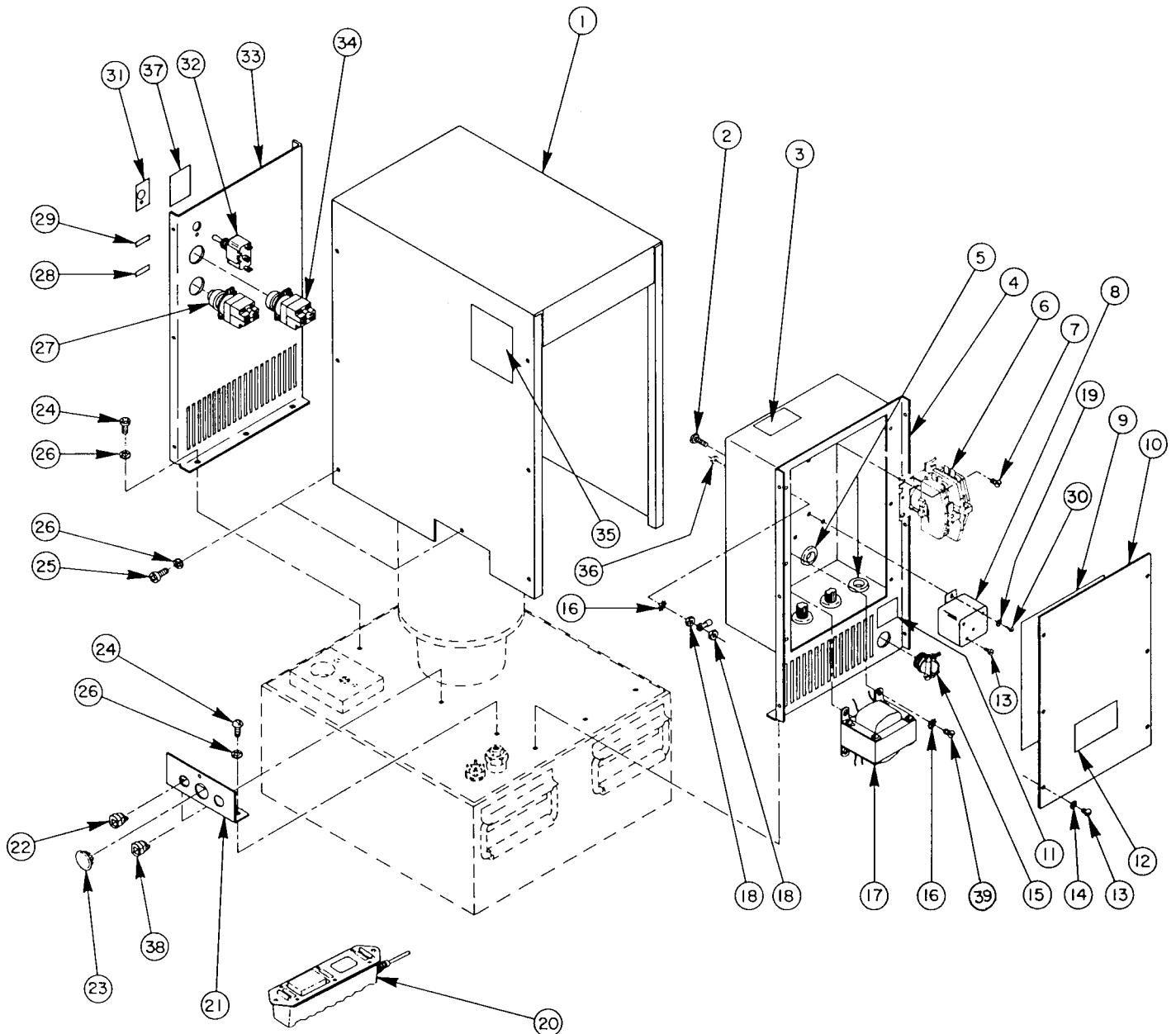


MODEL D
ELECTRIC TWO-STAGE HYDRAULIC PUMP
CONTROL BOX & COVER ASSEMBLY



Parts List, Form No. 101497, Back sheet 1 of 5

Item No.	Part No.	Req'd	Description
1	50946WH2	1	Shroud Cover
2	104484	1	Hex Hd. Mach. Screw (10-24 UNC X 3/4 Lg.)
3	202504	1	Rotation Decal
4	60235PU2	1	End Panel & Electrical Box
5	15497	5	Rubber Grommet
6	420718-4	1	Contactora
7	10166	2	Rd. Hd. Machine Screw (#10-24 UNC X 1/2 Lg.)
8	14667	1	Relay Starter
9	307980	1	Electrical Schematic Decal
10	42457PU2	1	Cover Plate
11	204607	1	Specifications Decal
12	200188	1	Warning Decal
13	10975	AR	Pan Hd. Machine Screw (#8-32 X 5/16 Lg.)
14	11107	AR	Serrated Washer (#8 Internal Tooth)
15	11203	1	Strain Relief
16	11108	AR	Serrated Washer (#10 External Tooth)
17	39692	1	Transformer
18	10197	2	Hex Nut (#10-24 UNC)
19	15906	1	Lockwasher (#6 External Tooth)
20	25017	1	Remote Control Assembly (See Parts List no. 101644)
	202763	1	Decal (Used on Remote Control)
21	36746WH2	1	Angle Plate
22	12176	1	Strain Relief Bushing
23	15327	1	Snap Plug (For 7/8 Hole)

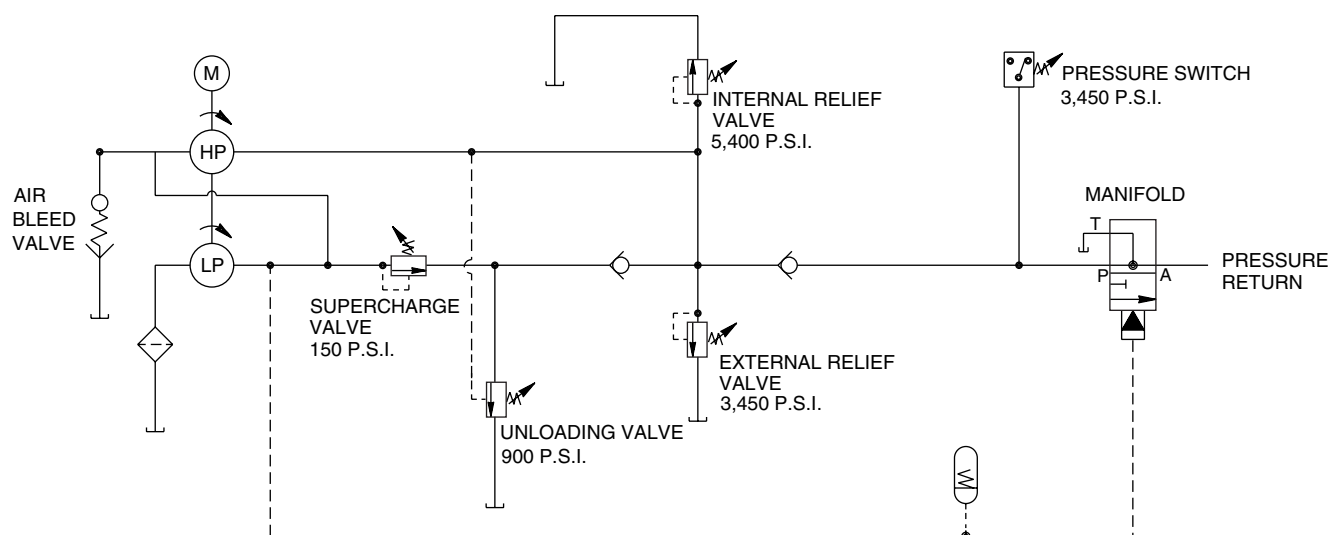
Item No.	Part No.	No. Req'd	Description
24	16613	AR	Pan Hd. Machine Screw (#10-24 X 5/16 Lg.)
25	14394	AR	Self-Tapping Screw (#10 X 3/8 Lg.)
26	12356	AR	Serrated Washer (#10 Internal Tooth)
27	39283	1	Pushbutton Switch (Red)
28	203769	1	Stop Decal
29	203808	1	Start Decal
30	17898	1	Machine Screw (#6-32 X 3/8 Lg.)
31	352081	1	ON/JOG Decal
32	12301	1	ON/OFF Switch
33	51124PU2	1	End Panel
34	39282	1	Pushbutton Switch (Green)
35	309233	2	Trade Name Decal
36	10195	1	Nut (#6-32 UNC)
37	204015	1	Instruction Decal
38	215857	1	Strain Relief Bushing
39	10164	2	Rd. Hd. Machine Screw (#10-24 UNC X 3/8 Lg.)

PARTS INCLUDED BUT NOT SHOWN

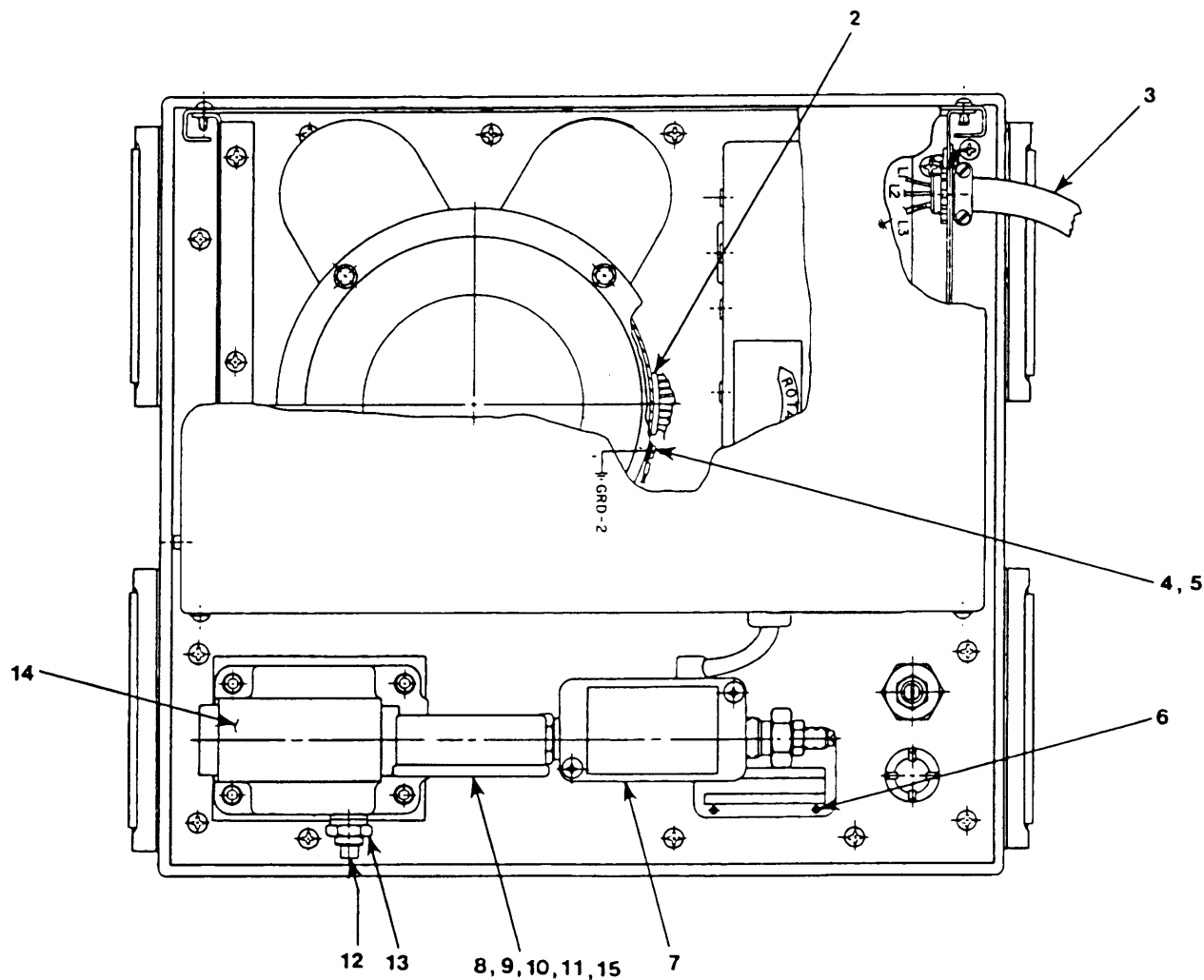
11423	11 ft.	Electrical Cable (18/2 SJT; for Remote Control)
100909	1	Quick Disconnect Coupler
203972	1	Decal (CSA Logo)
352061	1	Metal Switch Guard

AR = As Required

HYDRAULIC SCHEMATIC



TOP VIEW



Item No.	Part No.	No. Req'd	Description
2	15497	1	Rubber Grommet
3	307439	8 ft.	Electrical Cable (12/3 SJTO)
	16896	1	Electrical Plug
4	14394	1	Self-tapping Screw (#10 X 3/8 Lg.)
5	12356	1	Lockwasher (#10 Internal Tooth)
6	10575	4	Drive Screw
7	9625	1	Pressure Switch (See Form #100589)
8	100236	1	Pressure Gauge

Item No.	Part No.	No. Req'd	Description
9	12740	1	Straight Fitting (1/4 F NPTF X 1/4 F NPTF)
10	10672	1	Straight Fitting (1/4 M NPTF X 1/4 M NPTF)
11	10618	1	Tee Fitting (1/4 NPTF M X F X F)
12	10676	1	Straight Fitting (3/8 M NPTF X 1/4 F NPTF)
13	13272	1	Plug (1/4 NPT)
14	9610	1	Automatic Valve (See Form #101200)
15	11310	1	Straight Fitting

Note: Removed motor leads decal #204609 (Item #1) at last revision(s) made to this form.

ELECTRICAL SCHEMATIC

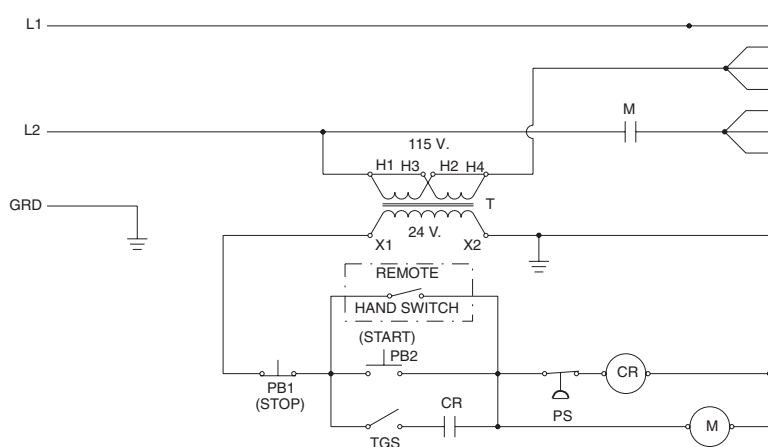


WARNING

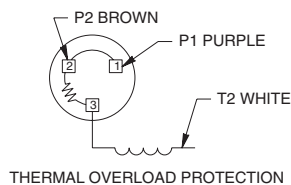
To help avoid personal injury, all electrical work must be done by a qualified electrician.

North American & International Color Codes

Conductors	North American	International
Line	Black	Brown
Neutral	White	Blue
Ground	Green	Green/Yellow



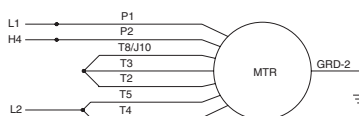
This motor is internally protected with thermal overload protection as shown at right.



230 V., 60 HZ. MOTOR CONNECTIONS

1. Transformer connections (T1) H1 to L2, H2 to H3 & H4 to P2.

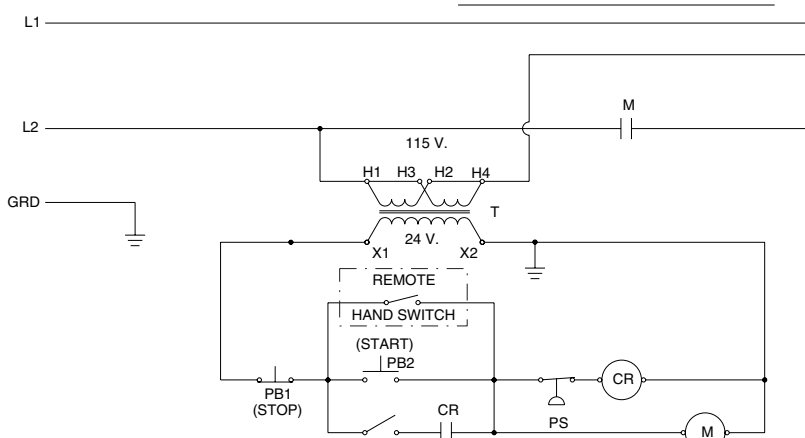
2. For motor connections use schematic as follows:



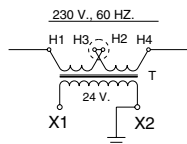
3. For proper motor voltage connection, see decal located near motor leads. (All voltages must be wired for ccw rotation viewing lead end of motor.)

Leeson Motor 307980Rev3

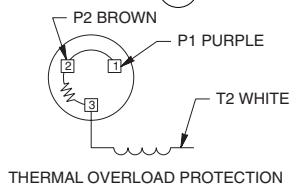
115 V., 60 HZ. MOTOR CONNECTIONS



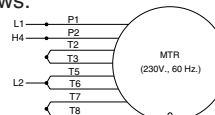
TRANSFORMER CONNECTIONS



This motor is internally protected with thermal overload protection as shown at right.



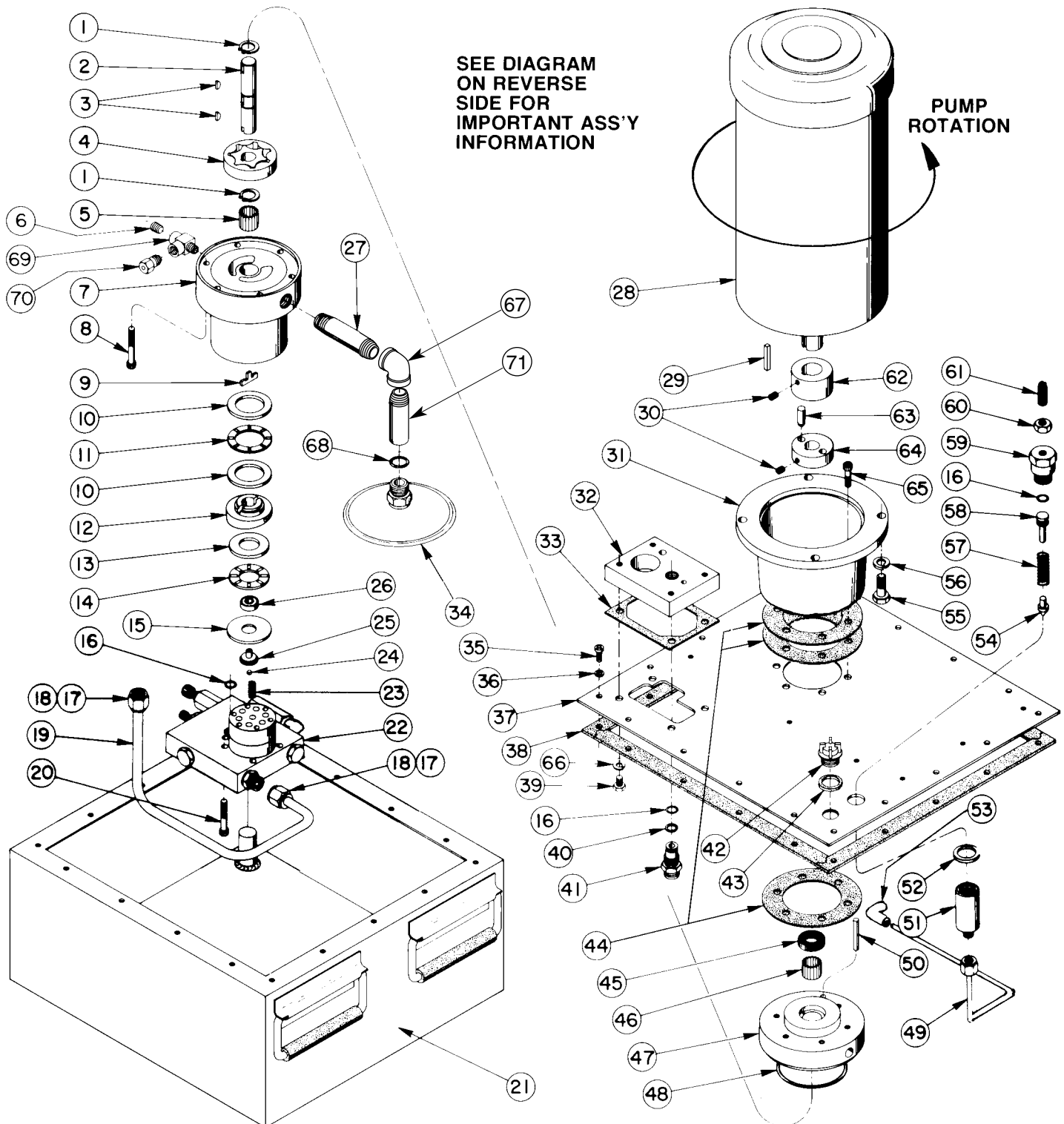
1. For motor connections use schematic as follows:



2. For proper motor voltage connection, see decal located near motor leads. (All voltages must be wired for ccw rotation viewing lead end of motor.)

Emerson Motor 307980Rev3

BASIC PUMP ASSEMBLY

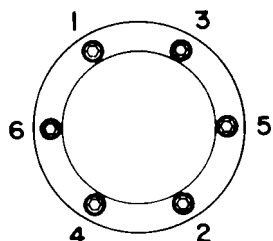


Parts List, Form No. 101497, Back sheet 3 of 5

Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description
1	12178	2	Retaining Ring (5/8 Shaft)	38	50712	1	Cover Gasket
	*12178	3	Retaining Ring (5/8 Shaft)	39	10004	4	Hex Hd. Cap Screw (1/4-20 X 3/8 Lg.)
2	35272	1	Pump Shaft		*10005	4	Hex Hd. Cap Screw (1/4-20 X 1/2 Lg.)
	*303009	1	Pump Shaft	40	11863	1	Backup Washer (1/2 X 3/8 X 1/16)
3	12179	2	Woodruff Key	41	20787	1	Connector
4	15428	1	Gerotor Set	42	20937	1	Filler Plug
5	15461	1	Needle Bearing	43	200415	1	Washer
6	10427	1	Pipe Plug (1/8 NPTF)	44	35266	3	Gasket
7	50705	1	Pump Housing	45	12194	1	Seal
8	10854	6	Soc. Hd. Cap Screw (See NOTE Below; 1/4-20 X 1-3/4" Lg.)	46	15430	1	Needle Bearing
9	200397	1	Key	47	50706	1	Gerotor Pump Housing
10	11227	2	Needle Thrust Race	48	12504	1	O-ring (3" X 2-13/16 X 3/32)
11	11228	1	Needle Thrust Bearing	49	350524	1	Oil Line Ass'y with Fittings (3/16 Dia.)
12	35271	1	Angle Plate	50	13152	1	Dowel Pin (3/16 X 1-1/2" Lg.)
13	15432	1	Needle Thrust Race	51	22361	1	Body
14	15431	1	Needle Thrust Bearing	52	17065	1	Flat Washer (.125 Thk.)
15	23548	1	Top Plate		*14857	1	Flat Washer (.062 Thk.)
16	10268	3	O-ring (1/2 X 3/8 X 1/16)	53	16177	1	Connector Fitting
17	10430	2	Tube Sleeve	54	21046	1	Valve Stem
18	10431	2	Tube Nut	55	10049	4	Hex Hd. Cap Screw (3/8-16 X 1" Lg.)
19	35281	1	Oil Line (3/8 Dia.)	56	10247	4	Lockwasher (For 3/8 Bolt)
20	10022	5	Soc. Hd. Cap Screw (1/4-20 X 1-1/2 Lg.; Torque to 110/120 in. lbs.)	57	10495	1	Compression spring (1/2 O.D. X 1-5/8 "Lg.)
21	60234PU2	1	Reservoir	58	21306	1	Spring Guide
22	420882	1	High Pressure Pump Ass'y (See Sheet 4 of 5)	59	21305	1	Valve Cap
23	10361	1	Compression Spring (1/4 O.D. X 1" Lg.)	60	10386	1	Hex Nut (3/8-24)
24	10375	1	Steel Ball (1/4 Dia.)	61	22362	1	Valve Adjusting Screw
25	23547	1	Top Bearing Plate	62	200396	1	Coupling (See Diagram Below)
26	11814	1	Ball Bearing		*207440	1	Coupling (See Diagram Below)
27	260022	1	Straight Fitting	63	27003	2	Nylon Pin
28	15435	1	Motor (2 H.P., 115/230 V., 60 Hz.)	64	27001	1	Coupling
29	27778	1	Square Key	65	10012	6	Soc. Hd. Cap Screw (1/4-20 X 7/8 Lg.; Torque to 110/120 in. lbs.)
30	10133	2	Soc. Hd. Set Screw (#10-24 X 1/4 Lg.)	66	*10244	4	Washer (For 1/4 Bolt)
	*10133	3	Soc. Hd. Set Screw (#10-24 X 1/4 Lg.)	67	260023	1	90° Elbow Fitting
31	41838	1	Motor Mount	68	10527	1	O-ring (13/16 X .644 X .087)
32	41839	1	Valve Mounting Block	69	18969	1	Tee Fitting
33	200395	1	Gasket	70	306957	1	Air Bleed Valve
34	21345	1	Filter Assembly	71	260021	1	Tube Extension
35	16876	18	Mach. Screw (#10-24 X 1/2 Lg.)				
36	12356	18	Serrated Washer (#10 Internal Tooth)				
37	60231WH2	1	Cover Plate (.104 Thk.)				
	*60922	1	Cover Plate (.164 Thk.)				

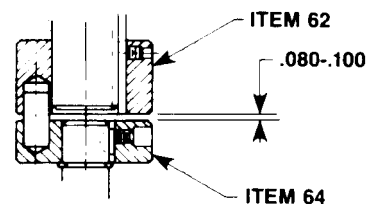
***After August 1981**

BOLT TIGHTENING SEQUENCE

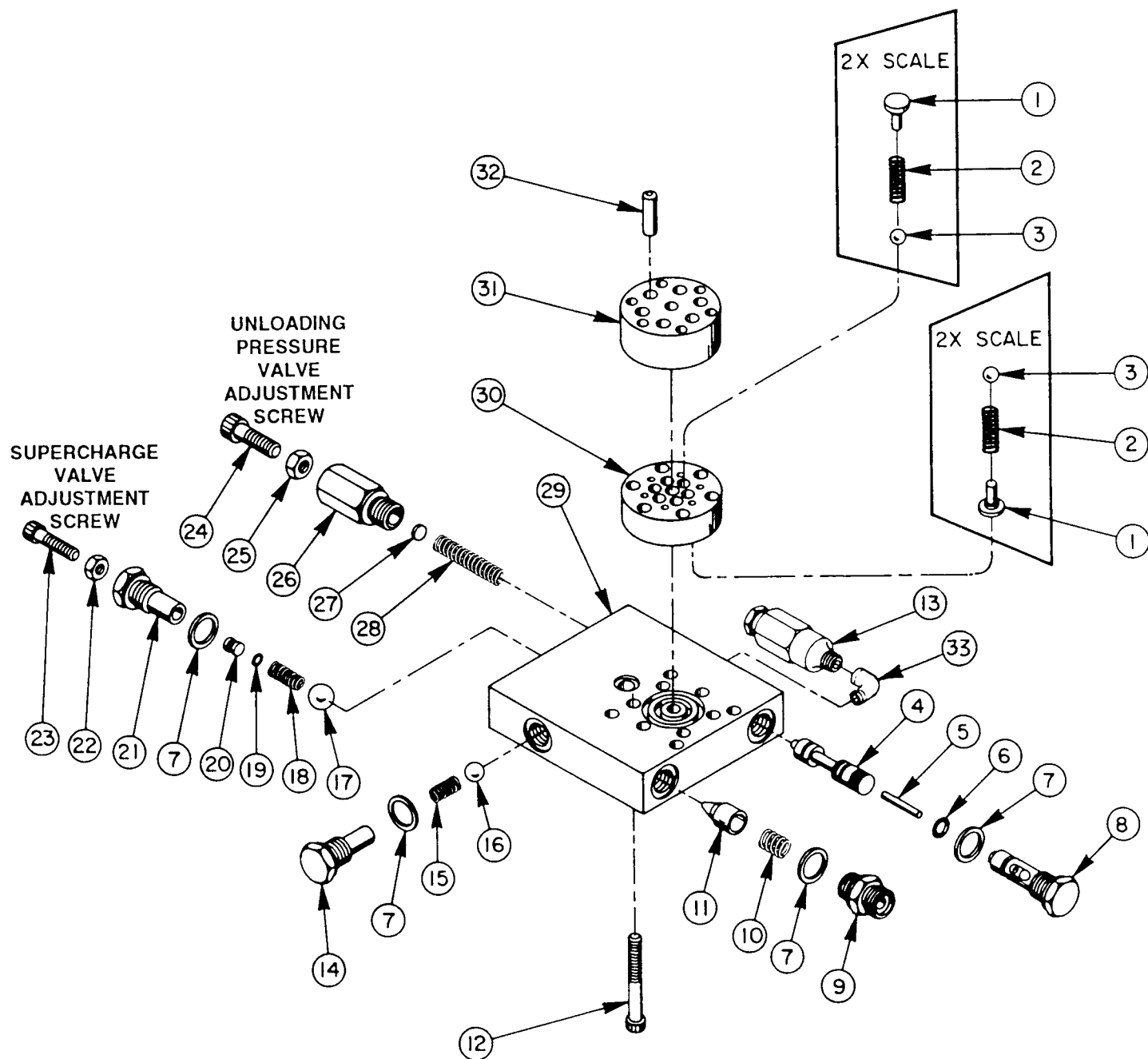


NOTE: Bolts MUST be torqued in sequence shown. Torque to 110/120 in. lbs. in increments of 50/60 in. lbs.

COUPLING CLEARANCE



#420882 HIGH PRESSURE PUMP ASSEMBLY



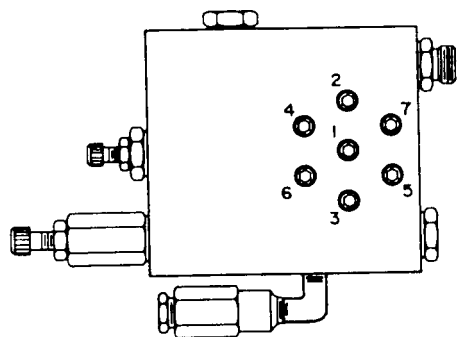
SEE DIAGRAM ON REVERSE
SIDE FOR IMPORTANT
ASSEMBLY INFORMATION

Note: Supercharge Valve and Unloading Pressure Valve of the high pressure pump assembly are NOT factory set! They require adjustment at final pump assembly. Refer to the pump's hydraulic schematic for specifications.

Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description
1	*24549	12	Valve Guide	18	15319	1	Compression spring (1/4 O.D. X 3/4 Lg.)
2	*10445	12	Compression Spring (5/32 O.D. X 3/4 Lg.)	19	12099	1	O-ring (9/32 X 5/32 X 1/16)
3	*12223	12	Steel Ball (3/16 Dia.)	20	200271	1	Adapter
4	200273	1	Spool	21	200270	1	Super Charge Fitting (Torque to 30/35 ft. lbs.)
5	16471	1	Dowel Pin (1/8 Dia. X 1" Lg.)	22	10383	1	Finished Jam Nut (1/4-20)
6	14763	1	O-ring (7/16 X 5/16 X 1/16)	23	10016	1	Soc. Hd. Cap Screw (1/4-20 X 1" Lg.)
7	10261	4	Copper Washer (3/4 X 19/32 X 1/32)	24	10809	1	Soc. Hd. Cap Screw (5/16-18 X 1-1/4 Lg.)
8	202561	1	Actuating Pin Adapter (Torque to 30/35 ft. lbs.)	25	10385	1	Finished Jam Nut (5/16-18)
9	20770	1	Connector (Torque to 40/45 ft. lbs.)	26	36545	1	Unloading Fitting (Torque to 30/35 ft. lbs.)
10	10425	1	Compression Spring (3/8 O.D. X 3/4 Lg.)	27	16528	1	Disc
11	20771	1	Poppet	28	203031	1	Compression Spring (.300 O.D. X 1-3/4" Lg.)
12	*15318	7	Soc. Hd. Cap Screw (1/4-28 X 2" Lg.; See Diagram Below)	29	*50691	1	Valve Body
13	21278-50	1	Relief Valve Assembly (Set at 5,100/5,700 PSI)	30	*41048	1	Valve Head
14	200269	1	Adapter Plug (Torque to 30/35 ft. lbs.)	31	*41063	1	Pump Barrel
15	11451	1	Compression Spring (1/4 O.D. X 5/8 Lg.)	32	*21628	6	Piston (9/32 Dia.)
16	10378	1	Steel Ball (3/8 Dia.)	33	13229	1	90° Elbow Fitting
17	10379	1	Steel Ball (1/2 Dia.)				

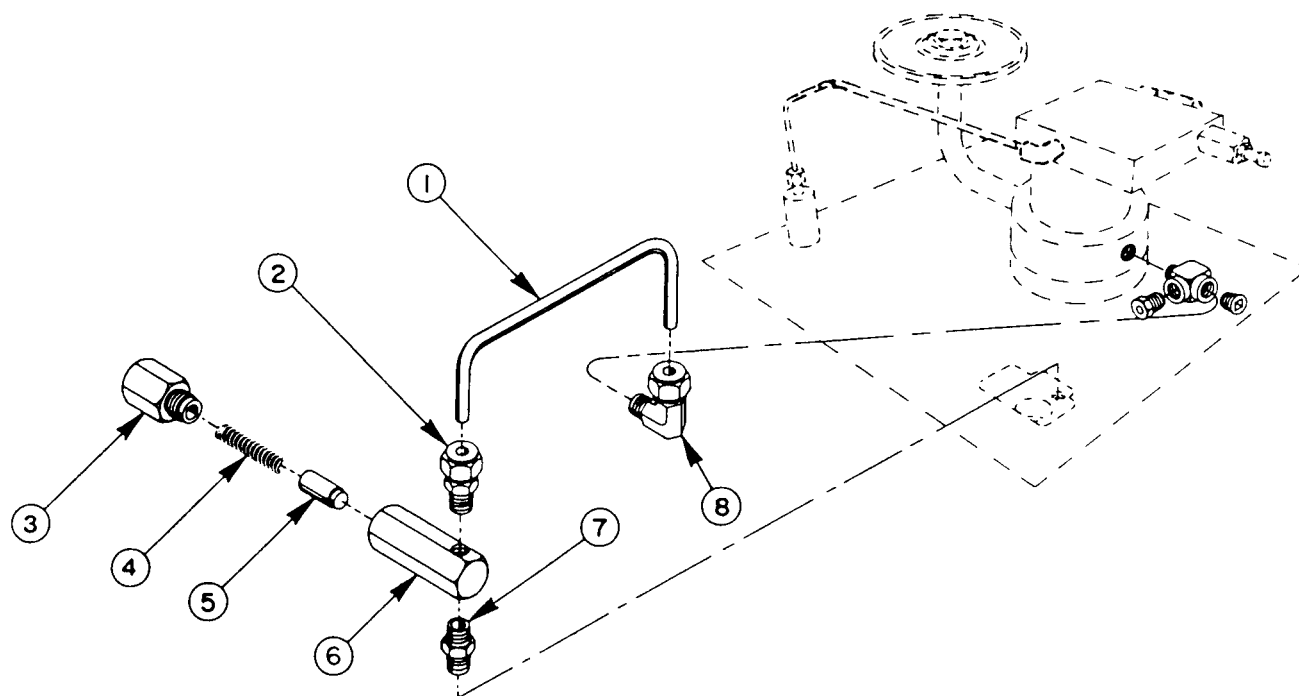
When replacing items marked with an asterisk (*), consult Power Team Technical Services Department.

HIGH PRESSURE PUMP BOLT TIGHTENING SEQUENCE



**NOTE: Assemble in sequence shown.
Lubricate under head and on
threads. Torque to 180 in. lbs.**

OPTIONAL PILOT OIL LINE/ACCUMULATOR ASSEMBLY



Item No.	Part No.	No. Req'd	Description
1	22747	1	Oil Line
2	11173	1	Connector
3	202121	1	Spring Retainer (Torque to 50/70 in. lbs.)
4	16499	1	Compression Spring (1/4 O.D. x 2-3/16 Lg.)
5	21945	1	Plunger
6	21944	1	Cylinder Body
7	11421	1	Pipe Nipple
8	11278	1	Connector
	21943	1	Accumulator (Consists of Items 3, 4, 5 & 6)