

SPX Corporation  
5885 11th Street  
Rockford, IL 61109-3699 USA

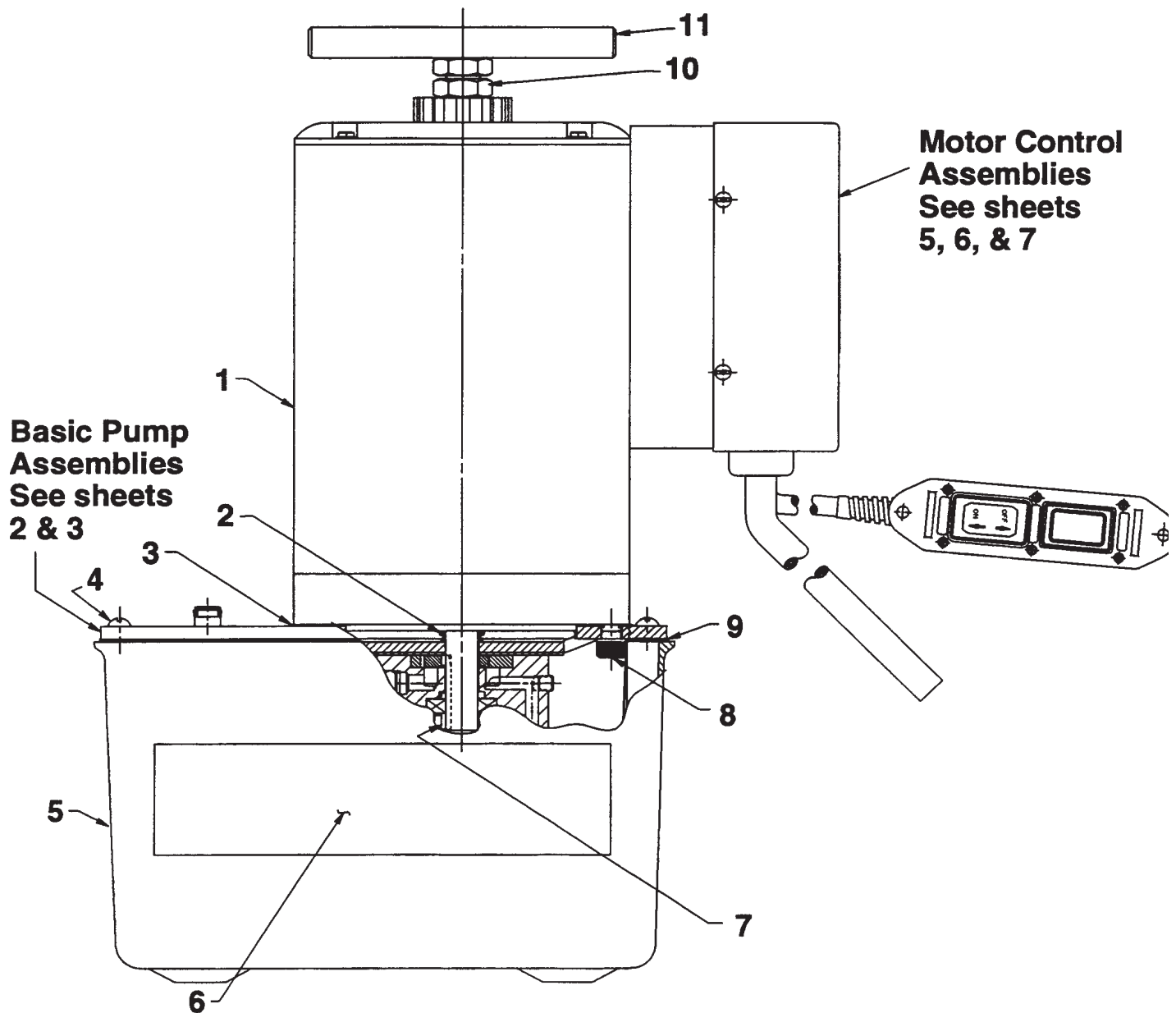
Internet Address:  
<http://www.powerteam.com>  
Tech. Services: (800) 477-8326  
Fax: (800) 765-8326  
Order Entry: (800) 541-1418  
Fax: (800) 288-7031

SPX Corporation  
655 Eisenhower Drive  
Owatonna, MN 55060-0995 USA  
Phone: (507) 455-7000  
Tech. Services: (800) 533-6127  
Fax: (800) 955-8329  
Order Entry: (507) 455-1480  
Fax: (800) 283-8665  
International Sales: (507) 455-7223  
Fax: (507) 455-7746

Parts List for:

4055-50-110	4057-50-220	PE462S-50-220
4055-50-220	106174-A-CL	PE464-50-220
4056-50-110	PE460-STM	PE464S-50-220
4056-50-220	PE462-50-220	
4057-50-110	PE462A-50-220	

**ELECTRIC HYDRAULIC PUMP**



**Basic Pump Assemblies**  
See sheets 2 & 3

**Motor Control Assemblies**  
See sheets 5, 6, & 7

Item No.	Part No.	No. Req'd	Description
1	58053WH2	1	Electric Motor (115 V., 60 Hz.)
	53104	1	Electric Motor (220 V., 50Hz.)
2	213674	1	V-ring Seal
3	307425	1	Motor Base Gasket
4	10177	10	Machine Screw (#10-24 x 3/4 Lg.; For PE46 Series; Metal Reservoir)
	209799	14	Self-tapping Washer Hd. Screw (1/4-10 x 7/8 Lg.; For 4055-50-110, 4055-50-220, 4056-50-110, 4056-50-220, 4057-50-110, & 106174-A-CL; Plastic Reservoir)
5	40063OR9	1	Metal Reservoir (For PE46 Series)
	61165	1	Plastic Reservoir (For 4055-50-110, 4055-50-220, 4056-50-110, 4056-50-220, 4057-50-110, & 106174-A-CL)
6	309219	2	Trade Name Decal (For PE46 Series)
	350126	2	Trade Name Decal (For all 4000 Series)
7	214097	1	Key
8	10050	4	Soc. Hd. Screw (3/8-16 x 1" Lg.; Torque to 90/100 in. lbs.)
9	40164	1	Reservoir Gasket
10	10394	1	Nut
11	203146	1	T-handle

Item No.	Part No.	No. Req'd	Description
	9796	1	Ram Half Coupler (For 106174-A-CL only)
	36886	1	Hose Assembly (For 106174-A-CL only)

**VALVE ASSEMBLIES**

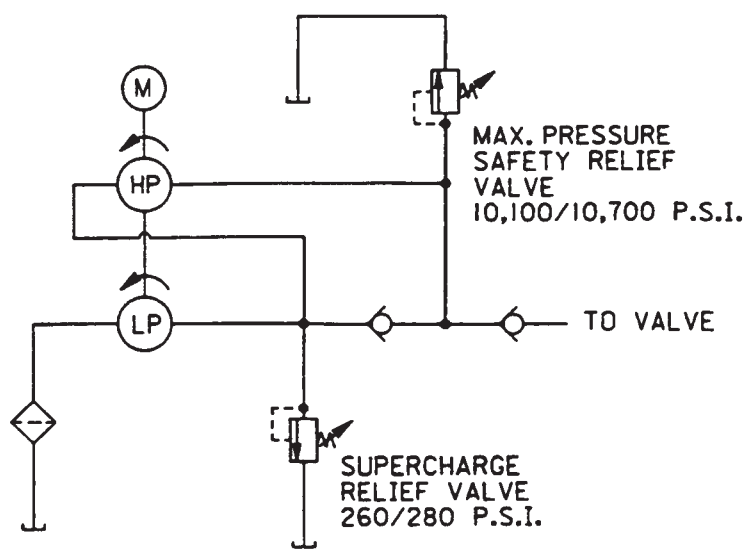
	9584	1	Single-acting Valve (See Form #100389; For PE462-50-220 & 4055-50-220; Replace current drain line tube with 200609 tube.)
	30740	1	Single-acting Valve (See Form #100389; For 4055-50-110)
	30601	1	2-way Valve (See Form #100382; For 106174-A-CL)
	9500	1	4-way Valve (See Form #100623; For PE464-50-220 & 4057-50-220)
	52510	1	Manual Valve (See Form #100623; For 4057-50-110)
	9626	1	Manifold Block (See Form #100605; For PE460-STM)
	42621	1	Solenoid Valve (See Form #100445; For 4056-50-110)
	44084	1	Solenoid Valve (See Form #100445; For PE462S-50-220 & 4056-50-220)
	61084-230	1	Two Pos. 4-way Solenoid Valve (See Form #100540; For PE464S-50-220)
	9610	1	Automatic Valve (See Form #101200; For PE462A-50-220)

**PARTS INCLUDED BUT NOT SHOWN**

25599	1	Hose Half Coupler (For 106174-A-CL only)
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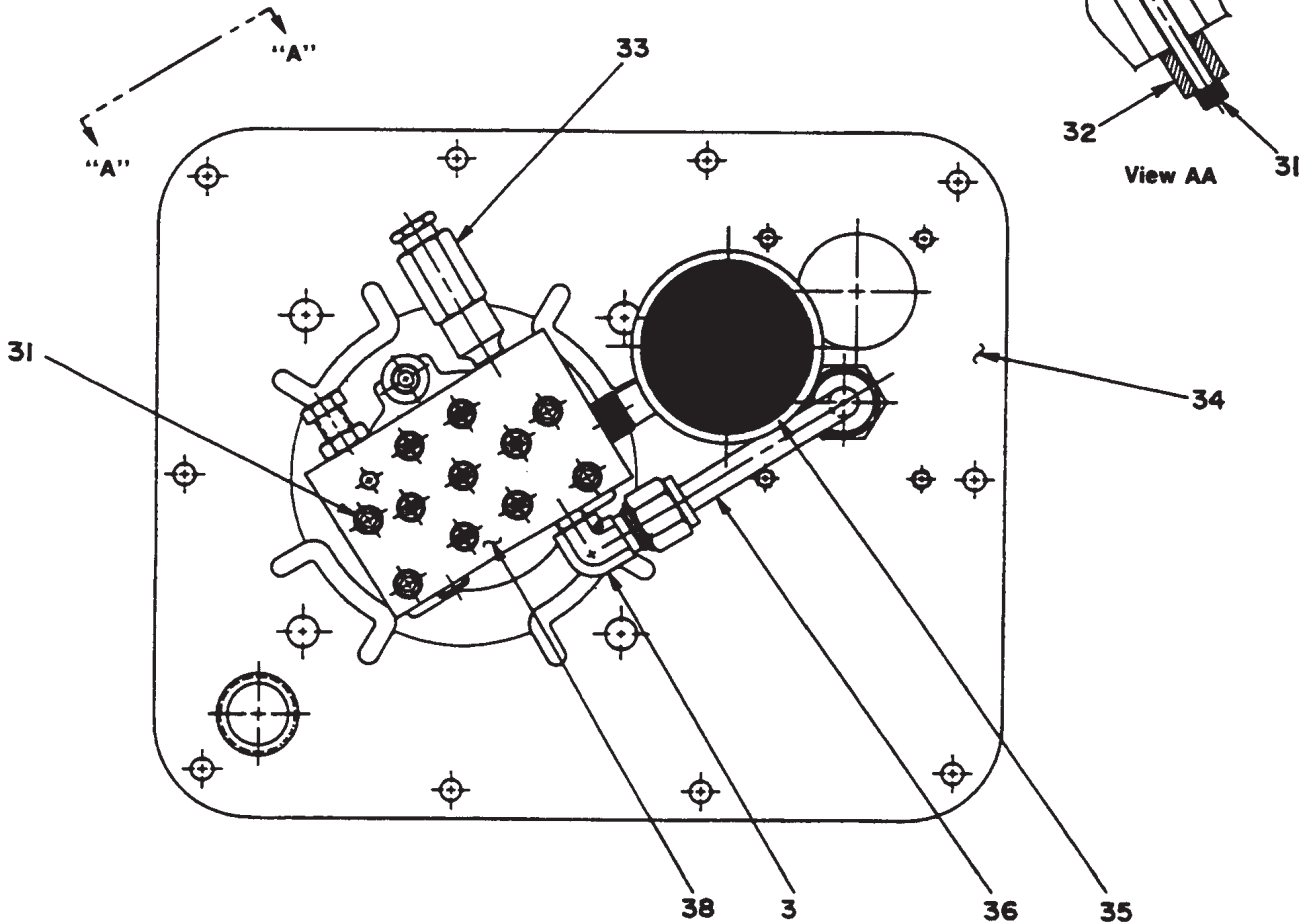
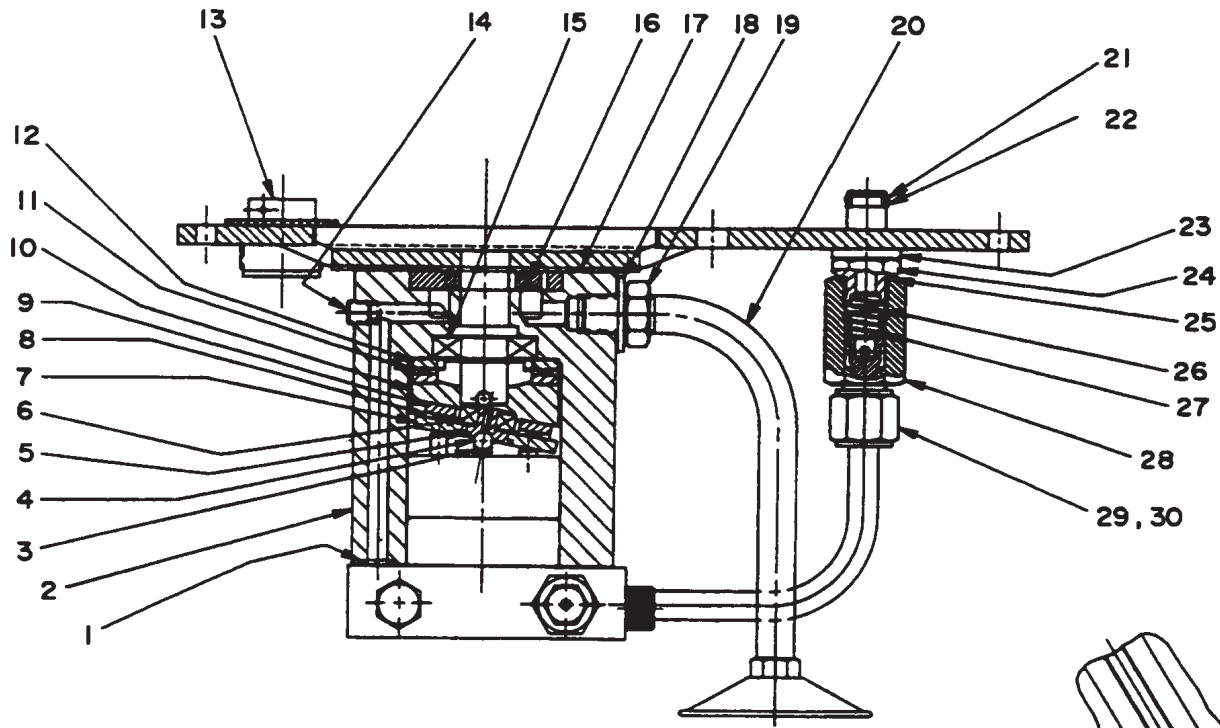


**HYDRAULIC SCHEMATIC**



# BASIC PUMP ASSEMBLY

(For all models except PE462A-50-220)



Item No.	Part No.	No. Req'd	Description
1	10267	1	O-ring (7/16 x 5/16 x 1/16)
2	52883	1	Pump Body
3	16320	1	Compression Spring (1/4 O.D. x 3/4 Lg.)
4	10375	1	Steel Ball (1/4 dia.)
5	23547	1	Top Plate Bearing
6	11814	1	Ball Bearing
7	23548	1	Top Plate
8	15431	1	Needle Thrust Bearing
9	15432	1	Needle Thrust Bearing Race
10	35271	1	Angle Plate
11	11228	1	Needle Thrust Bearing
12	11227	2	Needle Thrust Bearing Race
13	213706	1	Filler Cap
14	11084	1	Pipe Plug (1/16 NPTF; Torque to 35/45 in. lbs. oiled)
15	15695	1	Ball Bearing
16	15693	1	Gerotor Set
17	307296	1	Wear Plate
18	213709	1	Washer Seal
19	10390	1	Nut (1/2-20 UNF)
20	213686	1	Intake Tube
21	10268	1	O-ring (1/2 x 3/8 x 1/16)
22	11863	1	Backup Washer (1/2 x 3/8 x 1/16)
23	21484	1	Washer
24	214762	1	Valve Connector (Torque to 20/30 ft. lbs.)
25	10261	1	Copper Washer (3/4 x 19/32 x 1/32)
26	10425	1	Compression Spring (3/8 O.D. x 3/4 Lg.)
27	20771	1	Poppet
28	201879	1	Check Valve Body
29	10430	1	Tube Sleeve
30	10431	1	Tube Nut (Torque to 40/50 ft. lbs. while holding Valve Connector item #24)
31	15642	5	Cap Screw (1/4-20 x 5" Lg.; Torque to 55/65 in. lbs.)
32	214720	1	Spacer
33	21278	1	Relief Valve (Set at 10,100/10,700 PSI)
34	61566BK2	1	Cover
35	29682	1	Strainer
36	307459	1	Oil Line
37	10475	1	Elbow
38	36922	1	High Pressure Pump Assembly (See sheet 4 of 9)

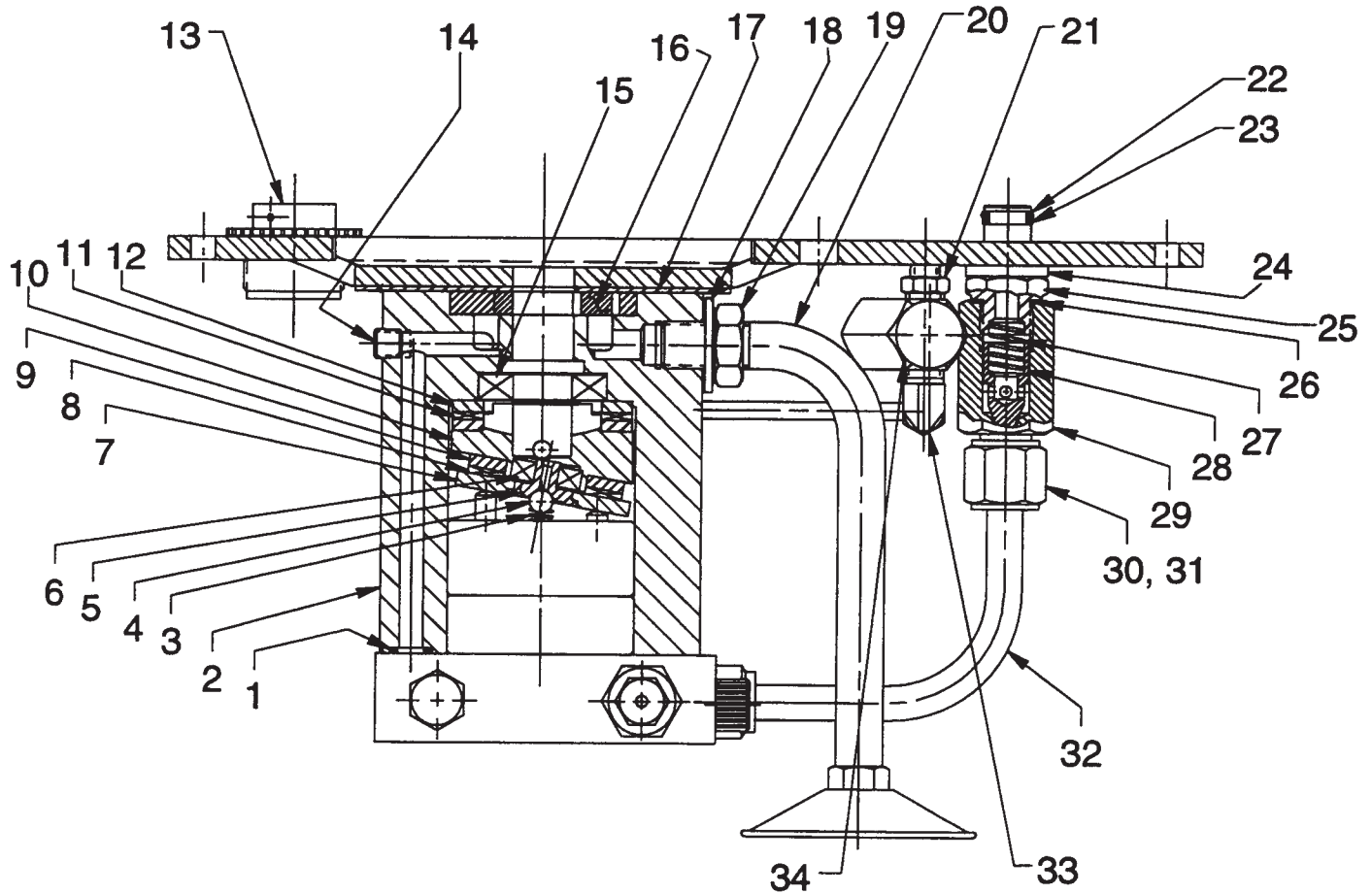


Refer to any operating instructions included with the product for detailed information about operation, testing, disassembly, reassembly, and preventive maintenance.

Items found in this parts list have been carefully tested and selected. **Therefore: Use only genuine replacement parts!**

Additional questions can be directed to one of our Technical Services Departments.

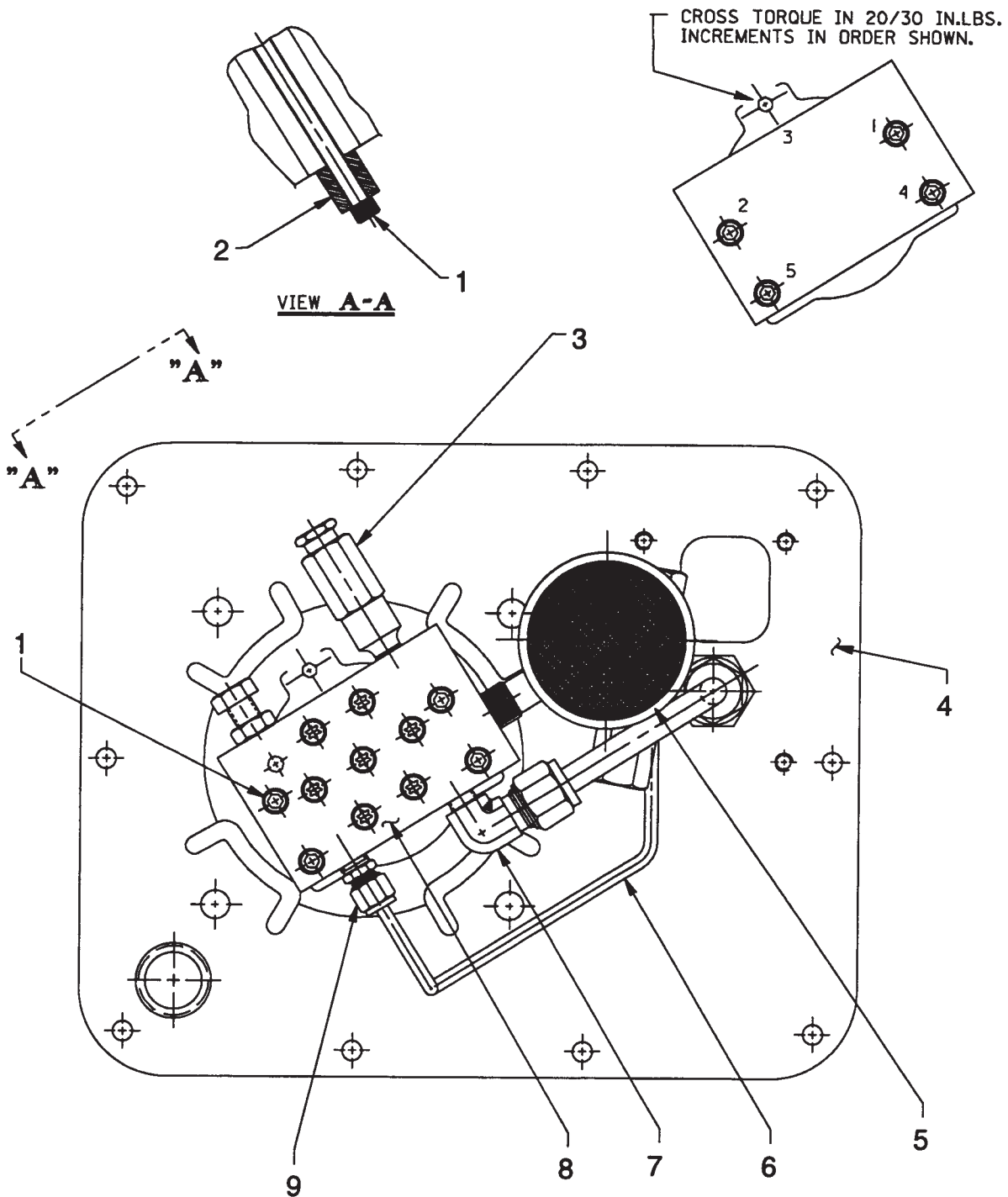
**BASIC PUMP ASSEMBLY**  
**(For model PE462A-50-220 only)**  
**SIDE VIEW**



Item No.	Part No.	No. Req'd	Description
1	10267	1	O-ring (7/16 x 5/16 x 1/16)
2	52883	1	Pump Body
3	16320	1	Compression Spring (1/4 O.D. x 3/4 Lg.)
4	10375	1	Steel Ball (1/4 dia.)
5	23547	1	Top Plate Bearing
6	11814	1	Ball Bearing
7	23548	1	Top Plate
8	15431	1	Needle Thrust Bearing
9	15432	1	Needle Thrust Bearing Race
10	35271	1	Angle Plate
11	11228	1	Needle Thrust Bearing
12	11227	2	Needle Thrust Bearing Race
13	213706	1	Filler Cap
14	11084	1	Pipe Plug (1/16 NPTF; Torque to 35/45 in. lbs. oiled)
15	15695	1	Ball Bearing
16	15693	1	Gerotor Set
17	307296	1	Wear Plate
18	213709	1	Washer Seal
19	10390	1	Nut (1/2-20 UNF)
20	213686	1	Intake Tube

Item No.	Part No.	No. Req'd	Description
21	215373	1	Straight Fitting
22	10268	1	O-ring (1/2 x 3/8 x 1/16)
23	11863	1	Backup Washer (1/2 x 3/8 x 1/16)
24	21484	1	Washer
25	214762	1	Valve Connector (Torque to 20/30 ft. lbs.)
26	10261	1	Copper Washer (3/4 x 19/32 x 1/32)
27	10425	1	Compression Spring (3/8 O.D. x 3/4 Lg.)
28	20771	1	Poppet
29	201879	1	Check Valve Body
30	10430	1	Tube Sleeve
31	10431	1	Tube Nut (Torque to 40/50 ft. lbs. while holding Valve Connector item #24)
32	307459	1	Oil Line Tube
33	11278	1	90° Fitting
34	21943	1	Accumulator Assembly

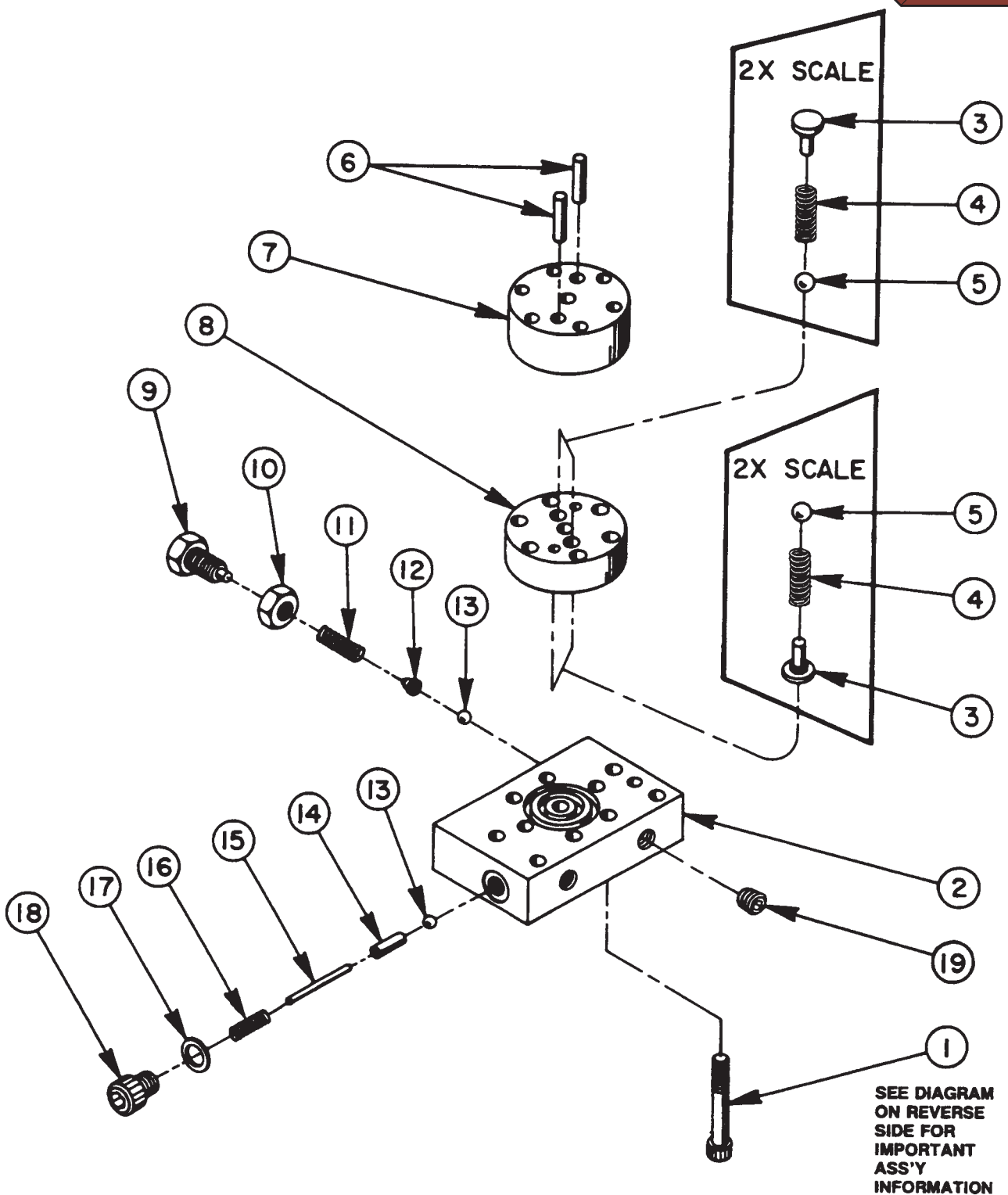
## BASIC PUMP ASSEMBLY (For model PE462A only) BOTTOM VIEW



Item No.	Part No.	No. Req'd	Description
1	15642	5	Cap Screw (1/4-20 x 5" Lg.; Torque to 55/65 in. lbs.)
2	214720	1	Spacer
3	21278	1	Relief Valve (Set at 10,100/10,700 PSI)
4	47606	1	Reservoir Cover
5	29682	1	Strainer
6	47607	1	Oil Line (Pilot)
7	10475	1	90° Elbow
8	36922	1	High Pressure Pump Assembly (See sheet 4 of 8)
9	11173	1	Straight Fitting

# HIGH PRESSURE PUMP ASSEMBLY

To Parts List

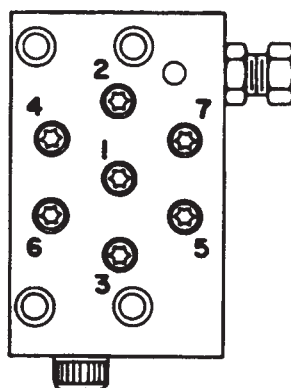


Item No.	Part No.	No. Req'd	Description
1	*16474	7	Torx Drive Cap Screw (1/4-28 x 1-3/4 Lg.; See diagram below)
2	*36912	1	Pump End Plate
3	*24549	4	Valve Guide
4	*10445	4	Compression Spring (5/32 O.D. x 3/4 Lg.)
5	*12223	4	Steel Ball (3/16 dia.)
6	*20775	2	Piston
7	*41006	1	Pump Barrel
8	*41007	1	Valve Head
9	200797	1	Adjusting Screw
10	10386	1	Jam Nut (3/8-24)
11	15691	1	Compression Spring (1/4 O.D. x 5/8 Lg.)
12	200796	1	Adapter, Spring & Ball
13	10375	2	Steel Ball (1/4 dia.)
14	201998	1	Sleeve
15	12571	1	Roll Pin (1/8 dia. x 1-3/8 Lg.)
16	14431	1	Compression Spring (3/8 O.D. x 3/4 Lg.)
17	12042	1	Copper Washer (9/16 x 3/8 x 1/32 thk.)
18	29690	1	Cap Screw (Torque to 180 in. lbs.)
19	10427	1	Pipe Plug (1/8 NPTF)

Consult factory when replacing items marked with an asterisk (\*).



### BOLT TIGHTENING SEQUENCE



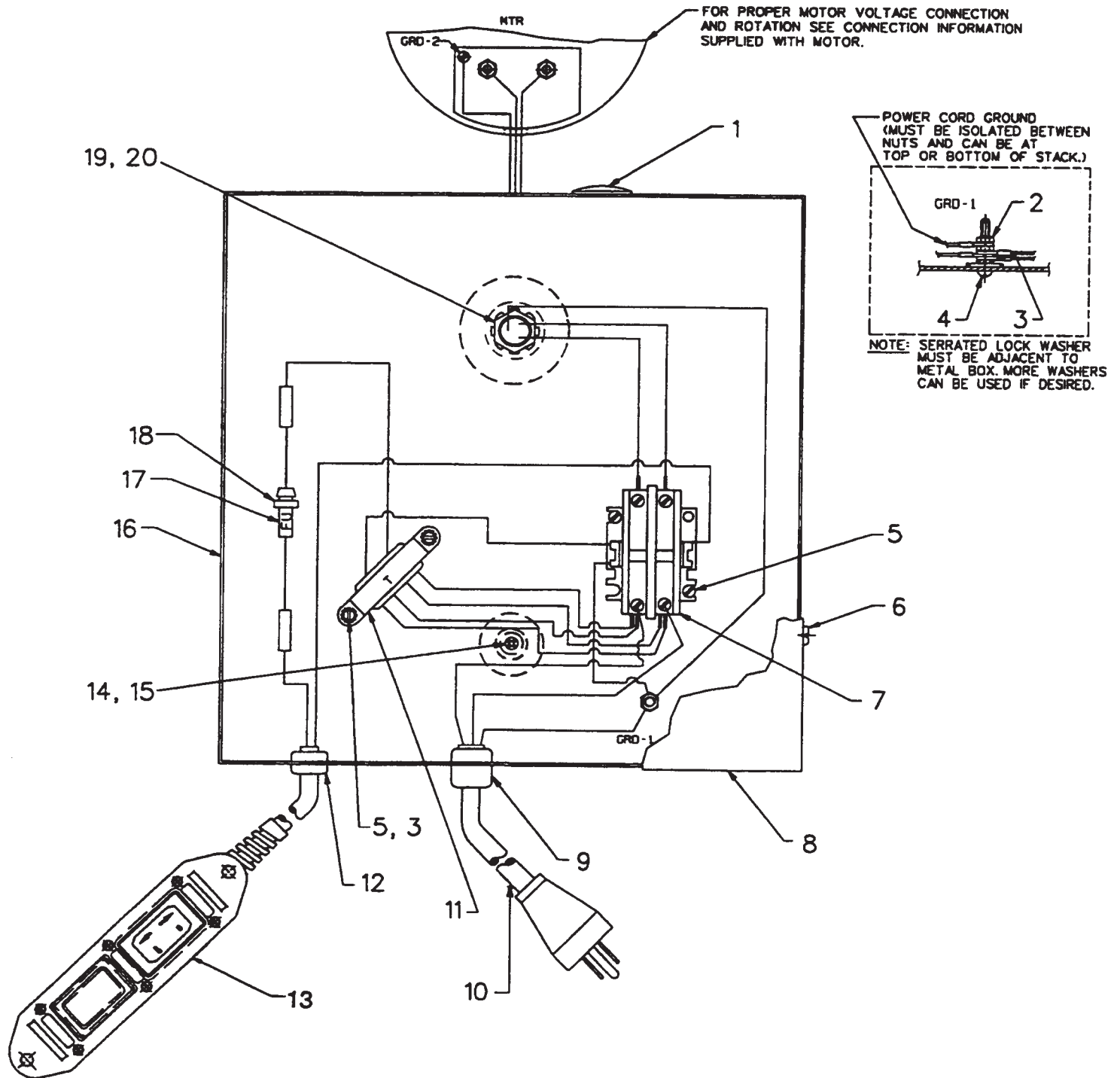
**NOTE: Assemble in sequence shown. Lubricate under head on threads. Torque to 170 in. lbs.**



# ELECTRICAL CONTROL ASSEMBLY MANIFOLD/MANUAL VALVE



115 Volt, 60 Hz., Single Phase (shown)  
110 Volt, 50 HZ., Single Phase  
230 Volt, 50 Hz., Single Phase



NOTE: 220 Volt does not have plug on cord.

**110 Volt**  
4055-50-110  
4057-50-110

**115 Volt**  
106174-A-CL

**220 Volt**  
4055-50-220  
4057-50-220  
PE462-50-220  
PE464-50-220  
PE462A-50-220

Sheet No. 5 of 8

Rev. 4 Date: 2 July 1999

Item No.	Part No.	No. Req'd	Description
1	17782	1	Snap Button
2	10197	2	Hex Nut (#10-24)
3	11108	3	Lockwasher (#10)
4	11856	1	Screw (#10-24 x 1" Lg.)
5	11539	1	Rd. Hd. Machine Screw (#10-24 UNC x 1/4 Lg.)
6	14812	4	Screw
7	420718-4	1	Contactor
8	43126WH2	1	Control Box Cover (For 106174-A-CL only)
	43126GY5	1	Control Box Cover
9	210112	1	Strain Relief Bushing
10	307440	1	Cord Set (12/3 SJT0; 115 V.)
	308752	8 ft.	Electric Cord (14/3 SJT0; 220 V.)
11	305665	1	Transformer
12	15993	1	Strain Relief Bushing
13	25017	1	Remote Hand Switch (See Form No. 101644)
	30601	1	Valve Switch (18/2 SJO; For 106174-A-CL only)

Item No.	Part No.	No. Req'd	Description
14	13532	1	Pan Hd. Self-tapping Screw
15	206857	1	Washer
16	51218WH2	1	Control Box (For 106174 A-CL)
	51218GY5	1	Control Box
17	206962	1	Fuse (3A)
18	16887	1	Fuse Holder
19	11202	1	Connector
20	212434	1	Washer

**PARTS INCLUDED BUT NOT SHOWN**

200188	1	Warning Decal
205189	1	Ground Decal



**ELECTRICAL SCHEMATICS**  
MANIFOLD/MANUAL VALVE

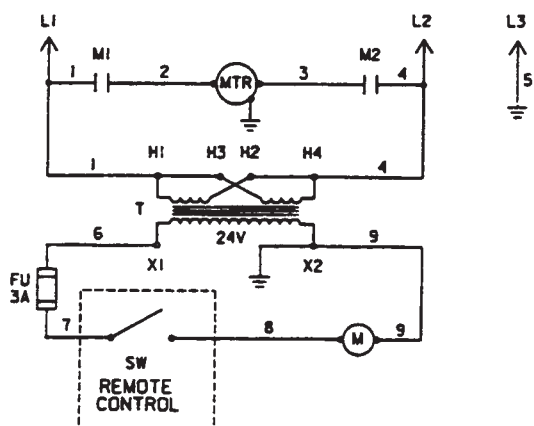


To help avoid personal injury, all electrical work must be done by a qualified electrician.

**North American & International Color Codes**

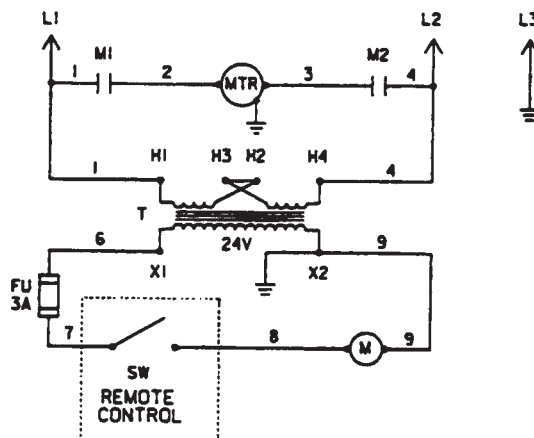
Conductors	North American	International
Line	Black	Brown
Neutral	White	Blue
Ground	Green	Green/Yellow

115/230 Volt, 60 Hz., Single Phase



Transformer connections are as shown for 115 V.-60 HZ.  
For 230 V., 60 HZ. units, transformer connections to be as follows:  
H1 to L1  
H2 to H3  
H4 to L2

110/220 Volt, 50 Hz., Single Phase

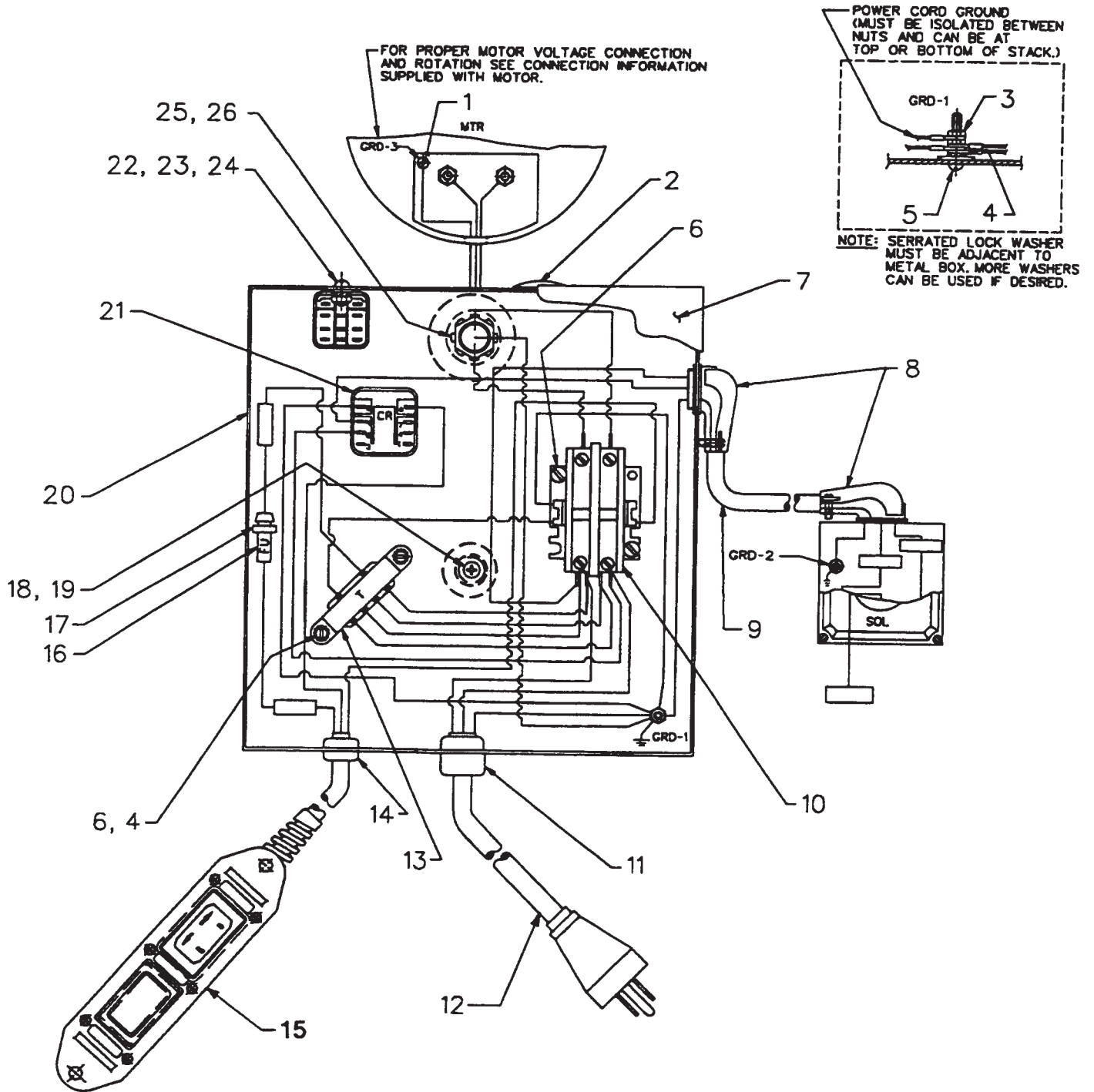


Transformer connections are as shown for 220 V.-50 HZ.  
For 110 V., 50 HZ. units, transformer connections to be as follows:  
H1 & H3 to L1  
H2 & H4 to L2

# ELECTRICAL CONTROL ASSEMBLY 2 POSITION, 3-WAY SOLENOID VALVE



115 Volt, 60 Hz. Single Phase (shown)  
110 Volt, 50 Hz., Single Phase  
220 Volt, 50 Hz., Single Phase



NOTE: 220 Volt does not have plug on cord.

**110 Volt**  
4056-50-110

**220 Volt**  
PE462S-50-220

Item No.	Part No.	No. Req'd	Description
1	15468	1	Self-tapping Screw (#6; For 220 V. only)
2	17782	1	Snap Button
3	10197	2	Hex Nut (#10-24)
4	11108	3	Lockwasher (#10)
5	11856	3	Lockwasher (#10-24 x 1" Lg.)
6	11539	6	Screw (#10-24 x 1/4 Lg.)
7	43126GY5	1	Control Box Cover
8	11144	2	Electrical 90° Connector
9	12293	2.54 ft.	Electrical Cable (16/3 SJTO)
10	420718-4	1	Contactors
11	210112	1	Strain Relief Bushing
12	307440	1	Cord Set (12/3 SJTO; 115 V.)
	308752	8 ft.	Electrical Cord (14/3 SJTO; 220V.)
13	305665	1	Transformer
14	15993	1	Strain Relief Bushing
15	307491	1	Remote Control Hand Switch (See Sheet 8 of 8)

Item No.	Part No.	No. Req'd	Description
16	206962	1	Fuse (3A)
17	16887	1	Fuse Holder
18	13532	1	Pan Hd. Self-tapping Screw (#8)
19	206857	1	Washer
20	51218GY5	1	Control Box
21	39092	1	Relay
22	10159	2	Screw (#6-32 x 5/16 Lg.)
23	10195	2	Hex Nut (#6-32)
24	15906	2	Lockwasher (#6)
25	11202	1	Electrical Connector
26	212434	1	Washer

**PARTS INCLUDED BUT NOT SHOWN**

200188	1	Warning Decal
14812	4	Screw (Use to mount control box cover to box body.)
205189	1	Ground Decal

**ELECTRICAL SCHEMATICS**

**2 POSITION 3-WAY VALVE**



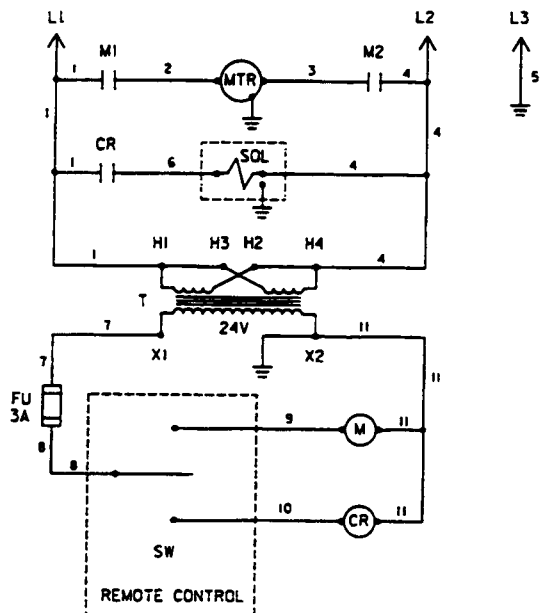
**WARNING**

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

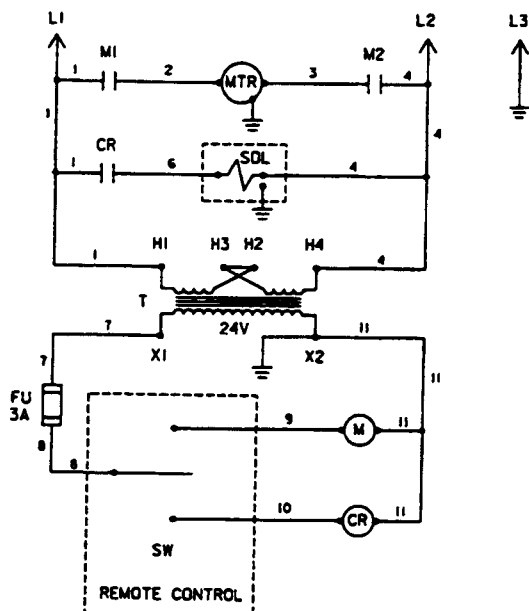
**North American & International Color Codes**

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

**115 Volt, 60 Hz., Single Phase**

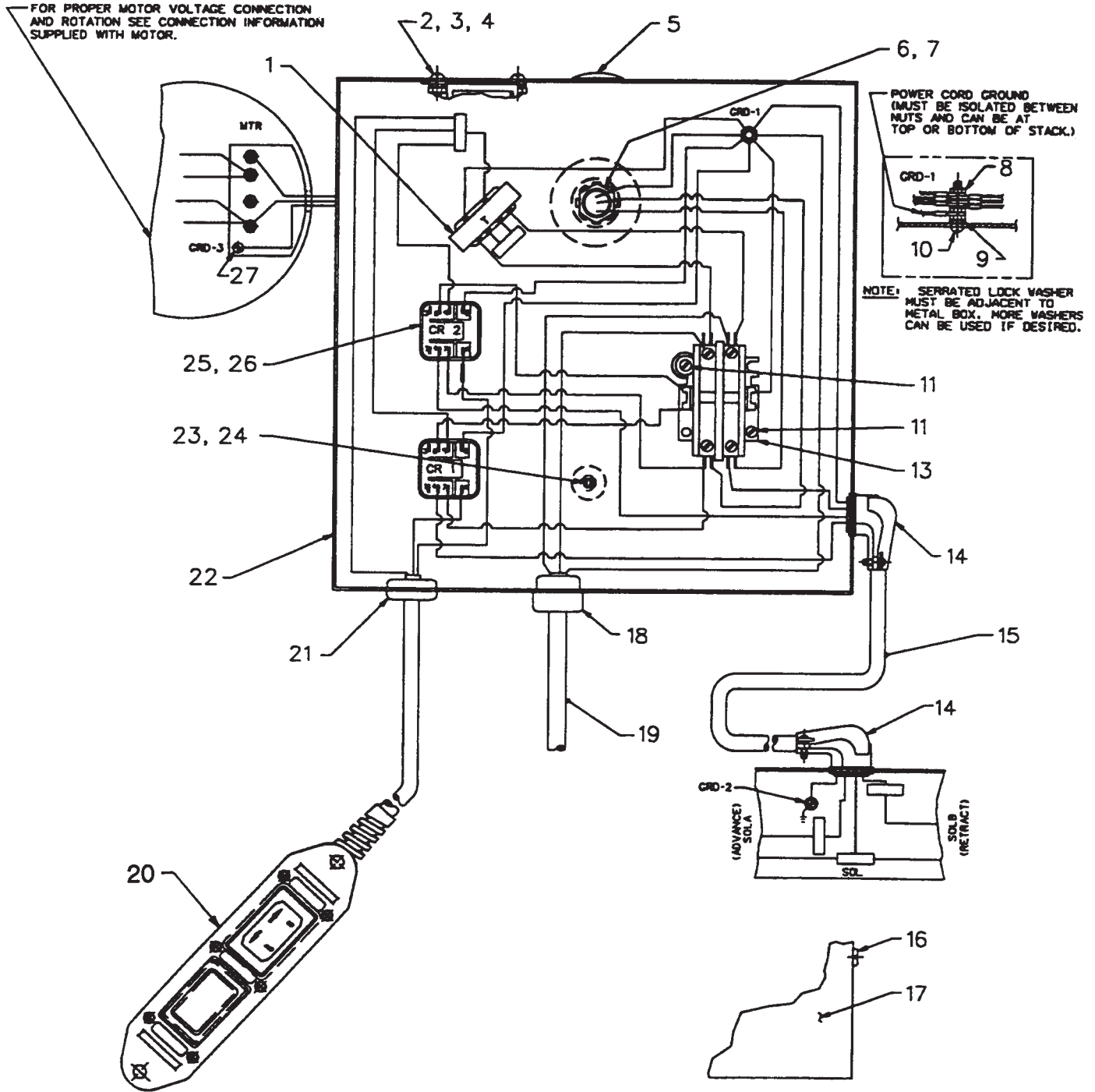


**220 Volt, 50 Hz., Single Phase**



# ELECTRICAL CONTROL ASSEMBLY 2 POSITION, 4-WAY SOLENOID VALVE

220 Volt, 50 Hz., Single Phase  
PE464S-50-220 & 4056-50-220



Item No.	Part No.	No. Req'd	Description
1	305665	1	Transformer
2	10159	2	Machine Screw (#6-32 x 5/16 Lg.)
3	15906	2	Washer (For #6 bolt)
4	10195	2	Nut (#6-32)
5	17782	1	Snap Button
6	11202	1	Conduit Connector
7	212434	1	Washer
8	10197	3	Nut (#10-24)
9	11108	1	Lockwasher (#10)
10	11856	1	Machine Screw (#10-24 x 1" Lg.)
11	10166	2	Machine Screw (#10-24 x 1/2 Lg.)
13	420718-4	1	Contactor
14	11144	2	Conduit Connector
15	15565	27.5"	Electric Cord (16/4 SO)
16	14812	4	Self-tapping Screw (#8-18 x 3/8 Lg.)
17	43126GY5	1	Control Box Cover

Item No.	Part No.	No. Req'd	Description
18	210112	1	Strain Relief Bushing
19	308752	8 ft.	Electric Cord (14/3 SJT0)
20	202778	1	Remote Control Switch (See Form No. 101644)
21	15993	1	Strain Relief Bushing
22	51218GY5	1	Control Box
23	13532	1	Self-tapping Screw (#8-32 x 3/8 Lg.)
24	206857	1	Washer
25	39092	2	Relay
26	10164	4	Screw (#10-24 x 3/8 Lg.)
27	15468	1	Screw (#6-32 x 3/8 Lg.)

**PARTS INCLUDED BUT NOT SHOWN**

200188	1	Warning Decal
205189	1	Ground Decal



**ELECTRICAL SCHEMATICS**

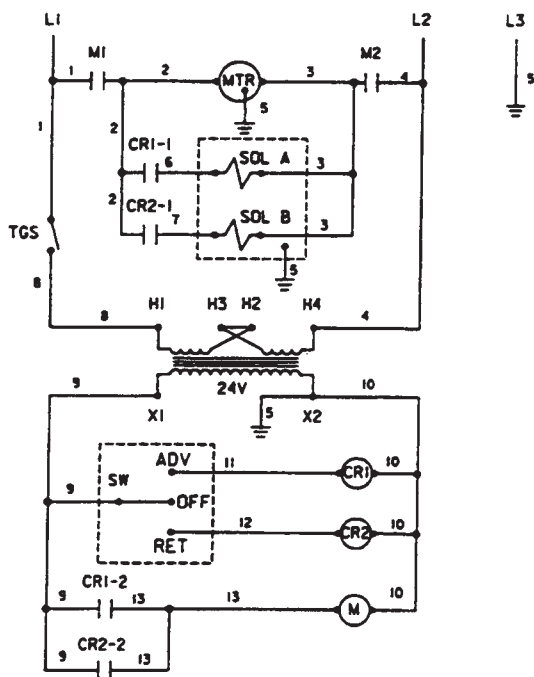
2 POSITION, 4-WAY SOLENOID VALVE  
220 Volt, 50 Hz., Single Phase



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



**NOTE:**

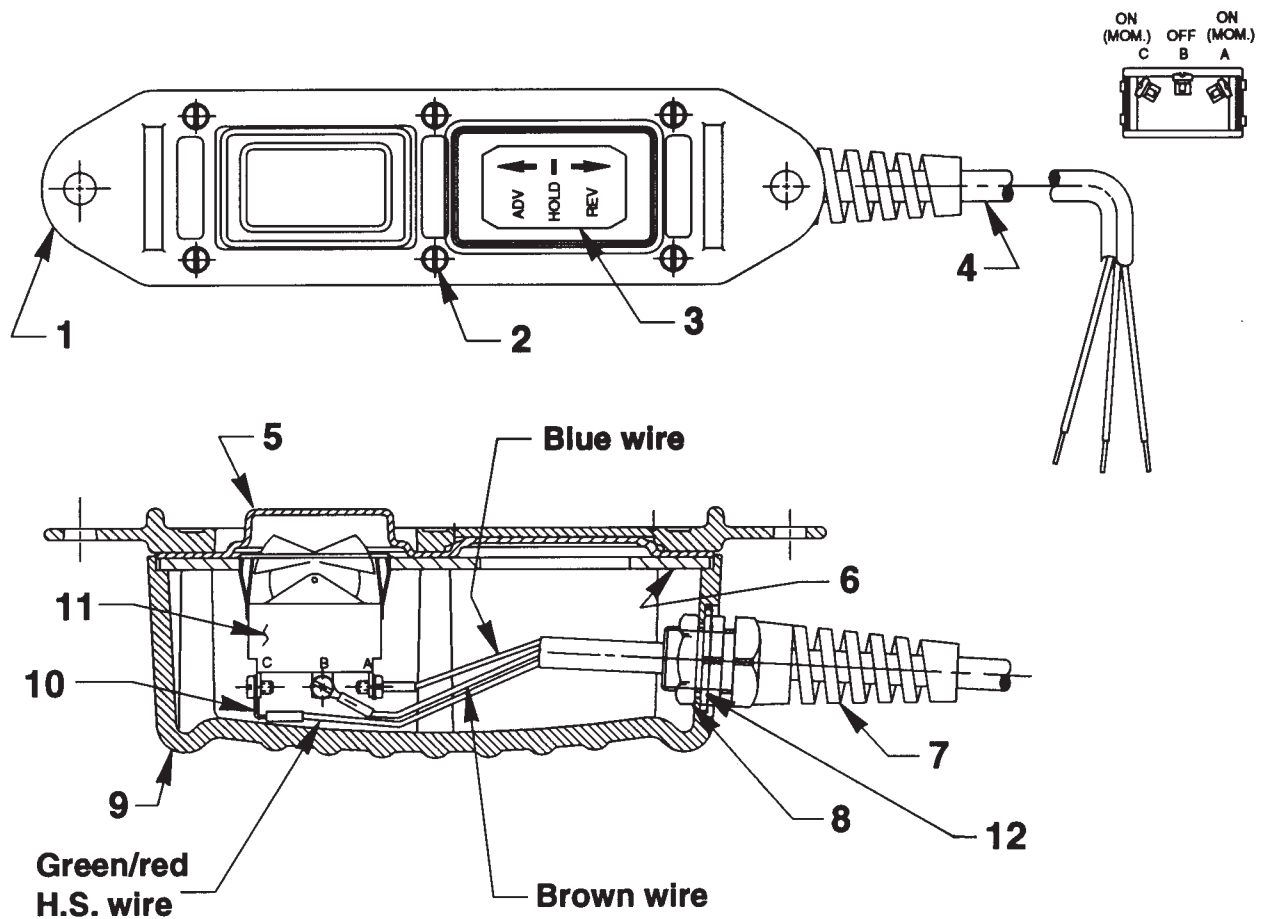
Unless otherwise specified, all units are to be wired for 220 volt, 50 Hz.

CCW rotation viewed from lead end of motor.

Transformer connections are as shown for 220 volt, 50 Hz.

# REMOTE HAND SWITCH ASSEMBLY

No. 307491



Item No.	Part No.	No. Req'd	Description
1	420050-1	1	Cover
2	250248	6	Screw (4-24 x 3/4 Lg.)
3	202776	1	Decal
4	12293	25 ft.	Cable (16/3 SJTO)
5	420050-2	1	Gasket
6	420050-3	1	Switch Mounting Plate
7	251818	1	Strain Relief Connector
8	251802	1	Locknut (3/4-16 UNF; Torque to 30/35 in. lbs.)
9	420050-4	1	Switch Housing
10	12311	3	Ring Tongue Terminal
11	16773	1	Rocker Switch
12	253607	1	Gasket

Note: Shaded areas reflect last revision(s) made to this form.