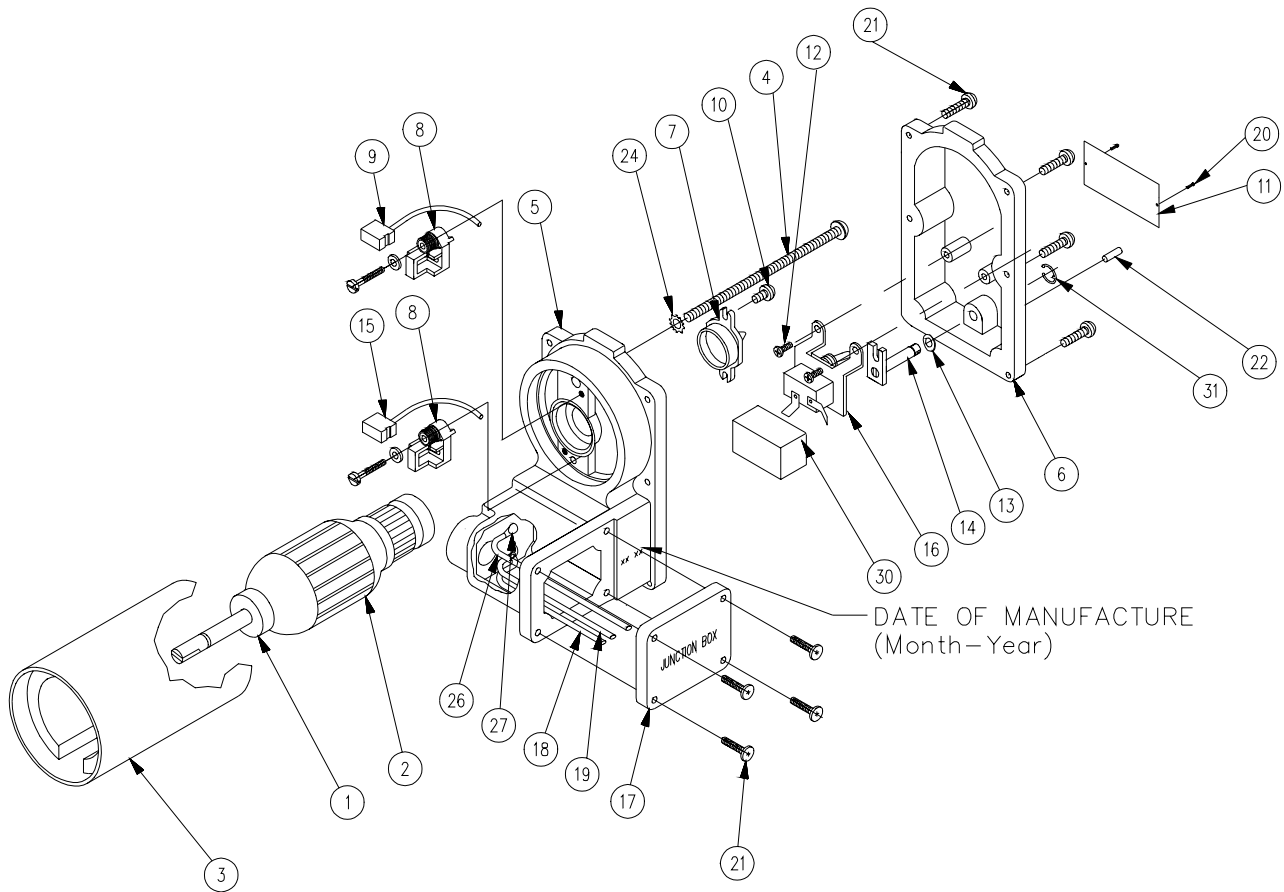
### 12VOLT/24VOLT ELECTRICAL SCHEMATIC



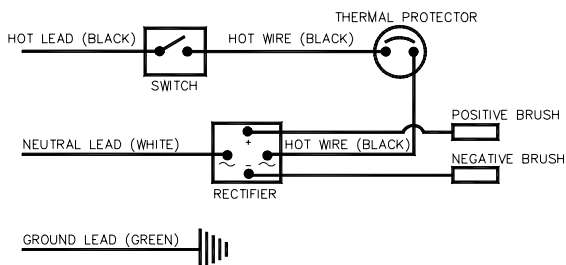
## 115V/230V MOTOR PARTS LIST

ITM. NO.	PART NO.	DESCRIPTION	QTY.
1	1200F6545	Ball Bearing	2
2	400F7350	Armature Assembly, 115V (Includes Item 1)	1
	400G7187	Armature Assembly, 230V (Includes Item 1)	Opt.
3	1200F6526	Motor Frame and Magnet Assembly	1
4	1200F6475	1/4-20 x 5 Thru-Bolt	2
5	1200F6444	Motor Casting (Includes Items 18, 19, 26, 27)	1
6	1200F6413	Switch Plate with Bushing (Includes Items 22)	1
7	600F7287	Thermal Protector, 115V	1
	650G7081	Thermal Protector, 230V	Opt.
8	1200F7329	Brush Holder Assembly	2
9	600F7288	Brush Assembly	2
10	35F1396	#8-32 x 1/2 PHTS (Type B)	1
11	-----	Motor Nameplate	1
12	1200F4018	#8-32 x 3/8 PHMS (Type TT)	2
13	700F3167	5/16 Spring Washer	1
14	700F3149	Switch Shaft Assembly	1

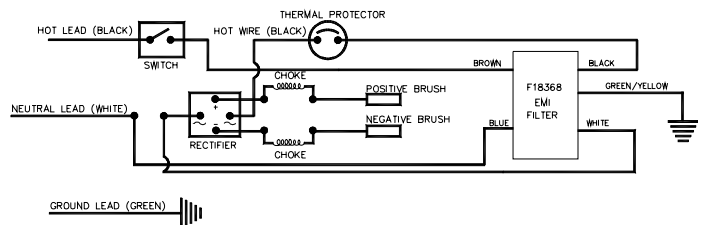
ITM. NO.	PART NO.	DESCRIPTION	QTY.
16	1200F3170	Line Switch	1
17	1200F6495	Junction Box Cover	1
18	700F8501	Wire Lead - Black (Included with Item 5)	1
19	700F8504	Wire Lead - White (Included with Item 5)	1
20	700G1906	3/32 Blind Rivet	2
21	1200F4015	#10-32 x 3/4 PHMS (Type TT)	10
22	1200F6650	5/32 x 1/2 Pin (Included with Item 6)	1
24	1200F8209	1/4 External Lockwasher	2
49	700F3161	5/16 Retaining Ring	1
26	1200F6726	Ground Wire, Green (Included with Item 5)	1
27	1200F7342	#8-32 x 3/8 Ground Screw (Type F) (Included with Item 5)	1
28	600F7289	Rectifier	1
29	600F7234	Screw, #6-32 x 1/2	1
30	650G7289	EMI Filter	Opt.
	650G7290	Choke Brush (See Schematic)	Opt.



115 VOLT ELECTRICAL SCHEMATIC

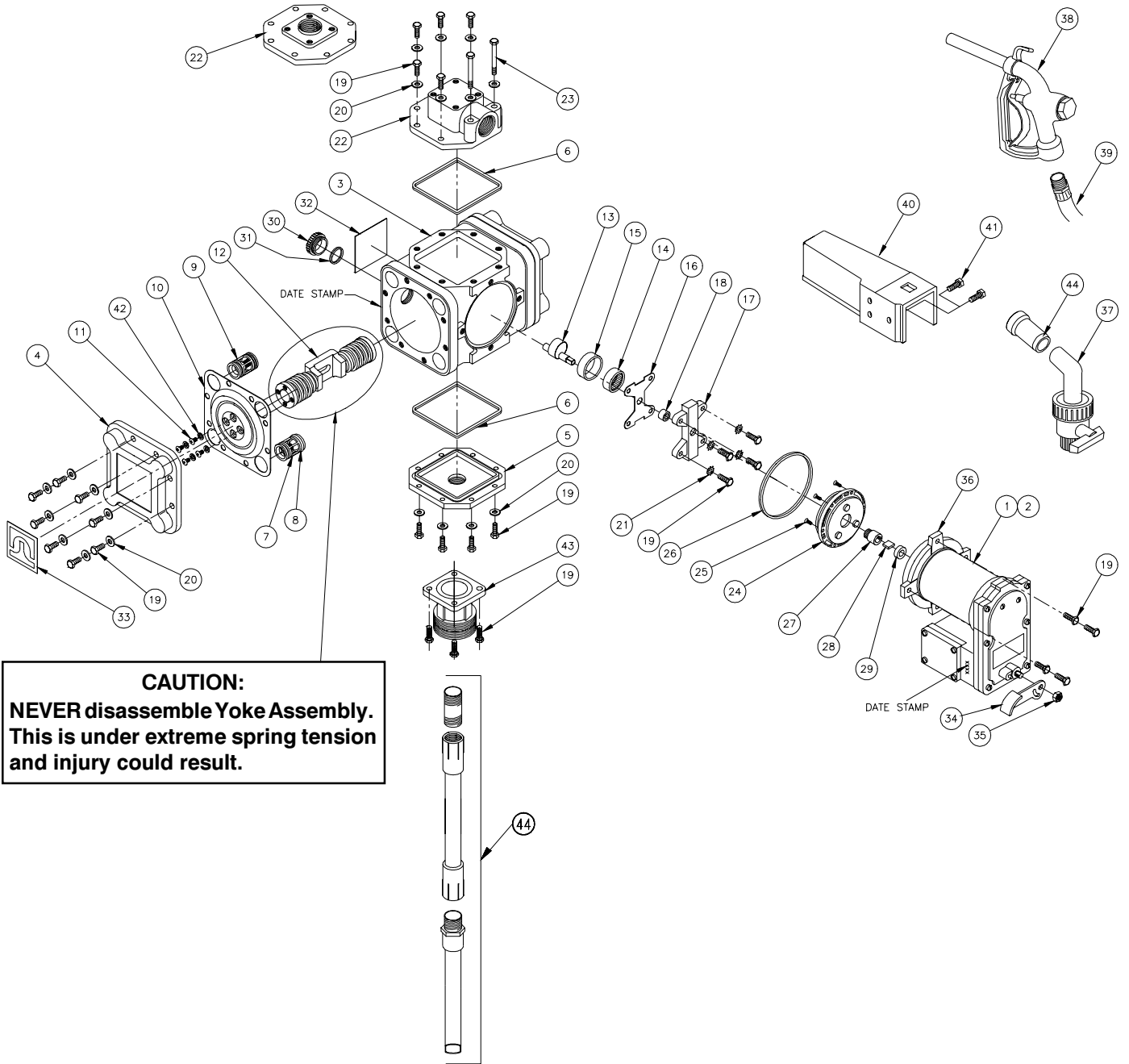


230 VOLT ELECTRICAL SCHEMATIC



400 SERIES PUMP PARTS LIST				
ITM. NO.	PART NO.	DESCRIPTION	MATERIAL OF CONSTRUCTION	QTY.
1	400G7236	Motor Assembly - 12 VDC		1
	200G7237	Motor Assembly - 24 VDC		Opt.
2	450G7245	Motor Assembly - 115 VAC		1
	450EG7246	Motor Assembly - 230 VAC		Opt.
3	400F6567	Pump Body	Polypropylene	1
4	400F6568	Pump Cover	Polypropylene	2
5	400F6569	Flange	Polypropylene	1
6	400F6924	L-C Gasket (-247)	Buna-N	2
7	400F6571	Check Valve - Inlet	Polypropylene, stainless steel	4
8	35F6588	O-ring (-117) (Included w/Item 7)	Fluorocarbon	4
9	400F6589	Check Valve - Outlet	Polypropylene, stainless steel	4
10	400F7238	Diaphragm Assembly - FilCon™ (includes Items 7, 8, 9)	FilCon™	2
	400G7872	Diaphragm Assembly - Santoprene (includes Items 7, 8, 9)	Santoprene™	Opt.
11	400F6795	#10-24 x 1/2 THMS	Stainless steel	8
12	400F6781	Yoke Assembly		1
13	400F6800	Drive Shaft		1
14	400F6819	Cam Bearing (B-168)		1
15	400F6827	Bearing Ring		1
16	400F6880	Thrust Plate		1
17	400F6579	Bearing Plate		1
18	400F6693	Shaft Bearing (B-66)		1
19	400F6792	1/4-20 x 3/4 HHMS		38
20	400F6793	.281 X .625 x .065 Washer		32
21	702F3300	1/4 External Lockwasher		4
22	400F6679	90° Flange	Polypropylene	1
	400F6753	Straight Flange	Polypropylene	Opt.
23	400F6817	1/4-20 x 2-1/4 HHMS		2
24	400F6557	Gear Assembly (Incl. w/Item 1 or 2)		1
25	400G7494	#6-32 x 1/2 Torx (Incl. w/Item 1 or 2)		6
26	400F6692	L-C Gasket (-241)		1
27	35F6563	Drive Gear (Included w/Item 1 or 2)		1
28	1200F6440	Drive Key (Included w/Item 1 or 2)		1
29	400F6707	Shaft Seal (Included w/Item 1 or 2)		1
30	400F6818	Sight Cap, Polypropylene		2
31	400F6813	O-Ring Gasket (-022)		2
32	400F6708	Nameplate		1
33	400F6756	Logo Plate		2
34	1200F6620	Switch Lever		1
35	700F2950	5/16-18 Locknut		1
36	400F6566	Gear Housing (Included w/Item 1 or 2)		1
37	400KTF6593	Ball Valve Nozzle		Opt.
38	700F3125	1" Manual Nozzle, Fluorocarbon Seal		Opt.
39	700F3123	1" x 12' EPDM Hose		Opt.
	700F3127	1" x 12' Buna-N Hose		Opt.
	300F7773	1" x 12' Buna-N Hose w/Static Wire		Opt.
40	400KTF6687	Nozzle Cover		Opt.
41	600F2220	5/16-18 x 3/4 HHCS		Opt.
	400F6478	Bung Adapter (Not Shown)		Opt.
42	800F4191	O-Ring, (5-106)	Fluorocarbon	8
43	400F6478	Bung Adapter	Cast iron	1
44	5200KTG7742	Suction Pipe Assembly	PVC	1
	BCHBU200	Bung Adapter, 2" Buttress w/Strainer (Not Shown)	Polypropylene	Opt.
	BCHBO200	Bung Adapter, 2" Buttress, No Strainer (Not Shown)	Polypropylene	Opt.
	1200F6618	Cable, 20 feet (Not Shown)		1
	1200F7321	Cable Connector (Not Shown)		1

400KTF6862	Diaphragm Repair Kit (Includes Items 6, 10, 24-28, & 42)
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**CAUTION:**  
**NEVER disassemble Yoke Assembly.**  
**This is under extreme spring tension**  
**and injury could result.**

**WHEN ORDERING REPAIR PARTS, BE SURE TO GIVE REPLACEMENT PART NUMBER, DATE OF MANUFACTURE AND PUMP SERIES NUMBER. THIS WILL ENSURE THAT THE CORRECT REPLACEMENT PART IS SUPPLIED.**  
**TOLL FREE CUSTOMER CARE NUMBER**  
**800 634 2695**