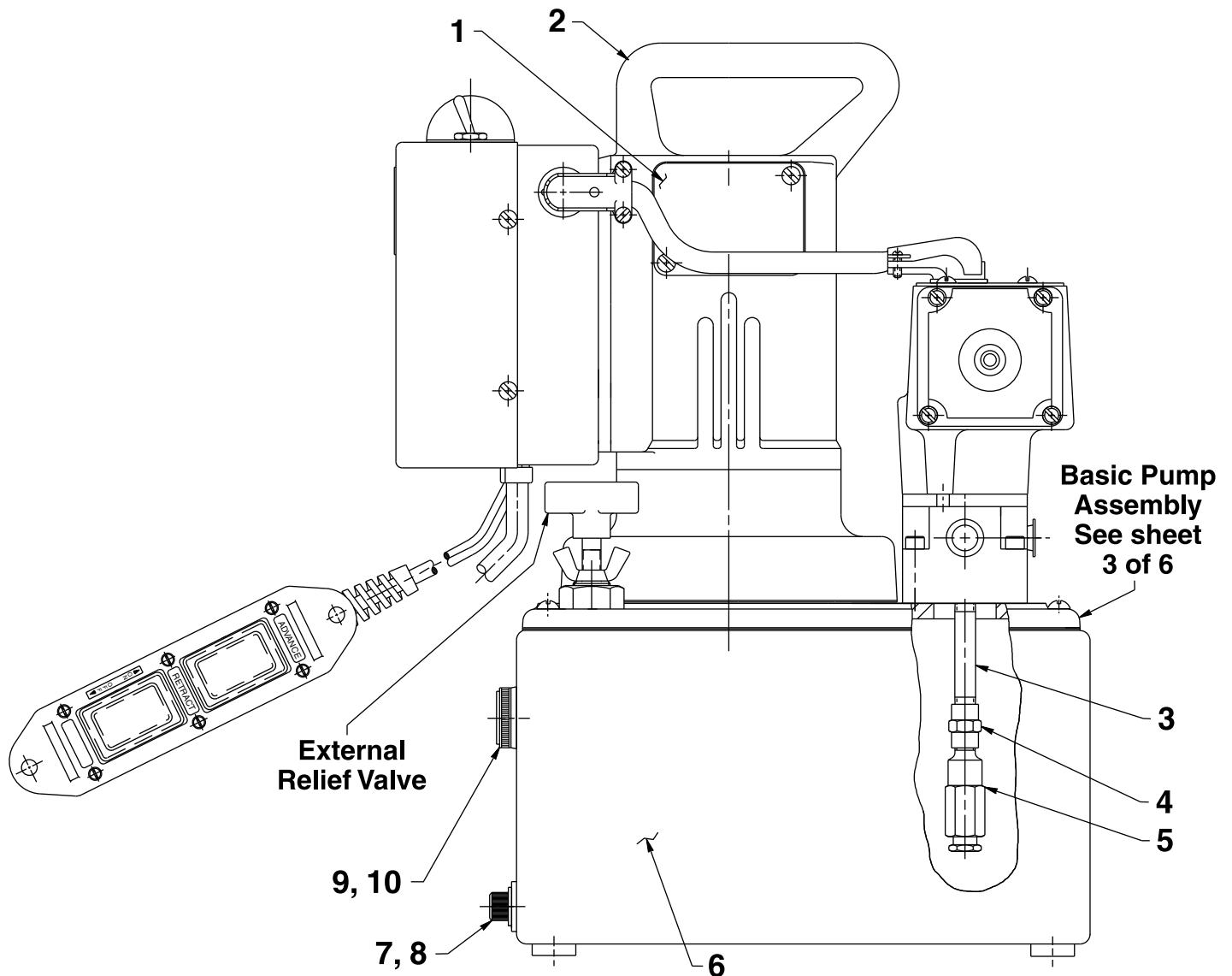


Parts List for:

X1E1
X1E2
X1E2J
X1E1-PT
X1E2-PT

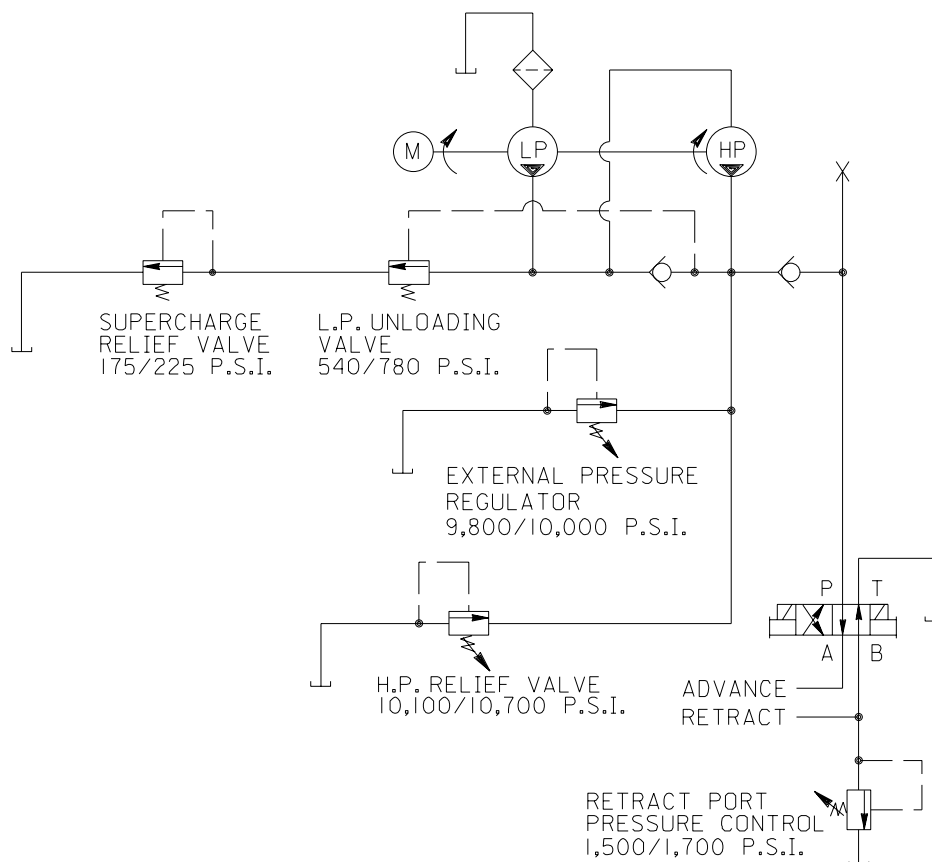
MODEL B
ELECTRIC HYDRAULIC PUMP
SIDE VIEW



Item No.	Part No.	No. Req'd	Description
1	21008	2	Cover
2	53338	1	Electric Motor Assembly (115 V., 60 Hz.; See back sheet 2 of 6)
	53337	1	Electric Motor Assembly (230 V. 60 Hz.; See back sheet 2 of 6)
3	15456	1	Nipple Fitting (1/8 NPTF)
4	18841	1	Straight Fitting
5	21278-15	1	Relief Valve (Set at 1,500/1,700 PSI)
6	*420327	1	Reservoir
	4203270R9	1	(For X1E-PT & X1E2-PT)
7	10412	1	Soc. Hd. Cap Screw (3/8-16 UNC x 1/2 Lg.)
8	19779	1	Seal Washer
9	17586	1	Sight Gauge
10	253300	1	Seal Washer

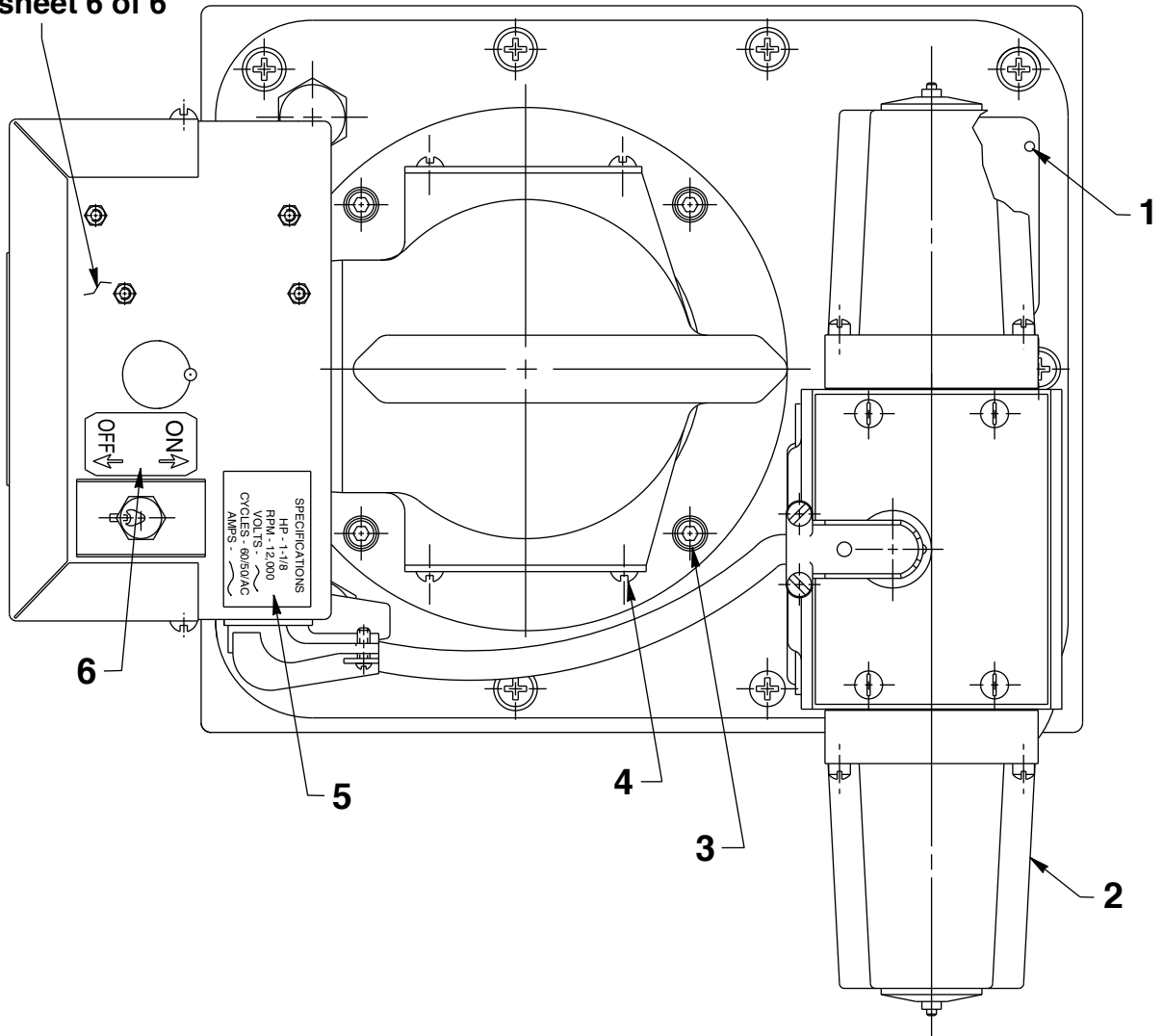
*For a replacement reservoir, order no. 251118.

HYDRAULIC SCHEMATIC



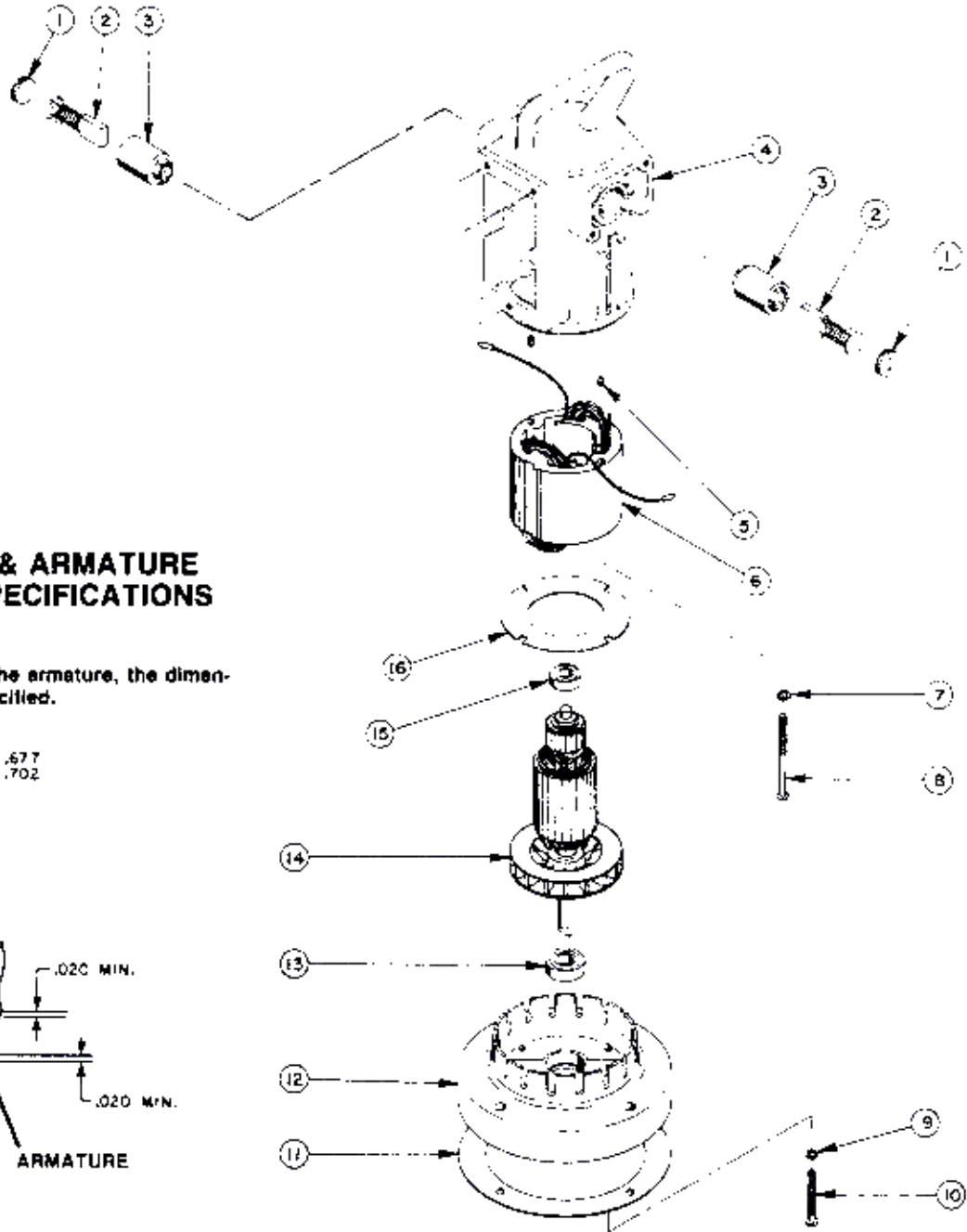
TOP VIEW

Motor Control Assembly
See sheet 6 of 6



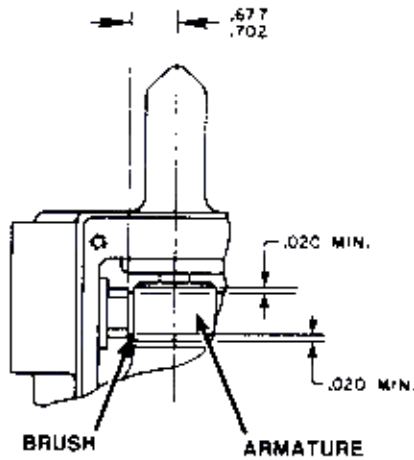
Item No.	Part No.	No. Req'd	Description
1	10575	4	Drive Screw
2	9592	1	Solenoid Valve (For X1E1 & X1E1-PT), Two position, 4-way; See Form No. 108066)
	9552	1	Solenoid Valve (For X1E2 & X1E2-PT), Two position, 4-way; See Form No. 108066)
	66205-200	1	Solenoid Valve (For X1E2J, Two position, 4-way; See Form No. 108066)
3	10022	4	Soc. Hd. Cap Screw (1/4-20 x 1-1/2 Lg.)
4	10164	4	Sl. Rd. Machine Screw (#10-24 x 3/8 Lg.)
5	215164	1	Specifications Decal (For X1E1 & X1E1-PT)
	215163	1	Specifications Decal (For X1E2 & X1E2J & X1E2-PT)
6	205409	1	ON/OFF Label Decal

ELECTRIC MOTOR ASSEMBLY



BRUSH HOLDER & ARMATURE INSTALLATION SPECIFICATIONS

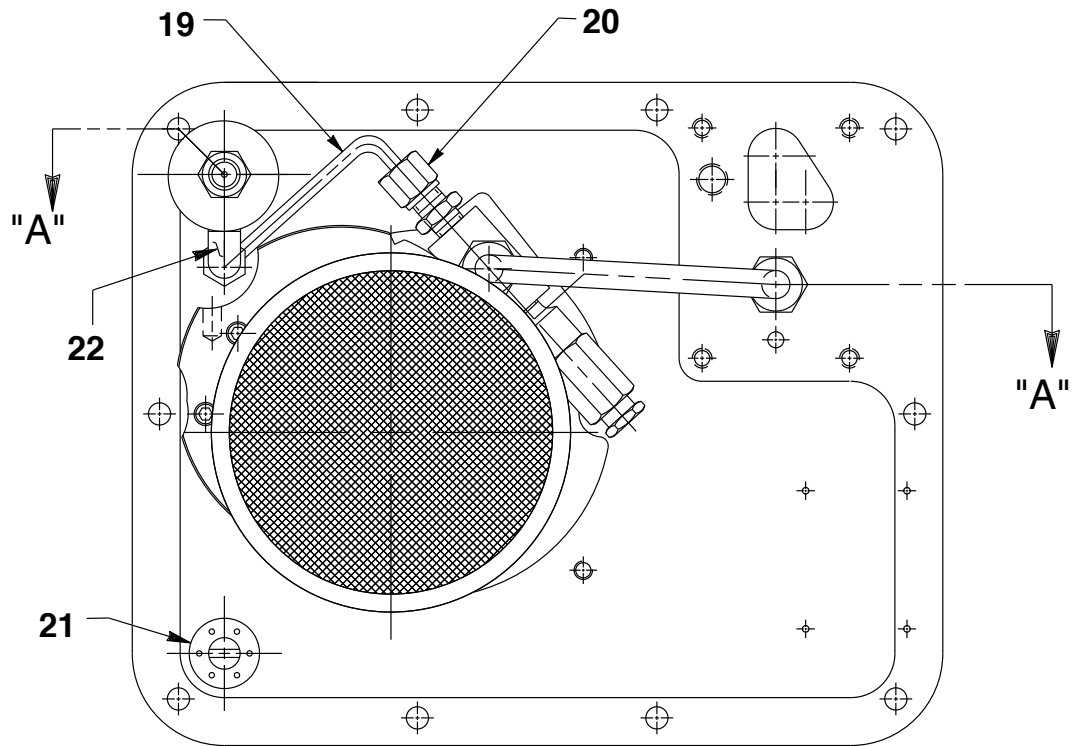
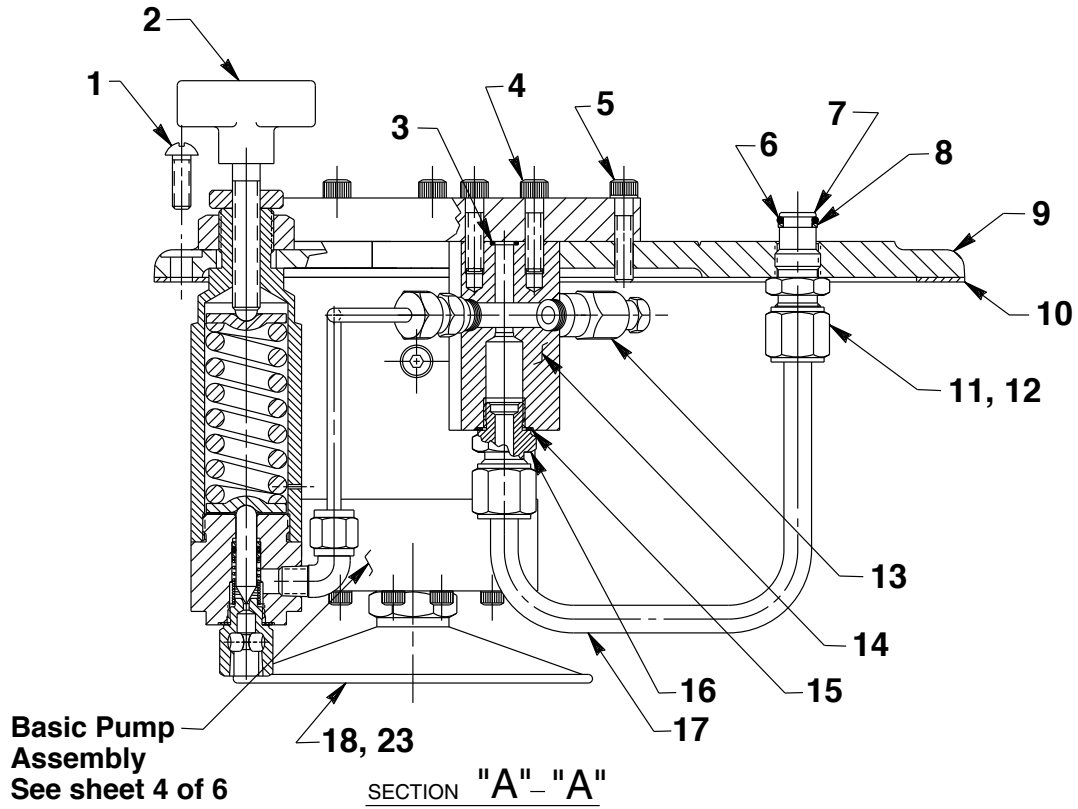
When replacing brushes or the armature, the dimensions shown must be as specified.



Item No.	Part No.	No. Req'd	Description
1	10806	2	Brush Holder Cap
2	10804	2	Brush Assembly (For 115 v.)
	2001708	2	Brush Assembly (For 230 v.)
3	10805	2	Brush Holder (See detail above)
4	61901WH2	1	Motor Shell
5	10133	2	Set Screw
6	10802	1	Field (For 115 volt)
	10803	1	Field (For 230 volt)
7	12356	2	Lockwasher
8	10170	2	Machine Screw
9	10241	4	Lockwasher

Item No.	Part No.	No. Req'd	Description
10	10169	4	Machine Screw (#10-24 x 2" Lg.; Torque to 20/25 in. lbs.)
11	30650	1	Gasket
12	40059WH2	1	Motor Base
13	10439	1	Ball Bearing
14	10800	1	Armature (For 115 volt; See detail above)
	10801	1	Armature (For 230 volt; See detail above)
15	10438	1	Ball Bearing
16	20786	1	Baffle Plate

GENERAL PUMP ASSEMBLY

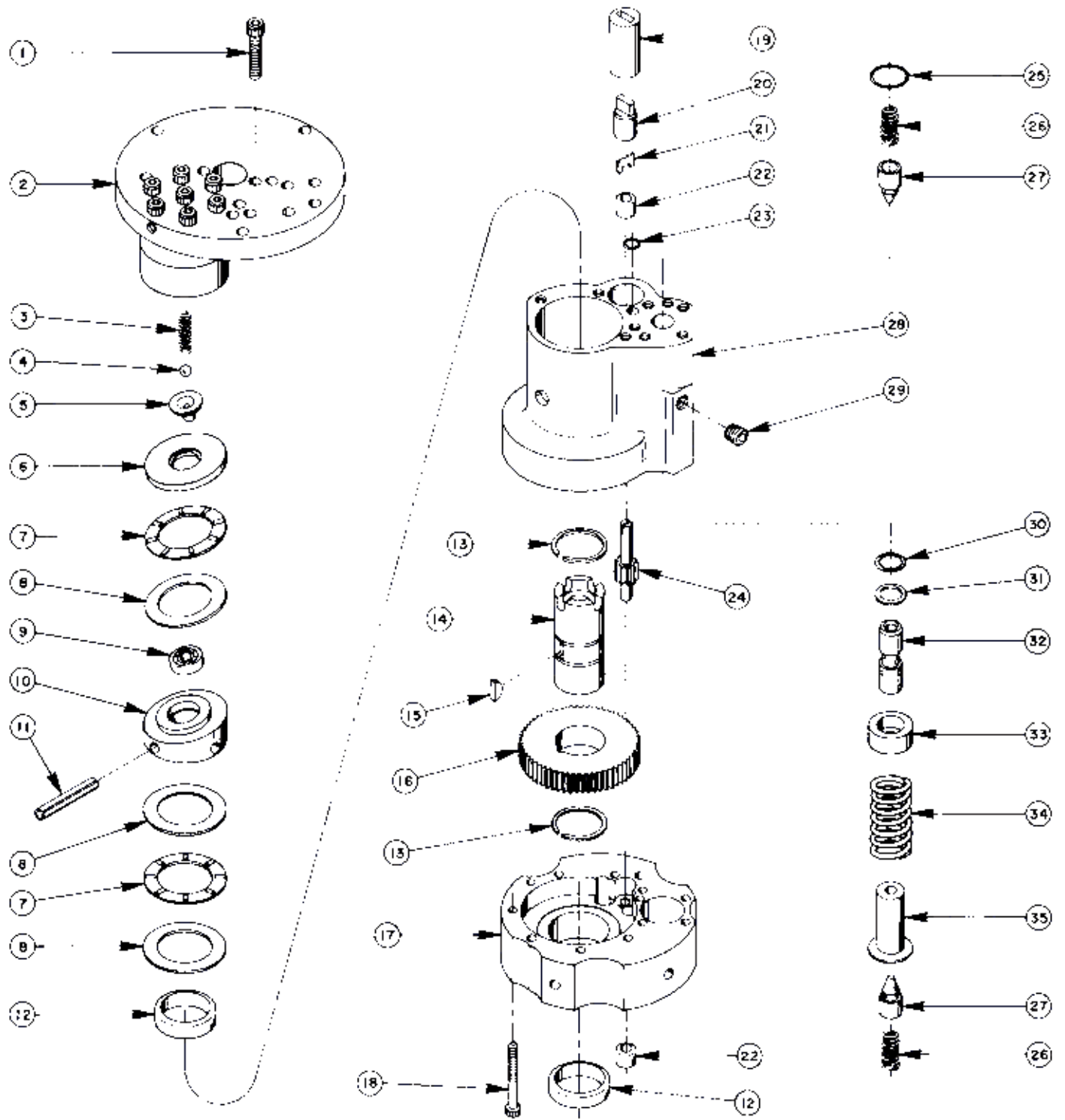


Parts List, Form No. 101721, Back sheet 3 of 6

Item No.	Part No.	No. Req'd	Description
1	10177	10	Machine Screw (1/4-20 x 3/4 Lg.)
2	421280	1	Pressure Regulator Assembly (See Form No. 101697)
3	10266	1	O-ring (1/4 x 3/8 x 1/16)
4	10015	2	Cap Screw (1/4-28 x 1" Lg.; Torque to 180 in. lbs.)
5	10016	3	Cap Screw (1/4-20 UNC X 1" Lg.)
6	10268	1	O-ring (3/8 x 1/2 x 1/16)
7	20787	1	Valve Connector
8	11863	1	PTFE Backup Washer
9	40064WH2	1	Cover
10	40164	1	Gasket
11	10430	2	Tube Sleeve (3/8)
12	10431	2	Tube Nut
13	21278	1	Relief Valve Assembly (Set at 10,100-10,700 PSI)
14	20776	1	Valve Body
15	10261	1	Copper Washer
16	20770	1	Connector
17	21045	1	Oil Line
18	21344	1	Filter Assembly (Includes Item No. 23)
19	201570	1	Pressure Control Valve Oil Line
20	14844	1	Male Connector
21	20937	1	Filler Plug
22	16177	1	90° Elbow Fitting
23	10300	1	O-ring (.62 x .46 Nitrile)

NOTE: All items on sheet 4 of 6 and items 3, 12, 13, 14, 15, & 17 on this sheet make up Basic Pump Assembly Replacement #27207.

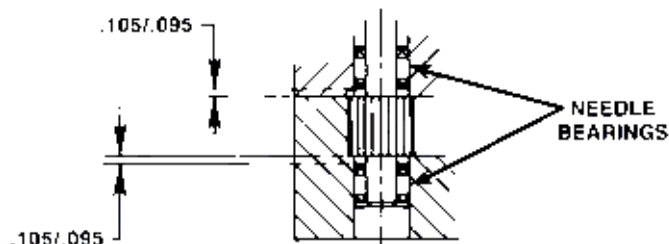
BASIC PUMP ASSEMBLY



Parts List, Form No. 101721, Back sheet 4 of 6

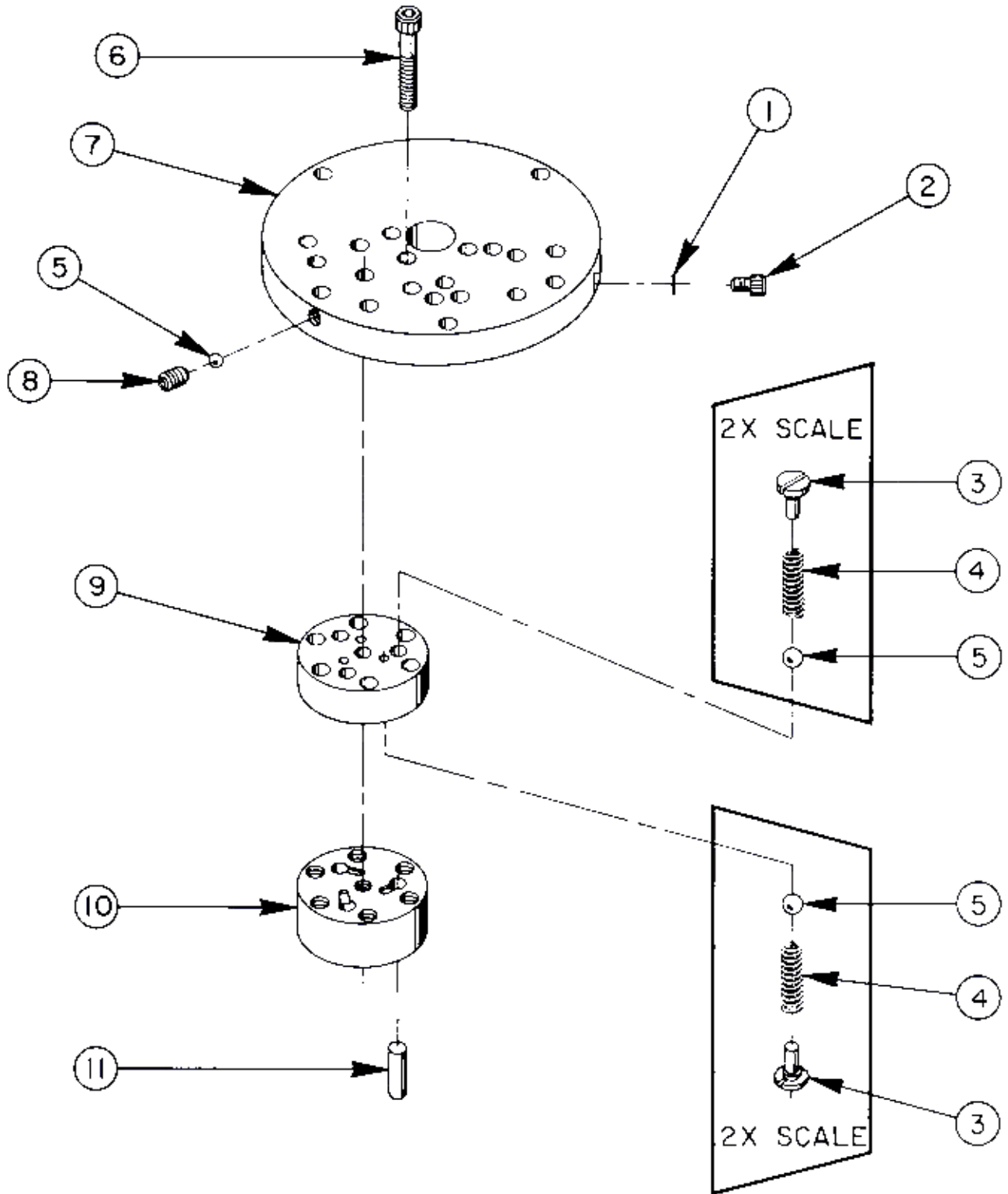
Item No.	Part No.	No. Req'd	Description
1	10020	9	Soc. Hd. Cap Screw (1/4-20 UNC X 1-1/4 Lg.; Torque to 170-180 in. lbs.)
2	33113	1	High Pressure Pump Ass'y (See sheet 5 of 6)
3	10361	1	Compression spring (1/4 O.D. X 1" Lg.)
4	10375	1	Steel Ball (1/4 dia.)
5	23547	1	Bearing Top Plate
6	23548	1	Top Plate
7	11228	2	Thrust Bearing
8	11813	3	Bearing Race
9	11814	1	Ball Bearing
10	23549	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	Nylon 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	40071	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	PTFE 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.

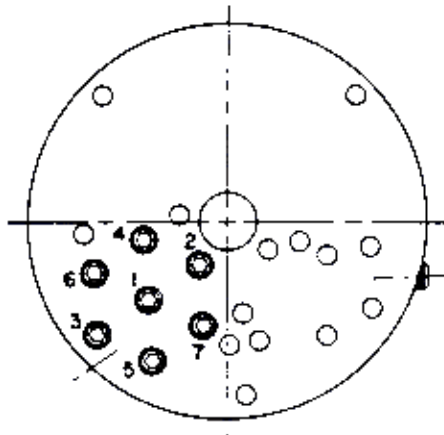
HIGH PRESSURE PUMP ASSEMBLY



33113 PUMP ASSEMBLY
3 PISTON - 9/32 DIA.

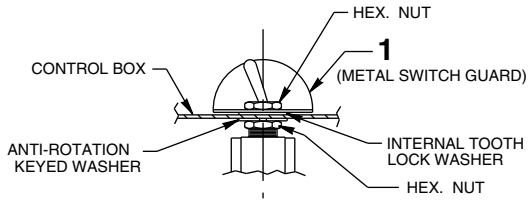
Item No.	Part No.	No. Req'd	Description
1	10442	1	Copper Washer (3/8 X 1/4 X 1/32)
2	10002	1	Soc. Hd. Cap Screw (1/4-20 UNC X 3/8 Lg.; Torque to 140/160 in. lbs.)
3	24549	6	Valve Guide
4	10445	6	Compression Spring (5/32 O.D. X 3/4 Lg.)
5	12223	7	Steel Ball
6	10023	7	Soc. Hd. Cap Screw (1/4-20 UNF X 1-1/2 Lg.; Torque to 170/180 in. lbs.; See note below)
7	50411	1	Top Plate
8	10519	1	Soc. Set Screw (1/4-20 UNC X 3/8 Lg.; Torque to 65/70 in. lbs.)
9	40630	1	Valve Head
10	41062	1	Pump Barrel
11	21628	3	Piston

BOLT TIGHTENING SEQUENCE

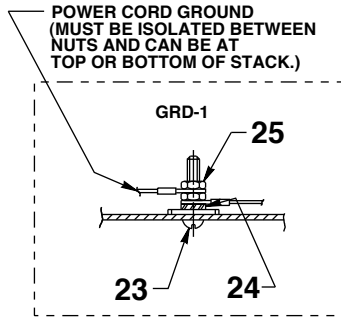


**NOTE: Assemble in sequence shown.
 Lubricate under head and on threads.
 Torque to 180 in. lbs.**

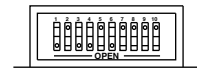
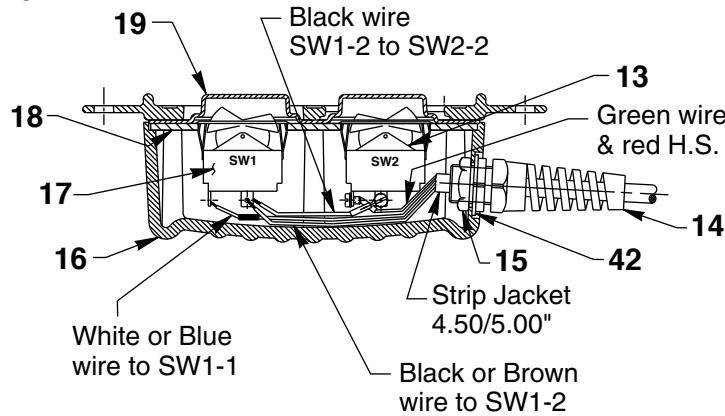
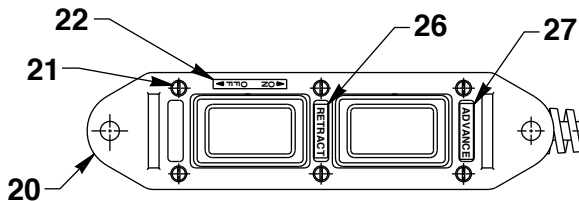
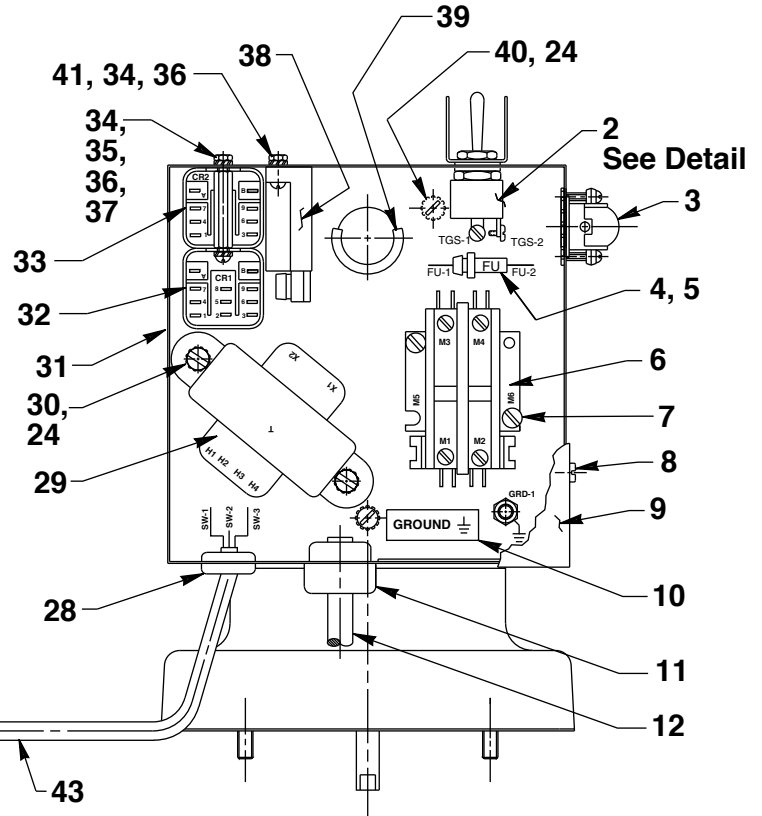
MOTOR CONTROL ASSEMBLY



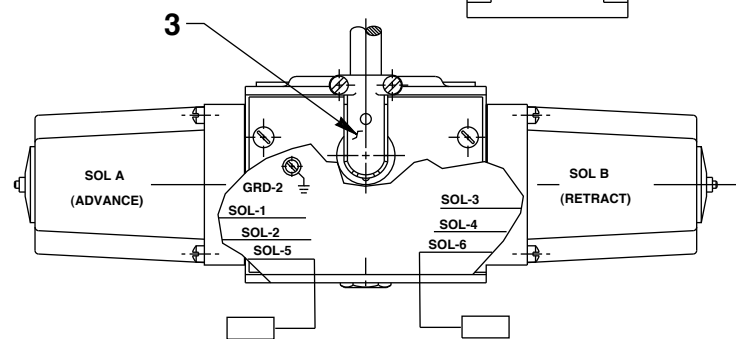
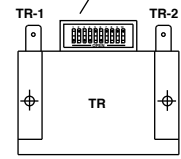
SWITCH DETAIL



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



NOTE: TURN ON SWITCHES 1,3,4, & 6. SET ALL OTHER SWITCHES AWAY FROM OPEN POSITION.



Parts List, Form No. 101721, Back sheet 6 of 6

Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description
1	352061	1	Metal Switch Guard	24	11108	3	Lockwasher (#10 External Tooth)
2	12301	1	Switch	25	10197	2	Hex Nut (#10-24)
3	11144	2	90° Elbow Fitting	26	29664	1	Decal (Retract)
4	16887	1	Fuseholder	27	29663	1	Decal (Advance)
5	206962	1	Fuse (3 amp)	28	15993	1	Strain Relief Bushing
6	420718-4	1	Contact	29	11852	1	Transformer (For X1E1 & X1E2 & X1E1-PT & X1E2-PT)
7	10166	2	Machine Screw (#10-24 UNC X 1/2 Lg.)		350380	1	Transformer (For X1E2J)
8	14812	4	Self-tapping Screw (#10-24 x 1/4 Lg.)	30	11539	2	Sl. Rd. Hd. Machine Screw (#10-24 x 1/4 Lg.)
9	43126WH2	1	Control Box Cover	31	51218WH2	1	Electrical Control Box
10	205189	1	Ground Decal	32	305602	1	Relay
11	210112	1	Strain Relief Bushing	33	39092	1	Relay
12	307440	1	Cord Set (For X1E1 & X1E1-PT)	34	15906	2	Washer (#6 Shakeproof)
	308752	1 ft.	Electrical Cable (14/3 SJTO; For X1E2 & X1E2-PT)	35	17563	2	Mach. Screw (6-32 UNC X 1/4 Lg.)
13	16772	1	Rocker Switch	36	10195	2	Machine Screw Nut (#6-32)
14	251818	1	Strain Relief Connector	37	215376	2	Stand Off
15	251802	1	Locknut	38	251467	1	Timer
16	420050-4	1	Switch Housing	39	15497	1	Rubber Grommet (Trim off upper 1/3 as shown)
17	46131	1	Rocker Switch	40	10164	3	Sl. Rd. Hd. Machine Screw (#10-24 x 3/8 Lg.)
18	420050-3	1	Switch Mounting Plate	41	11426	2	Round Head Screw (#6-32 UNC x 1/2 Lg.)
19	420050-2	1	Gasket	42	253607	1	Rubber Gasket
20	251044	1	Cover	43	12908	21'	Electrical Cable (18/3)
21	250248	6	Sl. Pan Hd. Tapping Screw (#4-24 x 3/4 Lg.)				
22	250538	1	Decal (On-Off)				
23	11856	1	Screw (#10-24 x 1" Lg.)				

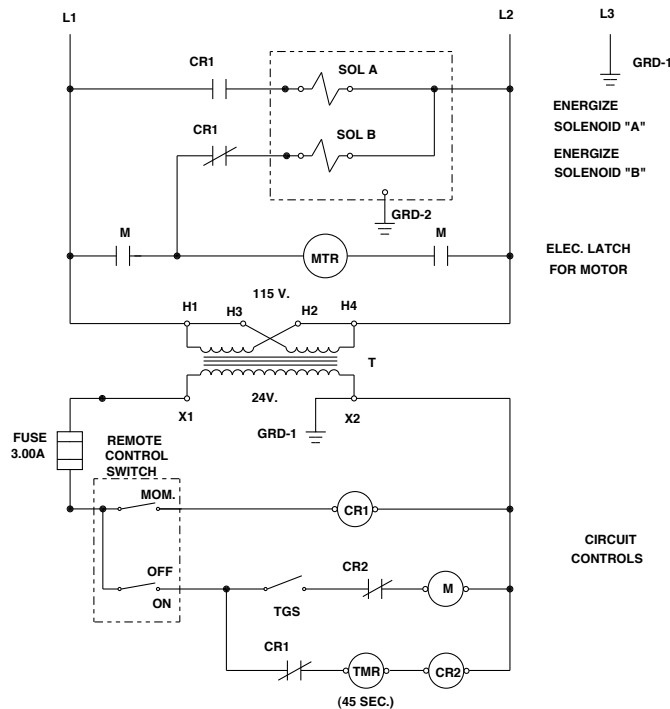
ELECTRICAL SCHEMATIC



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



ENERGIZE SOLENOID "A"
ENERGIZE SOLENOID "B"
ELEC. LATCH FOR MOTOR

Transformer connections as shown are for 115 V., 60 Hz.

For 220V., 50 Hz. and 200 V., 50/60 Hz. make transformer connections as follows:

- L1 to H1
- H3 to H2
- H4 to L2

CIRCUIT CONTROLS