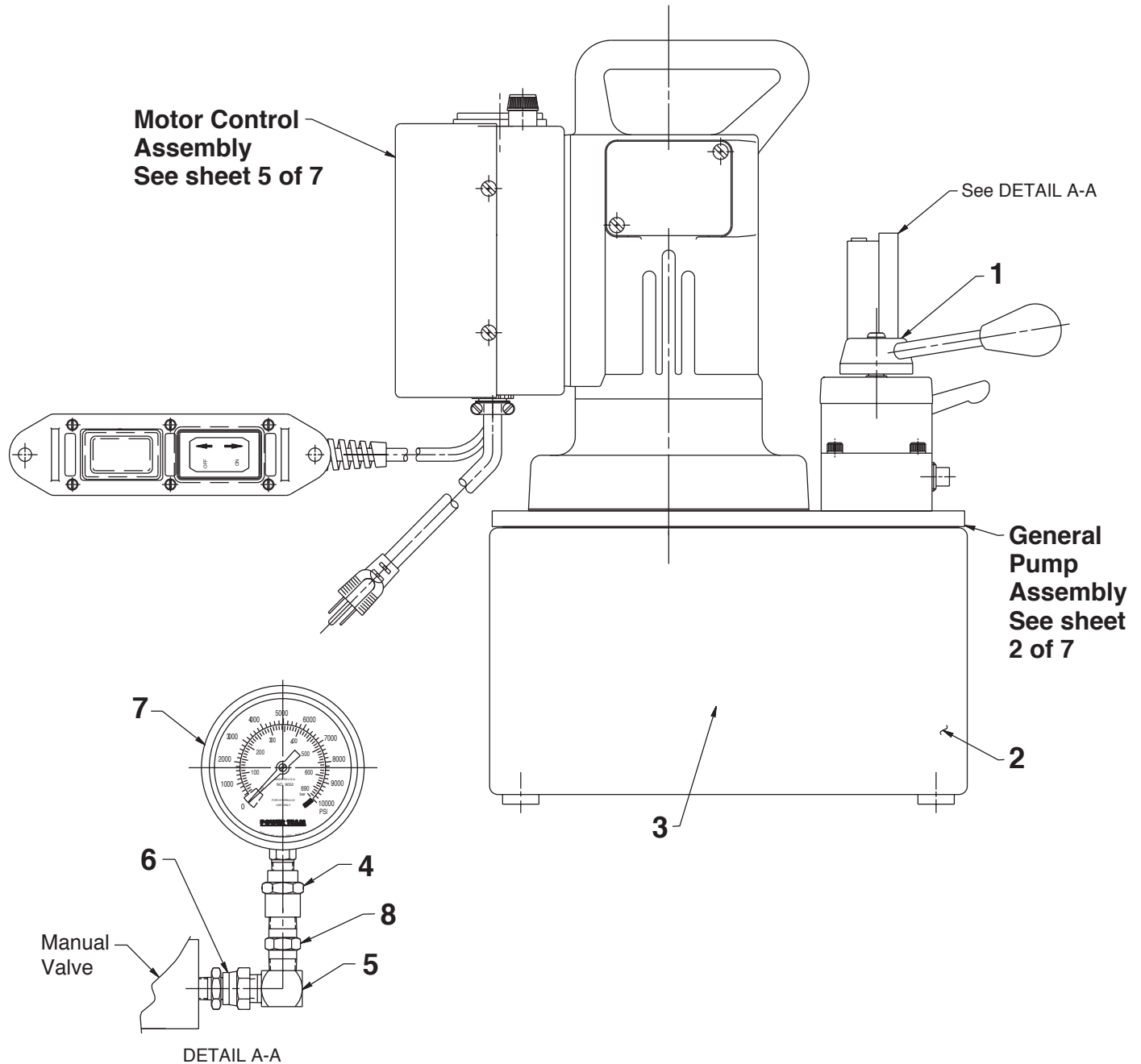
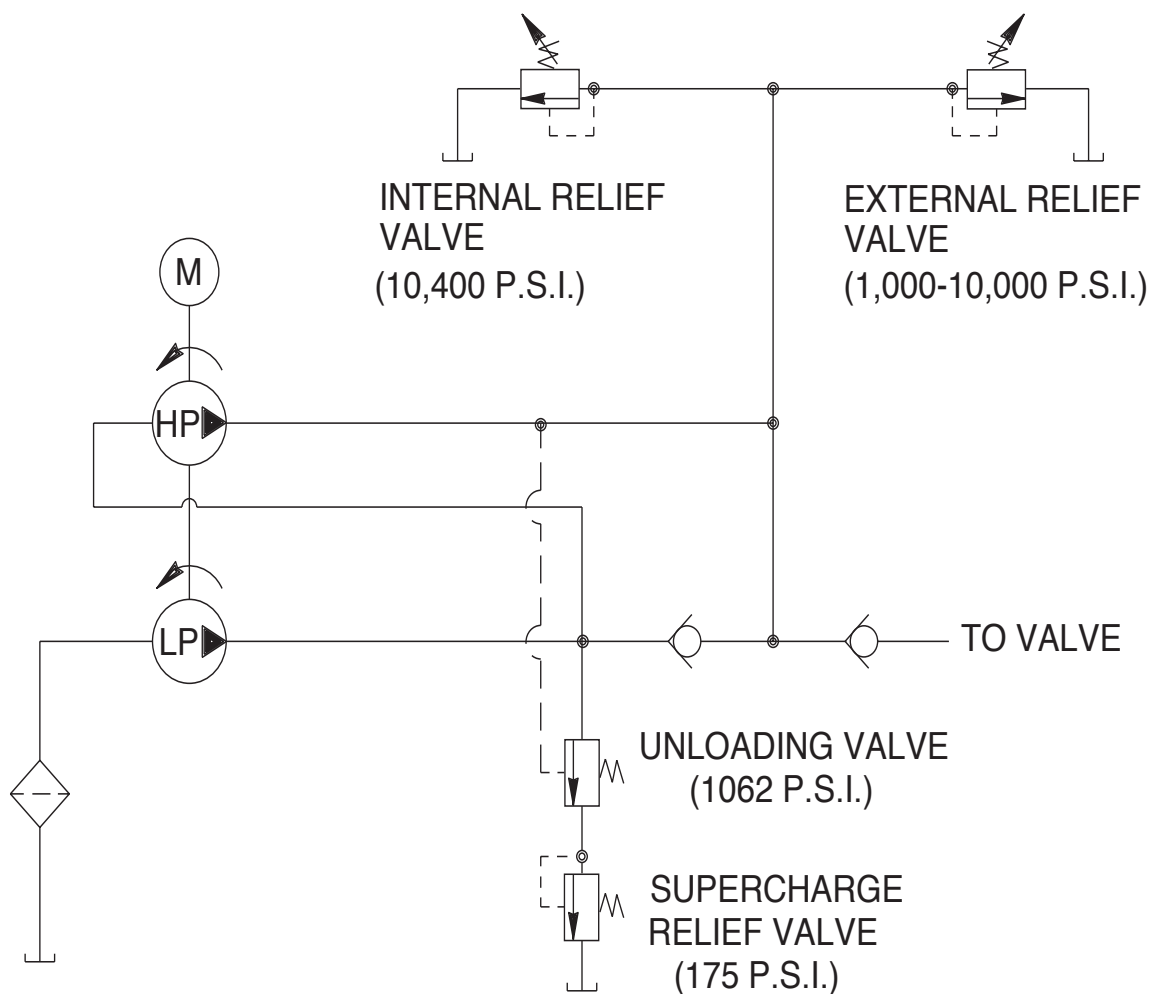


MODEL D ELECTRIC TWO-STAGE HYDRAULIC PUMP

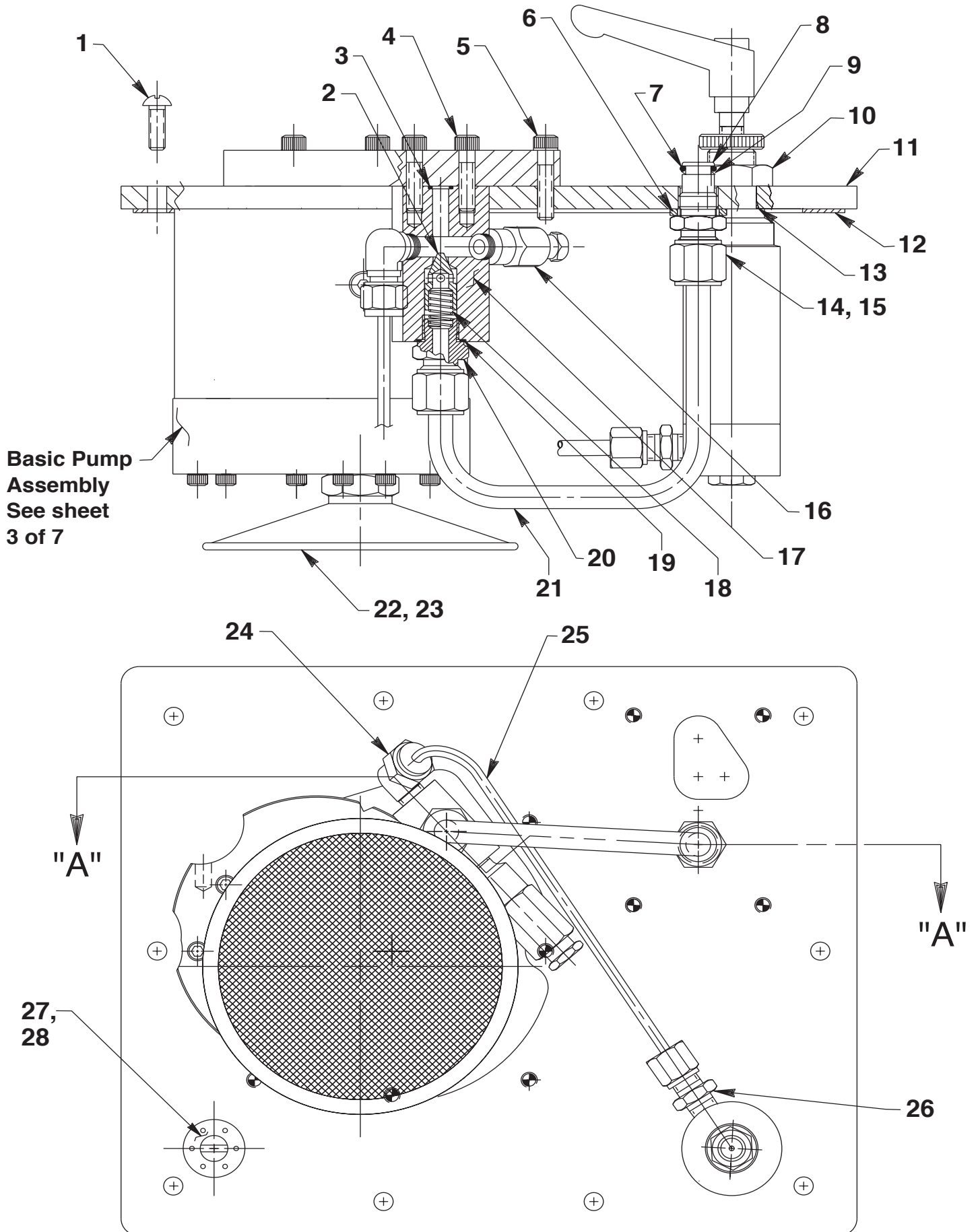


Item No.	Part No.	No. Req'd	Description
1	9500	1	Valve, Manual (4 Way Tandem Center; See Form No. 100623)
	59324	1	Valve, Manual (Tandem Center; See back sheet 6 of 7)
2	40063OR9	1	Reservoir (2 gallon)
3	309219	2	Decal, Trade Name (Power Team)
4	13831	1	Fitting, Straight (1/4 NPTF)
5	10474	1	Fitting, Elbow 90° (3/8 NPTF)
6	10616	1	Fitting, Straight (1/4 NPTF)
7	9052	1	Gauge (10,000 PSI 4" dia.)
8	10673	1	Straight Fitting (3/8 NPTF)

HYDRAULIC SCHEMATIC



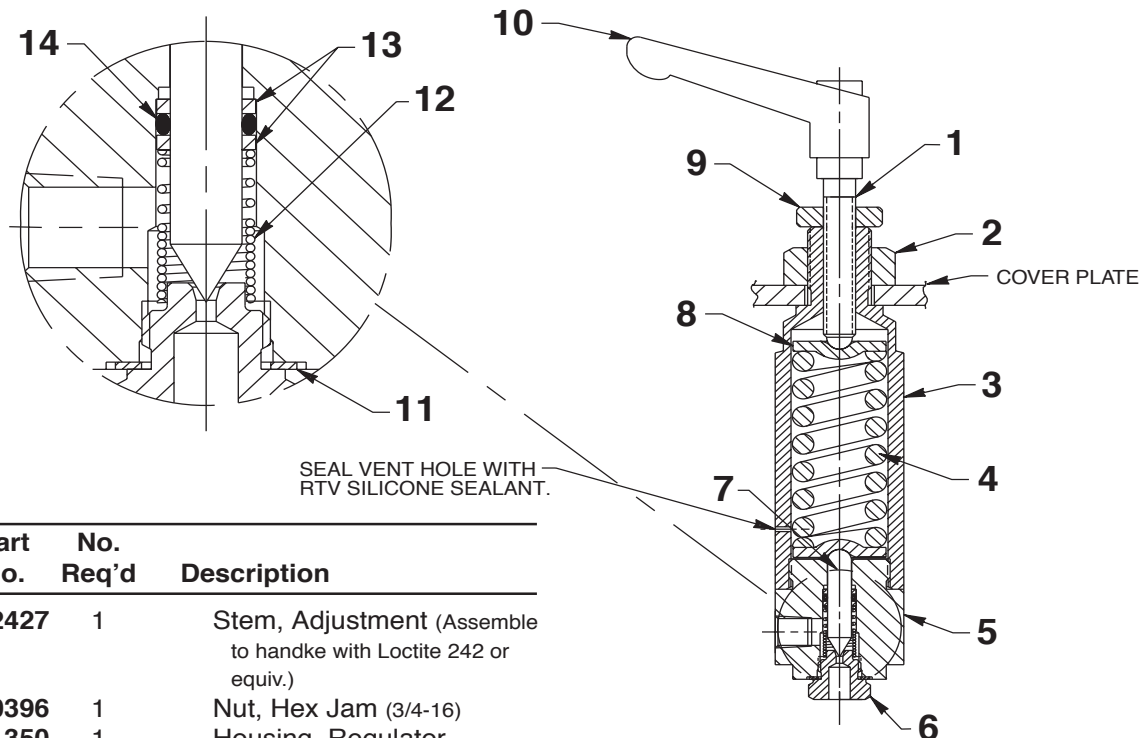
GENERAL PUMP ASSEMBLY



Item No.	Part No.	No. Req'd	Description
1	10177	10	Mach. Screw
2	20771	1	Poppet
3	10266	1	O-ring (3/8 X 1/4 X 1/16)
4	10015	2	Soc. Hd. Cap Screw (1/4-28 UNF X 1" Lg.; Torque to 155 in. lbs.)
5	10016	3	Soc. Hd. Cap Screw (1/4-20 UNC X 1" Lg.)
6	21484	1	Spacer
7	10268	1	O-ring (1/2 X 3/8 X 1/16)
8	20787	1	Valve Connector
9	11863	1	Teflon Backup Washer
10	421429	1	Pressure Regulator Ass'y (See below; Torque Locking Nut to 425 in. lbs.)
11	66108WH2	1	Cover Plate
12	40164	1	Gasket
13	10527	1	O-ring (.81 x .64 Nitrile)

Item No.	Part No.	No. Req'd	Description
14	10430	2	Tube Sleeve
15	10431	2	Tube Nut
16	21278	1	Relief Valve (Set at 10,100/10,700 PSI)
17	20776	1	Valve Body
18	10425	1	Compression Spring (3/8 O.D. X 3/4 Lg.)
19	10261	1	Copper Washer (3/4 X 19/32 X 1/32)
20	20770	1	Connector (Torque to 45 ft. lbs. oiled)
21	21045	1	Oil Line
22	21344	1	Filter Ass'y (Includes Item 23)
23	10300	1	O-ring (5/8 X 15/32 X 5/62)
24	16177	1	Fitting, Elbow 90° (1/8 NPTF)
25	253497	1	Pressure Regulator Tube
26	14844	1	Straight Fitting (1/8 NPTF)
27	20937	1	Vent Cap
28	200415	1	O-ring (13/16 X 5/8 X 3/32)

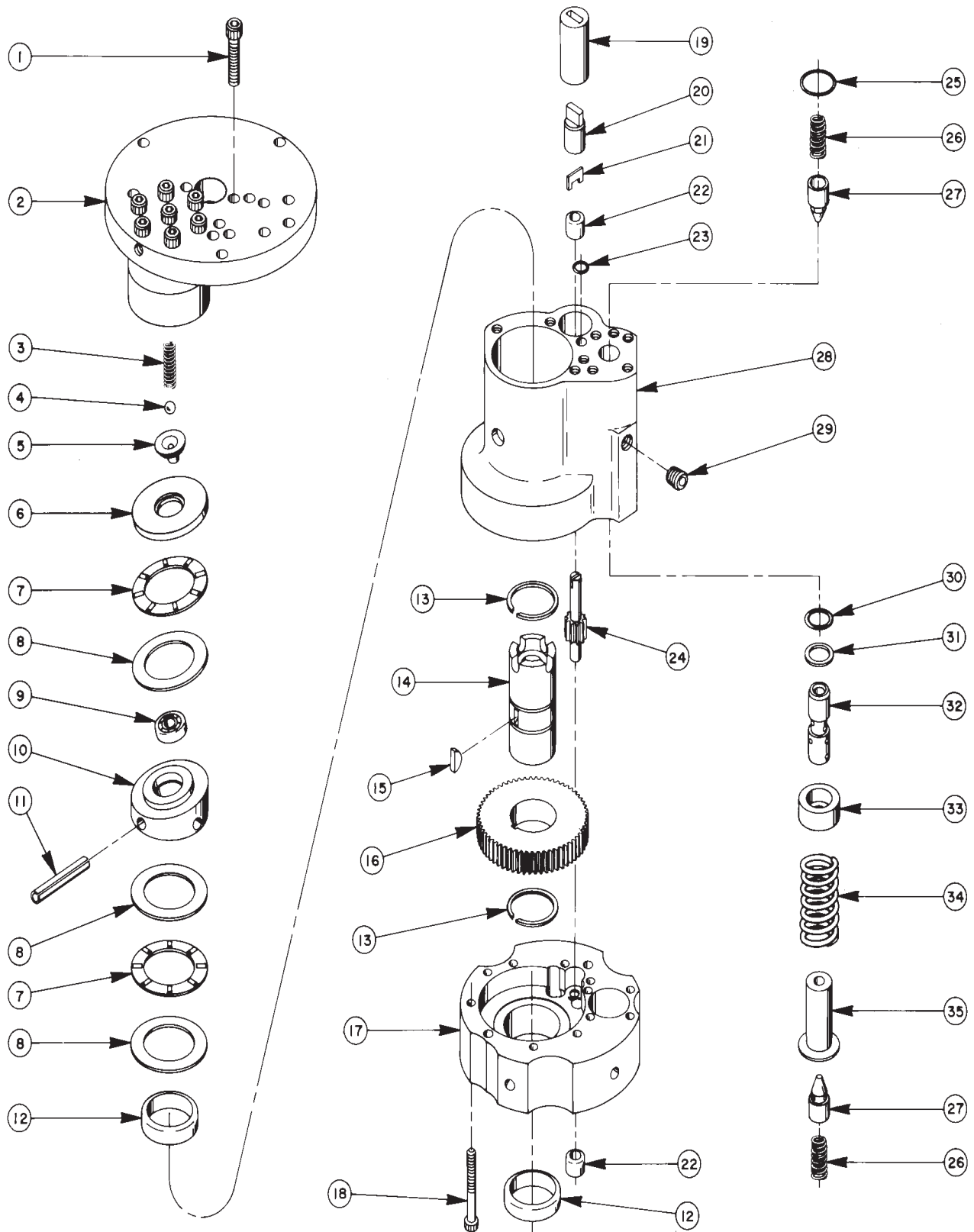
PRESSURE REGULATOR ASSEMBLY



Item No.	Part No.	No. Req'd	Description
1	252427	1	Stem, Adjustment (Assemble to handle with Loctite 242 or equiv.)
2	10396	1	Nut, Hex Jam (3/4-16)
3	351350	1	Housing, Regulator
4	215429	1	Spring (1.1 OD x 2.5 x 0.25 ws)
5	420891	1	Body, Regulator
6	351343	1	Fitting, Seat (1/8" PTF x 1/2"; Torque to 440/460 in. lbs.)
7	309079	1	Poppet
8	215428	2	Spring, Retainer (Grease pocket [both ends] before assembling.)
9	215683	1	Nut, Reg. Locking (3/8-24)
10	252332	1	Handle, Adjustable

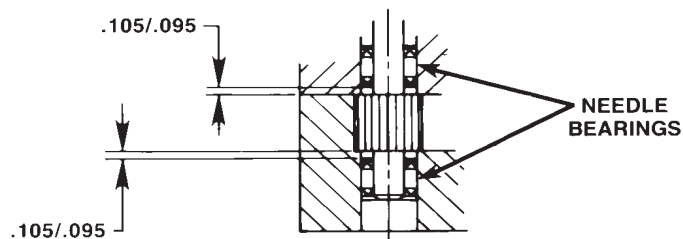
Item No.	Part No.	No. Req'd	Description
11	14874	1	Washer, Copper (.70 x .50)
12	215431	1	Spring (.39 OD x .66 x .28 ws; NOTE: Assemble closed coils of spring form towards seat fitting [Item #6])
13	215430	2	Washer, Backup (.39 x .28)
14	10266	1	O-ring (.37 x .25 Nitrile)

BASIC PUMP ASSEMBLY



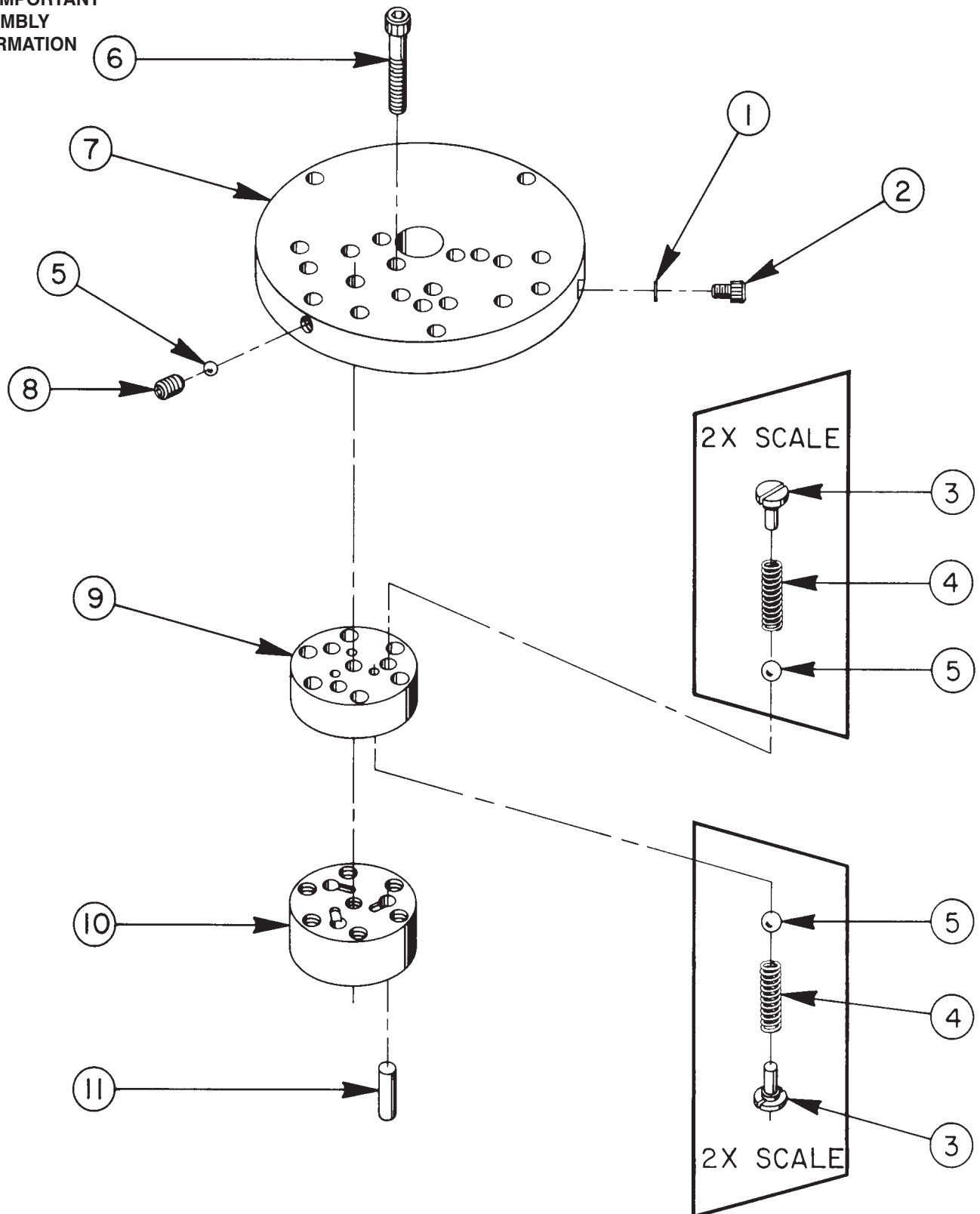
Item No.	Part No.	No. Req'd	Description
1	10020	9	Soc. Hd. Cap Screw (1/4-20 UNC X 1-1/4 Lg.: Torque to 170-180 in. lbs.)
2	351968	1	High Pressure Pump Ass'y (See sheet 4 of 7)
3	10361	1	Compression Spring (1/4 O.D. X 1" Lg.)
4	10375	1	Steel Ball (1/4" dia.)
5	23547	1	Bearing Top Plate
6	23548	1	Top Plate
7	11228	2	Thrust Bearing
8	11227	3	Bearing Race
9	11814	1	Ball Bearing
10	351004	1	Angle Plate
11	11955	1	Roll Pin (1/4" dia. X 1-3/4 Lg.)
12	11064	2	Needle Bearing
13	11261	2	Retaining Ring
14	23556	1	Shaft
15	11821	1	Woodruff Key
16	23574	1	Gear
17	40072	1	Pump End Plate
18	10001	13	Soc. Hd. Cap Screw (#10-32 UNF X 1-3/4" Lg.; Torque to 50 in. lbs.)
19	21091	1	Zinc Coupling
20	21092	1	Adapter
21	21093	1	Key
22	11198	2	Needle Thrust Bearing (See Note below)
23	10266	1	O-ring (3/8 X 1/4 X 1/16)
24	20774	1	Drive Gear
25	10303	1	O-ring (7/8 X 3/4 X 1/16)
26	10425	2	Compression Spring (3/8 O.D. X 3/4 Lg.)
27	20771	2	Poppet
28	66107	1	Pump Body
29	10427	1	Pipe Plug (1/8" NPTF)
30	10271	1	O-ring (11/16 X 1/2 X 3/32)
31	12389	1	Teflon Backup Washer (11/16 X 1/2 X 1/16)
32	20849	1	Spool
33	23255	1	Spring Guide
34	10426	1	Compression Spring (1" O.D. X 1-13/16 Lg.)
35	23256	1	Spring Guide

NEEDLE BEARING INSTALLATION SPECIFICATIONS



When replacing the needle bearings on the drive gear of the basic pumps, the dimensions shown must be as specified.

SEE DIAGRAM ON
REVERSE SIDE
FOR IMPORTANT
ASSEMBLY
INFORMATION

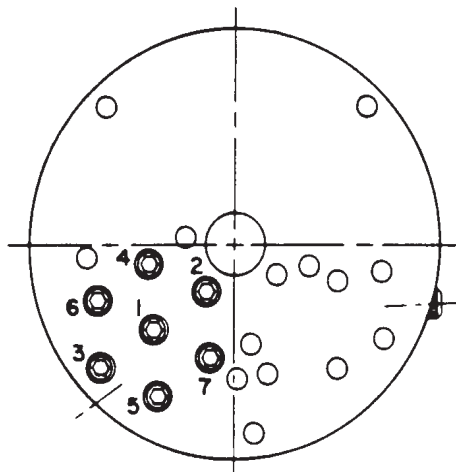


351968 PUMP ASS'Y

3 Pistons -- 9/32 Dia.

Item No.	Part No.	No. Req'd	Description
1	10442	1	Copper Washer (3/8 X 1/4 X 1/32)
2	10002	1	Soc. Hd. Cap Screw (1/4-20 UNC X 3/8" Lg.; Torque to 140/160 in. lbs.)
3	24549	6	Valve Guide
4	10445	6	Compression Spring (5/32" O.D. X 3/4" Lg.)
5	12223	7	Steel Ball
6	10023	7	Soc. Hd. Cap Screw (1/4-20 UNF X 1-1/2" Lg.; Torque to 170/180 in. lbs.; See note below)
7	66016	1	Top Plate
8	10519	1	Soc. Set Screw (1/4-20 UNC X 3/8 Lg.; Torque to 65/70 in. lbs.)
9	421473	1	Valve Head
10	41062	1	Pump Barrel
11	21628	3	Piston

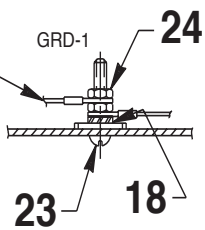
BOLT TIGHTENING SEQUENCE



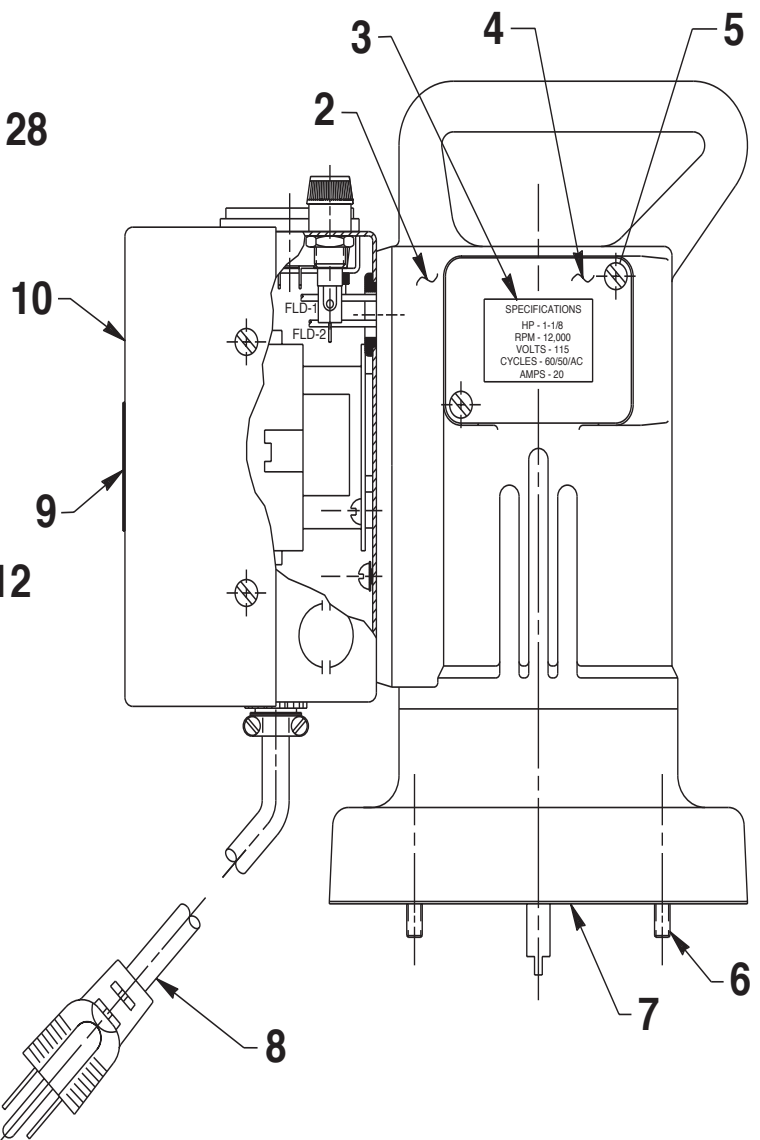
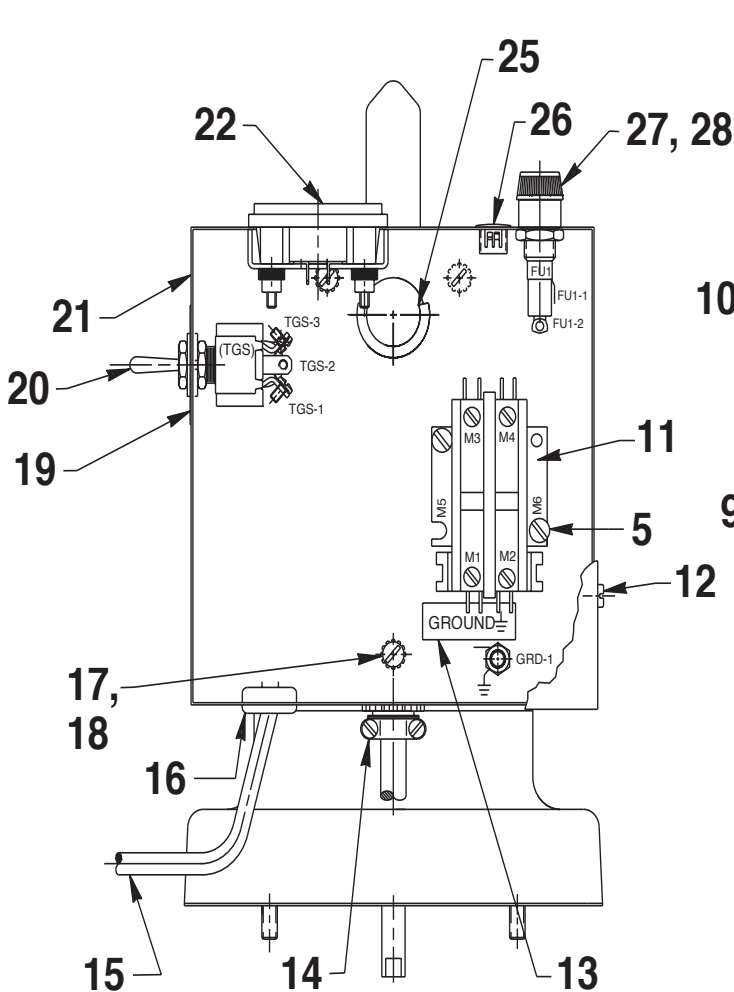
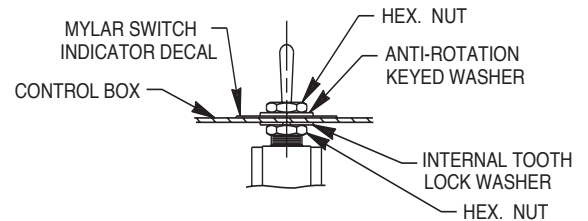
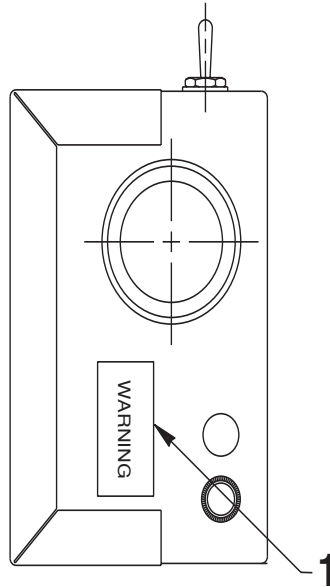
**NOTE: Assemble in sequence shown.
Lubricate under head and on
threads. Torque to 180 in. lbs.**

MOTOR CONTROL ASSEMBLY

POWER CORD GROUND
(MUST BE ISOLATED BETWEEN
NUTS AND CAN BE AT
TOP OR BOTTOM OF STACK.)

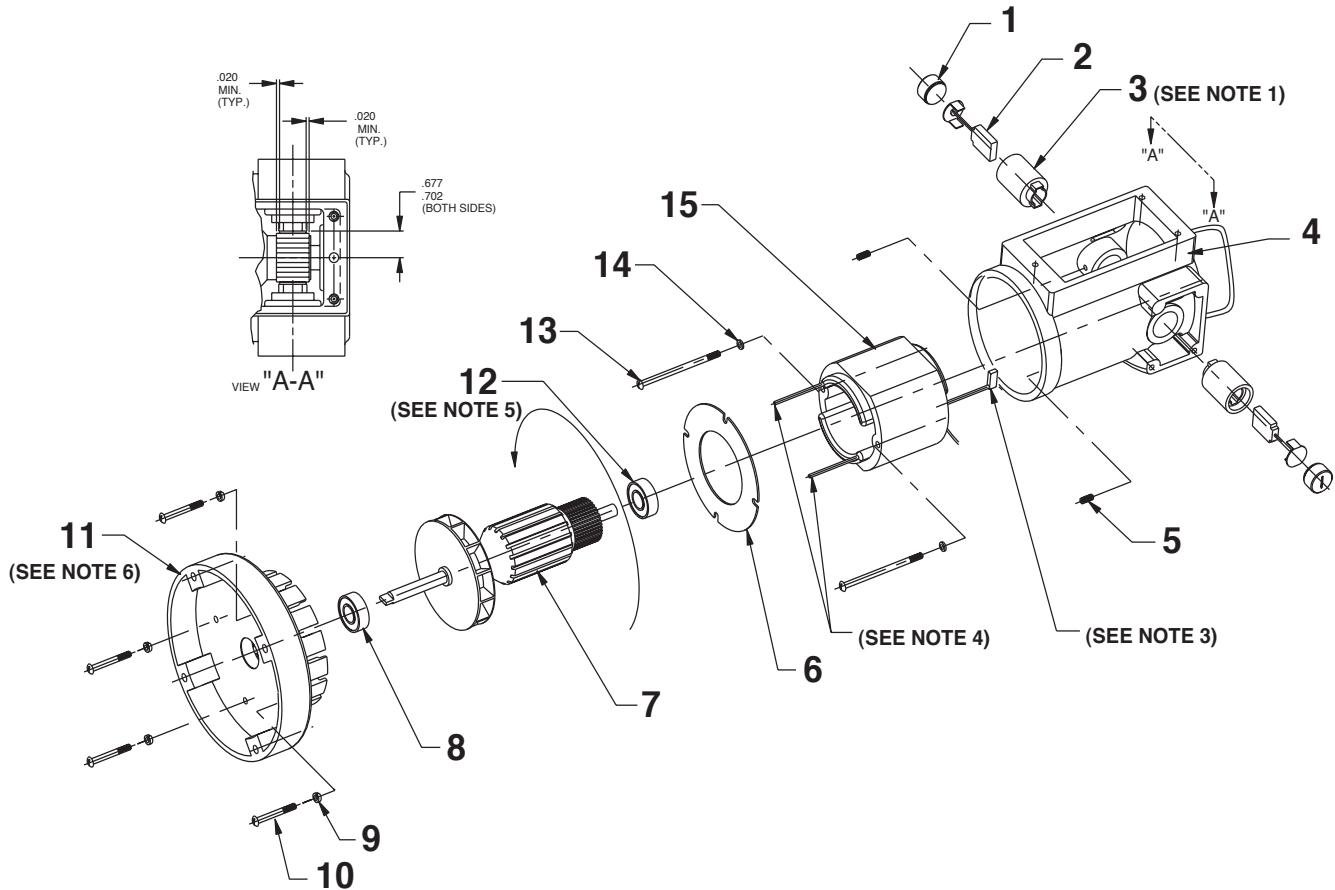


NOTE: SERRATED LOCK WASHER
MUST BE ADJACENT TO
METAL BOX. MORE WASHERS
CAN BE USED IF DESIRED.



Item No.	Part No.	No. Req'd	Description
15	25017	1	Control, Hand (See Form No. 101644)
16	15993	1	Bushing, Strain Relief
17	10164	3	Screw, Rnd Hd (10-24 x 3/8)
18	11108	4	Washer, Tooth Ext (.40 x .20)
19	25802	1	Decal, Switch Indicator
20	12665	1	Switch, Toggle
21	66106WH2	1	Box, Electrical Control
22	253458	1	Meter, Hour
23	11856	1	Screw, Rnd Hd (10-24 x 1)
24	10197	2	Nut, Hex (10-24)
25	15497	1	Grommet, Rubber
26	17782	1	Plug, Snap
27	18292	1	Holder, Fuse
28	252289	1	Fuse (25 AMP 125V)

UNIVERSAL MOTOR

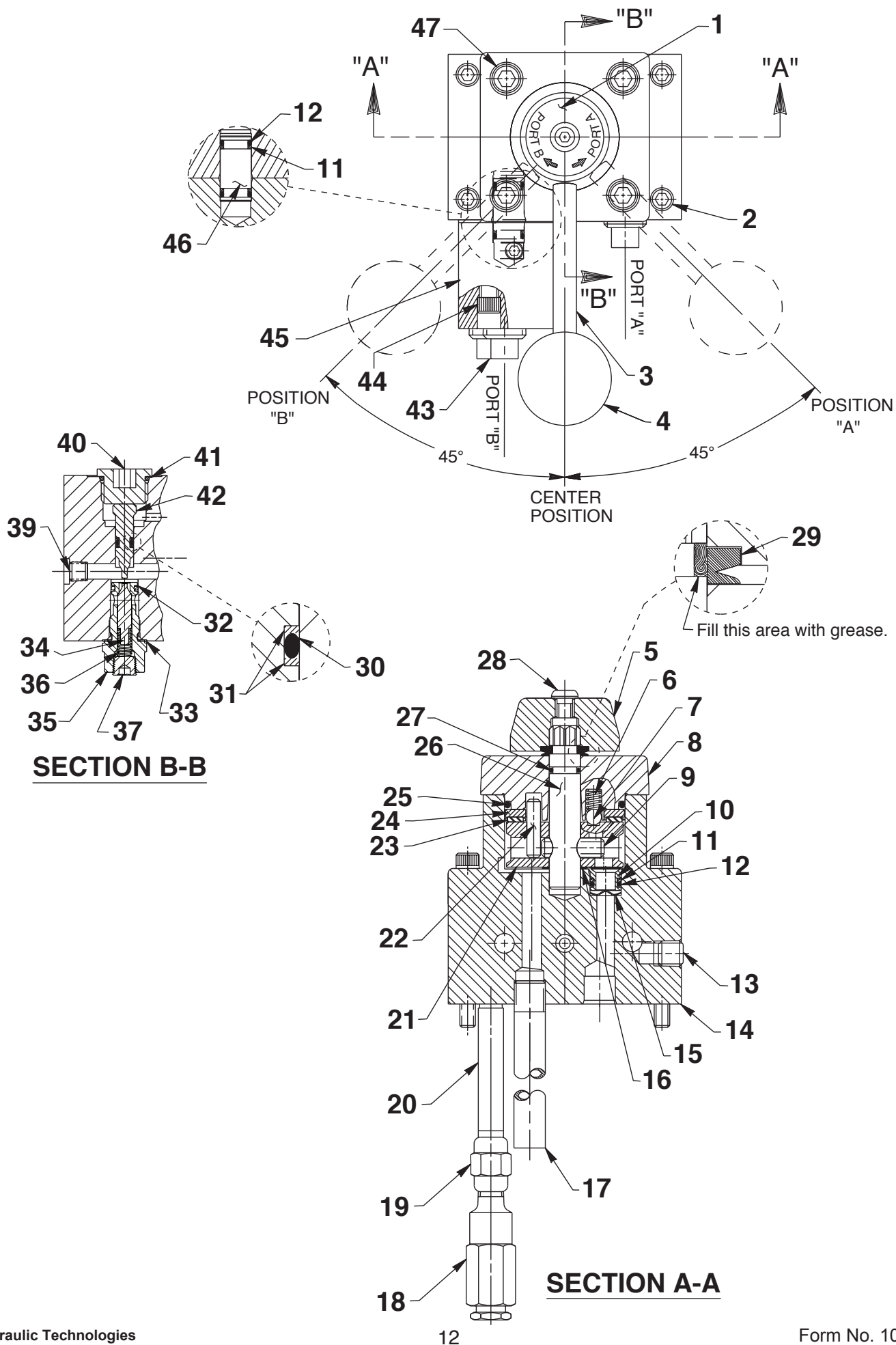


Item No.	Part No.	No. Req'd	Description
1	10806	2	Brush Holder Cap
2	10804	2	Brush
3	10805	2	Brush Holder
4	65479WH2	1	Motor Shell
5	10133	2	Screw (#10-24 UNC x 1/4 Lg.)
6	20786	1	Baffle Plate
7	10800	1	Armature (115 V.)
8	10439	1	Ball Bearing

Item No.	Part No.	No. Req'd	Description
9	10241	4	Lockwasher (For #10 bolt)
10	10169	4	Screw (#10-24 UNC x 2" Lg.; Torque to 20/25 in. lbs.)
11	351416WH2	1	Motor Base
12	10438	1	Ball Bearing
13	10170	2	Screw (#10-24 UNC x 3-1/4 Lg.)
14	12356	2	Washer (#10 Internal Tooth)
15	10802	1	Field (115 V.)

- Notes:**
1. Brush holders (Item #3) must be installed with slot and dimple facing the open end of the motor shell casting.
 2. Stator must be installed with part no. and date code up (must be visible through the rectangular opening in the motor shell casting).
 3. Insert flag terminals into adjacent brush holders.
 4. Line leads must be routed through the rectangular opening in the motor shell casting.
 5. Press bearings into armature and install as a unit into the motor shell casting.
 6. Casting number must be on top when the motor base casting is fastened to the motor shell casting.

VALVE ASSEMBLY

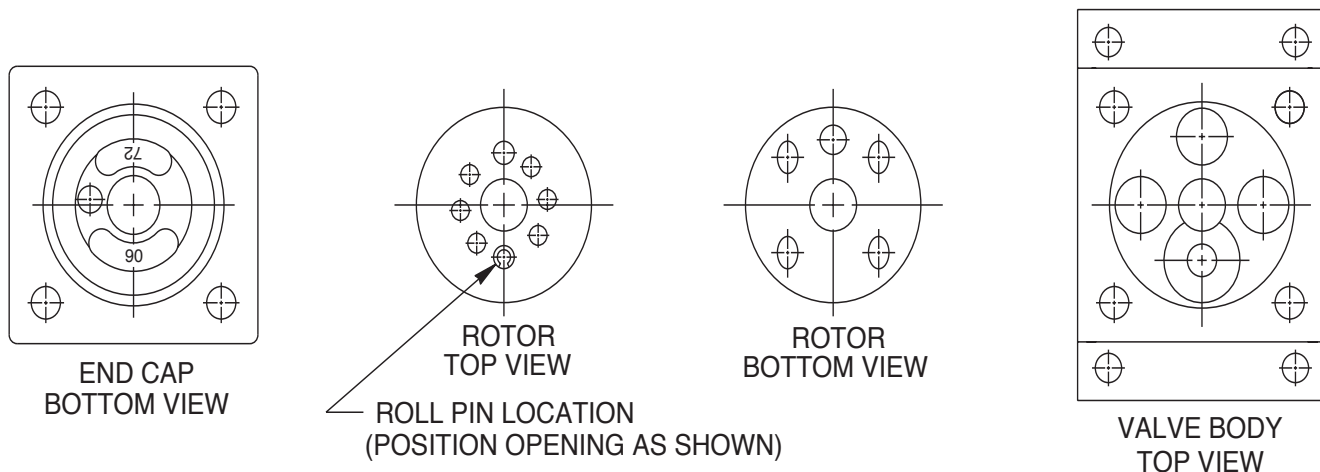


Item No.	Part No.	No. Req'd	Description
1	*211936	1	Decal, Label Control
2	10856	4	Screw, Soc Hd (1/4-20 x 1-3/4)
3	21639	1	Stud
4	211911	1	Knob, Ball
5	46057	1	Stem, End
6	15691	1	Spring (.24 OD x .63 x .04 ws)
7	10375	1	Ball (1/4" dia. steel)
8	61343	1	Cap, Valve
9	10496	1	Pin, Spring Slotted (.31 x 1.00)
10	252460	3	Seal
11	*11863	5	Washer, Backup (.50 x .38)
12	*10268	5	O-ring (.50 x .37 Nitrile)
13	14972	1	Fitting, Plug (1/4 PTF)
14	65531	1	Body, Valve
15	21975	3	Washer, Spring (.49 x .35)
16	214801	1	Washer, Spacer (.73 x .51)
17	200609	1	Tube, Drain
18	21278-57	1	Valve, Relief (Set at 5800/6400 PSI)
19	18841	1	Fitting, Straight (1/8 NPTF)
20	12891-1	1	Fitting, Straight (1/8 NPT)
21	421472	1	Rotor
22	250056	1	Pin, Spring Slotted (.22 x .94)
23	11228	1	Bearing, Needle
24	11227-1	1	Race, Bearing
25	*15892	1	O-ring (1.95 x 1.72 Nitrile)

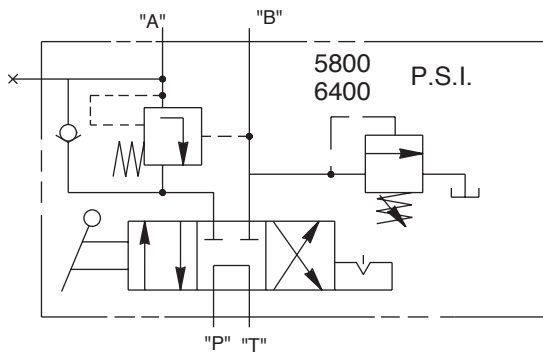
Item No.	Part No.	No. Req'd	Description
26	46048	1	Stem
27	*13943	1	O-ring (.50 x .37 Urethane)
28	15911	1	Screw, Button Hd (1/4-20 x 5/8; Torque to 60/80 in. lbs. Note: Apply Loctite No. 222 or equiv. at assembly.)
29	*213674	1	V-ring (.79 x .55 x .22 L)
30	*12099	1	O-ring (.28 x .15 Nitrile)
31	*207354	2	Washer, Backup (.28 x .16)
32	*14763	1	O-ring (.43 x .31 Urethane)
33	*14874	1	Washer, Copper (.70 x .50)
34	2008603	1	Poppet
35	2008604	1	valve, Cartridge (1/2-20 x 1-1/16; Torque to 250/280 in. lbs.)
36	11024	1	Spring (.25 OD x .68 x .03 ws)
37	10427	1	Plug 1/8 NPTF
39	15130	5	Fitting, Plug (1/16 PTF)
40	214014	1	Fitting, Plug (1/2 tube)
41	*215193	1	O-ring (.81 x .64 x Urethane)
42	214015	1	Piston
43	11127	3	Fitting, Plug (3/8 NPTF)
44	10854	3	Screw, Soc Hd (1/4-20 x 1-3/4)
45	421494	1	Body, Manifold
46	252181	1	Bushing
47	11013	4	Screw, Soc Hd (5/16-18 x 1; Torque to 300/320 in. lbs.)

Part numbers marked with an asterisk (*) are contained in Repair Kit No. 300571.

INTERNAL ASSEMBLY ORIENTATION OF PARTS



#59324 VALVE SPECIFICATIONS



HYDRAULIC SCHEMATIC

Valve, pump mounted, manual detented, 3-position, 4-way tandem center with "B" port pressure control and release system. (2.15 to 1 ratio)

Rated Pressure: 10,000 PSI
Case Pressure: 500 PSI
Rated Flow: 5 GPM

Function:

Center Position:

"A" and "B" ports blocked, pressure port to tank.

"A" Position:

Pressure to "A" port, "B" port to tank.

"B" Position:

Pressure to "B" port (controlled to 6400 PSI max.), "A" port to hold until pressure ratio is obtained and then releases to tank. "A" port will remain open as long as "B" port maintains pressure ratio.

NOTE:

"A" port is blocked with "B" and "P" ports open to tank during transition between valve positions. Pressure ratio is the pressure differential in the "A" and "B" ports.