

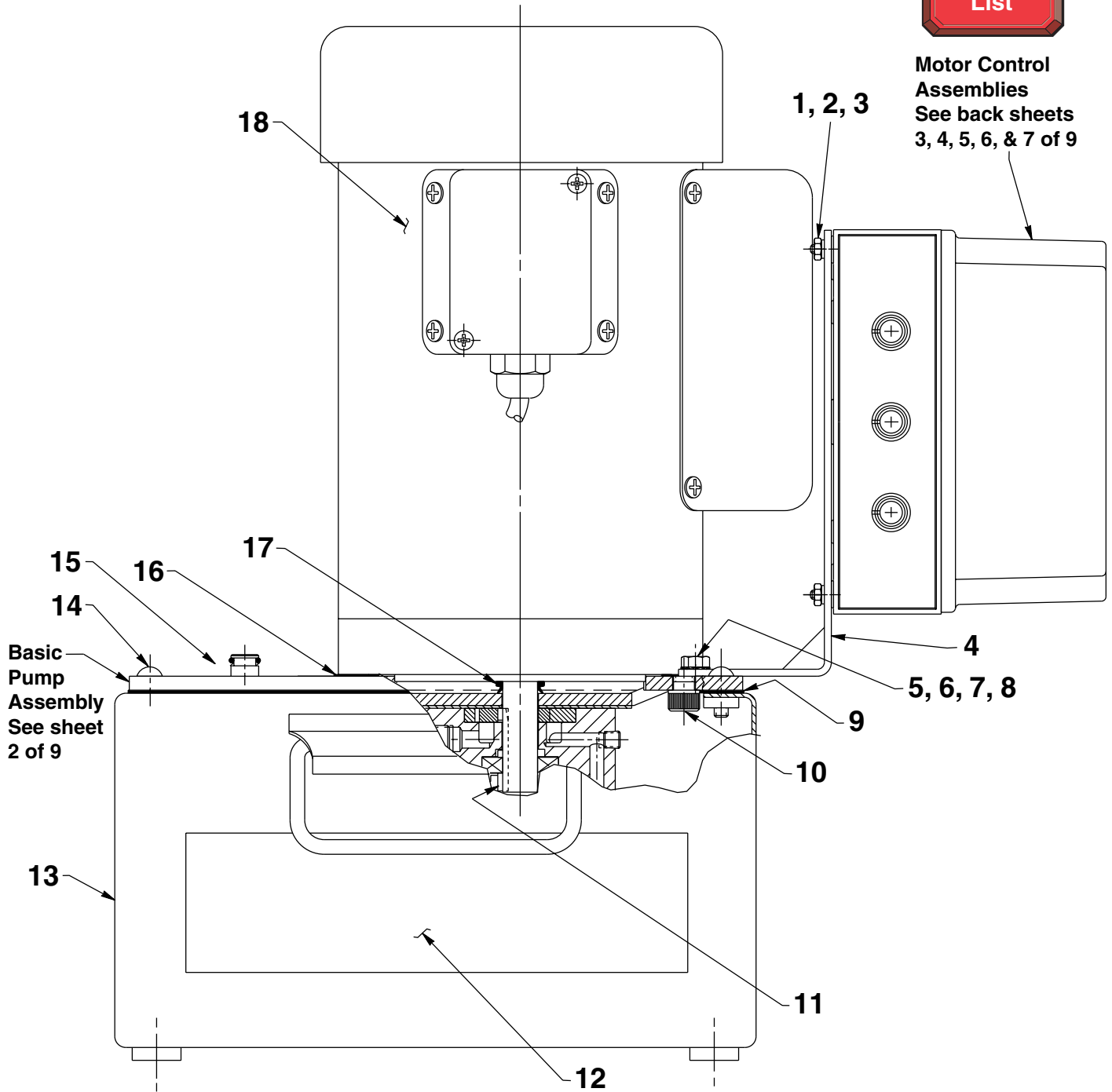
Parts List for:

| | |
|-------------|-------------|
| PE462-E110 | PE462S-E220 |
| PE462-E220 | PE464-E110 |
| PE462A-E220 | PE464-E220 |
| PE462S-E110 | PE464S-E220 |

MODEL B ELECTRIC HYDRAULIC PUMP



Motor Control
Assemblies
See back sheets
3, 4, 5, 6, & 7 of 9



Basic
Pump
Assembly
See sheet
2 of 9

Parts List, Form No. 108084, Back sheet 1 of 9

| Item No. | Part No. | No. Req'd | Description |
|----------|----------|-----------|---|
| 1 | 253508 | 4 | Soc. Hd. Screw (8-32 x 7/8) |
| 2 | 10241 | 4 | Lockwasher (.33 x .20) |
| 3 | 10196 | 4 | Hex Nut (8-32) |
| 4 | 59396BK2 | 1 | Mounting Bracket |
| 5 | 10009 | 2 | Cap Screw (1/4-20 x 3/4; Torque to 60/80 in. lbs.) |
| 6 | 11351 | 2 | External Tooth Washer (.50 x .26) |
| 7 | 10245 | 2 | Lockwasher (.49 x .26) |
| 8 | 10199 | 2 | Hex Nut (1/4-20) |
| 9 | 40164 | 1 | Reservoir Gasket |
| 10 | 10464 | 4 | Soc. Hd. Screw (3/8-16 x 3/4; Torque to 90/100 in. lbs.) |
| 11 | 214097 | 1 | Key |
| 12 | 309219 | 2 | Trade Name Decal |
| 13 | 64026OR9 | 1 | Reservoir |
| 14 | 10177 | 10 | Rnd. Hd. Screw (1/4-20 x 3/4) |

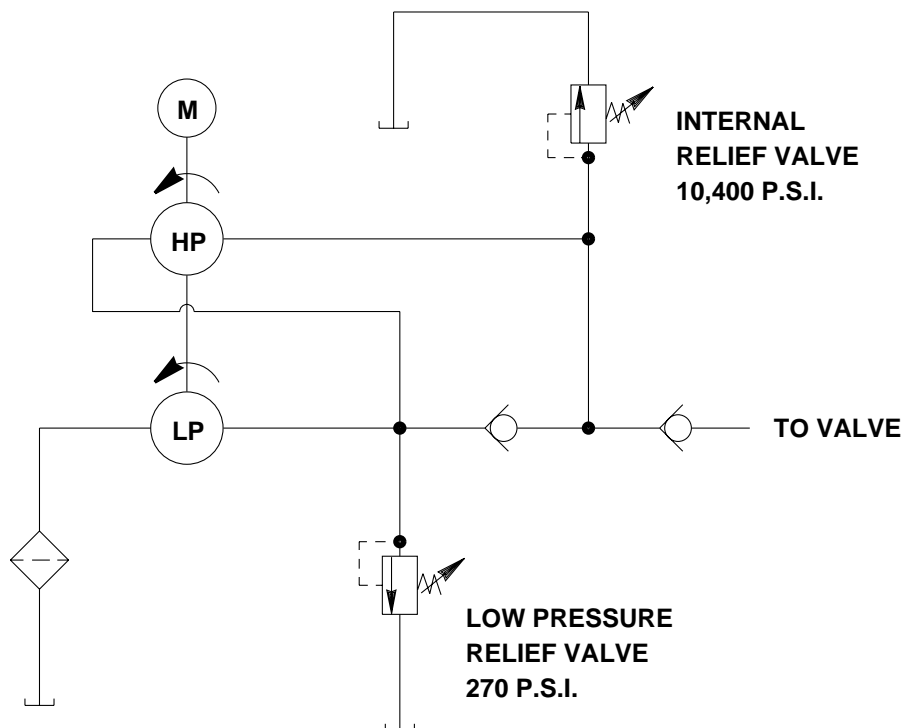
| Item No. | Part No. | No. Req'd | Description |
|----------|-----------|-----------|--|
| 15 | 9584 | 1 | Single-acting Valve (For PE462-E110 & PE462-E220; See Form No. 101239) |
| | 9610 | 1 | 3-way Automatic Valve (For PE462A-E220; See Form No. 101200) |
| | 9500 | 1 | 4-way Tandem Ctr Manual Valve (For PE464-E110 & PE464-E220; See Form No. 100623) |
| | 421451 | 1 | 3-way 220V. Solenoid Valve (For PE462S-E220; See Form No. 101803) |
| | 421547 | 1 | 3-way 115V. Solenoid Valve (For PE462S-E110; See Form No. 101803) |
| | 66206-220 | 1 | 4-way 230V. Solenoid Valve (For PE464S-E220; See Form No. 108066) |
| 16 | 307425 | 1 | Motor Base Gasket |
| 17 | 213674 | 1 | V-ring (.79 x .55 x .22 L) |
| 18 | 58684 | 1 | Electric Motor (110/220V 50 Hz.) |



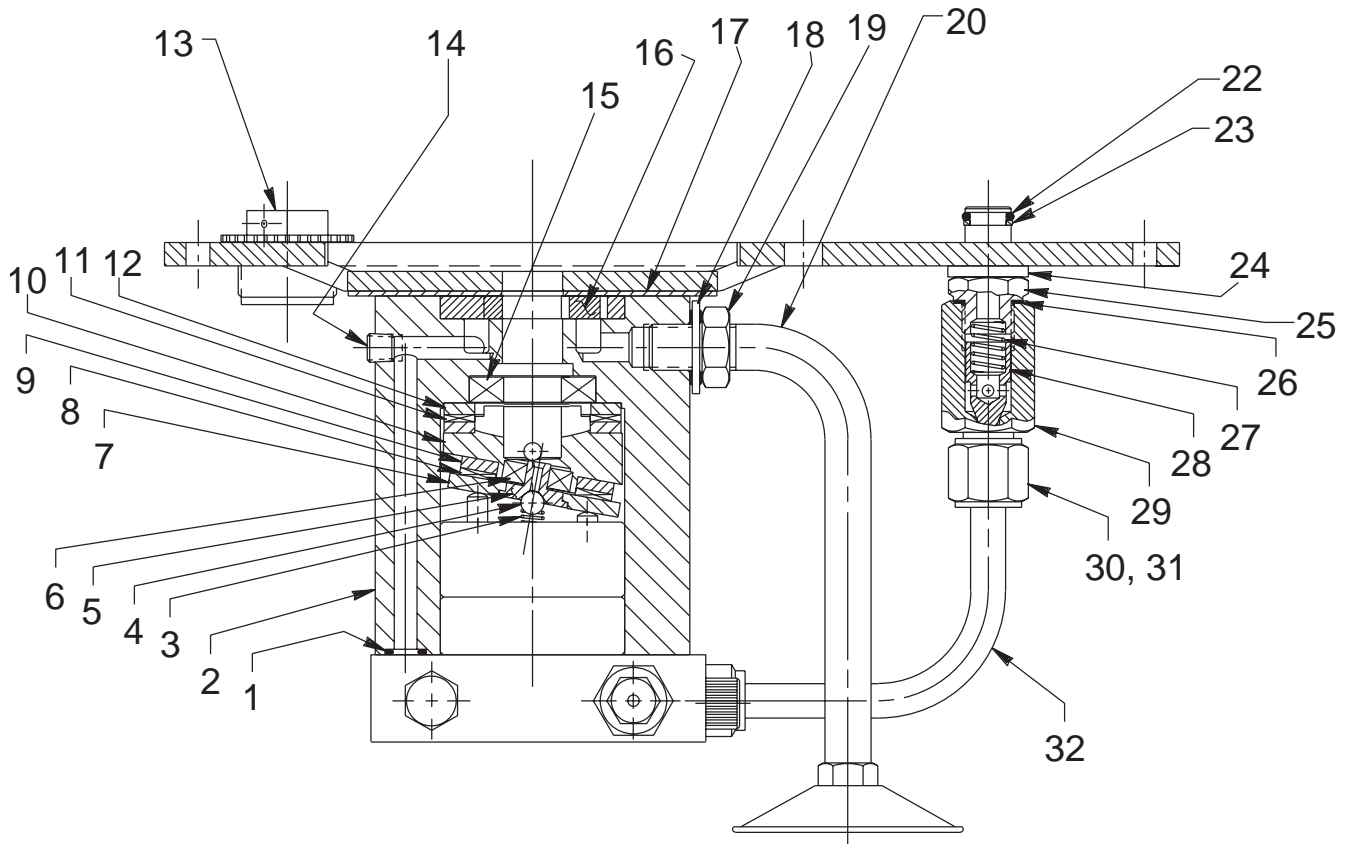
PARTS INCLUDED BUT NOT SHOWN

| | | | |
|--------|---|-------------------|-------------------|
| 16797 | 1 | 90° Elbow Fitting | } For PE464S-E220 |
| 200609 | 1 | Drain Tube | |
| 9689 | 1 | Reducer Connector | |

HYDRAULIC SCHEMATIC



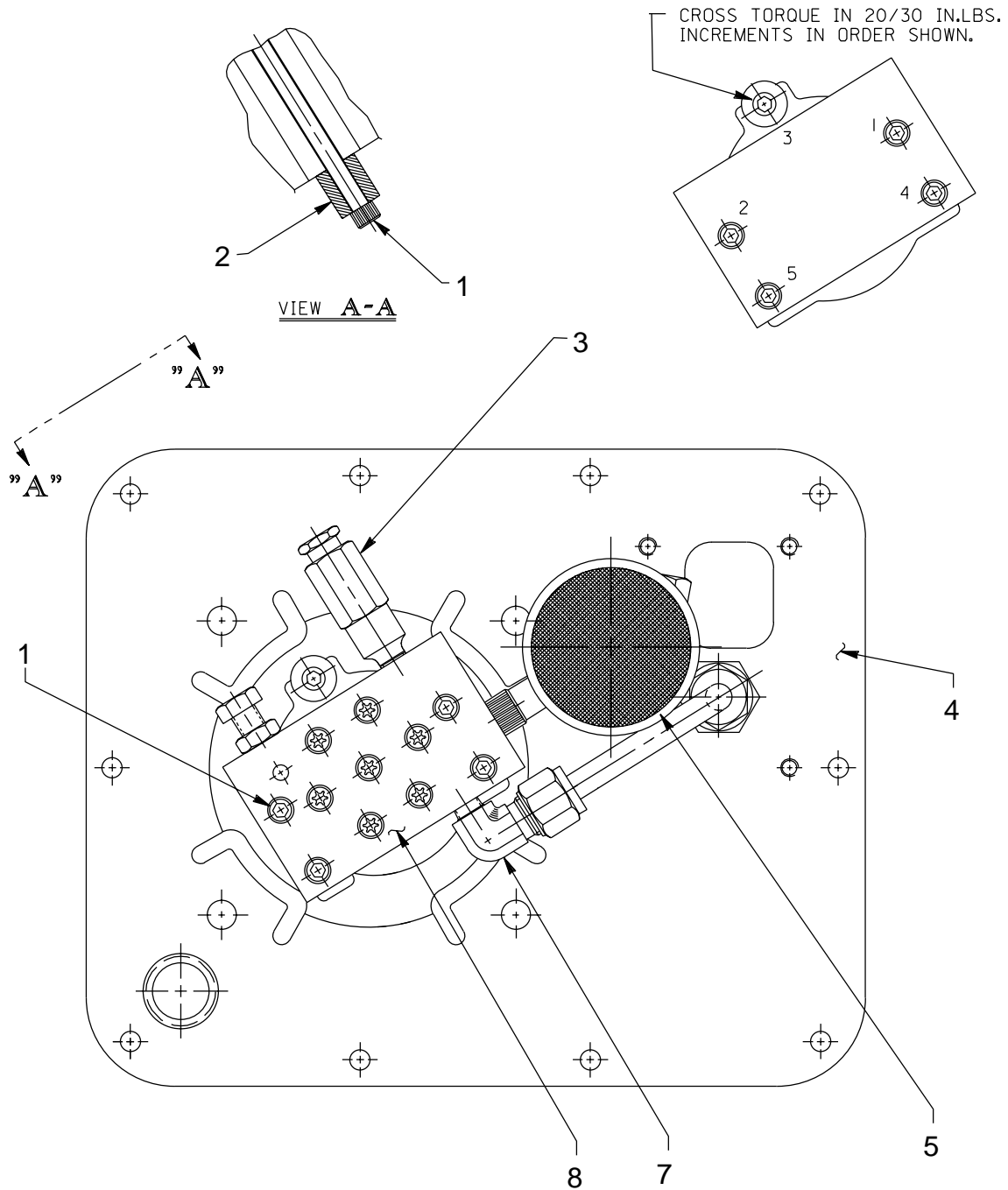
BASIC PUMP ASSEMBLY - SIDE VIEW



| 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) |
| 15 | 15695 | 1 | Ball Bearing |
| 16 | 15693 | 1 | Gerotor Set |
| 17 | 307296 | 1 | Wear Plate |
| 18 | 213709 | 1 | Washer Seal (Turn on - Do not push on) |
| 19 | 10390 | 1 | Nut (1/2-20 UNF) |

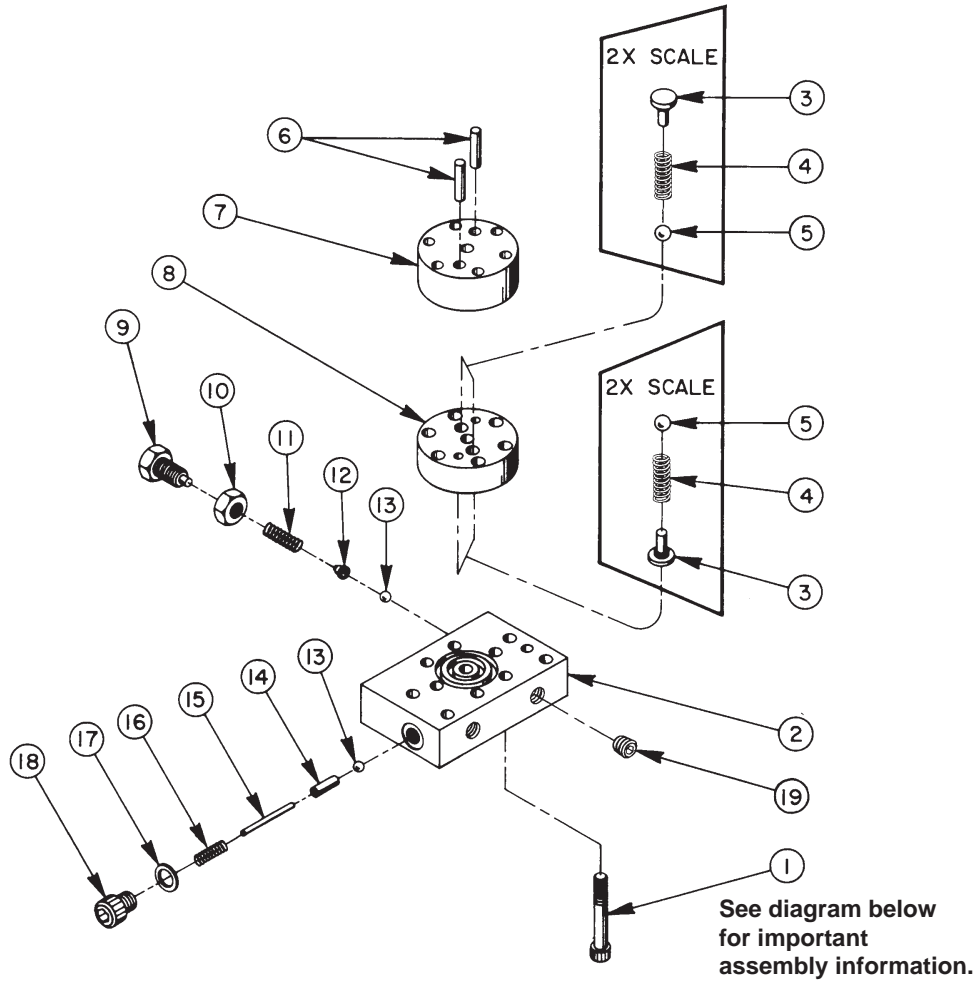
| Item No. | Part No. | No. Req'd | Description |
|----------|----------|-----------|---|
| 20 | 213686 | 1 | Intake Tube |
| 22 | 10268 | 1 | O-ring (1/2 x 3/8 x 1/16) |
| 23 | 11863 | 1 | Backup Washer (1/2 x 3/8 x 1/16) |
| 24 | 21484 | 1 | Washer |
| 25 | 214762 | 1 | Valve Connector (Note: The torque between the valve connector and the cover plate shall be 30 ft. lbs. max. The torque between the valve connector and the check valve body shall be 40-50 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 |
| 32 | 307459 | 1 | Oil Line Tube |

BASIC PUMP ASSEMBLY - 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 | 421162BK2 | 1 | Cover Plate |
| 5 | 29682 | 1 | Strainer |
| 7 | 10475 | 1 | 90° Elbow |
| 8 | 36922 | 1 | High Pressure Pump Assembly (See sheet 3 of 9) |

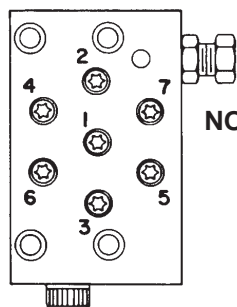
HIGH PRESSURE PUMP ASSEMBLY



| Item No. | Part No. | No. Req'd | Description |
|----------|----------|-----------|--|
| 1 | *16747 | 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) |

| Item No. | Part No. | No. Req'd | Description |
|----------|----------|-----------|--|
| 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 (.197 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) |

BOLT TIGHTENING SEQUENCE

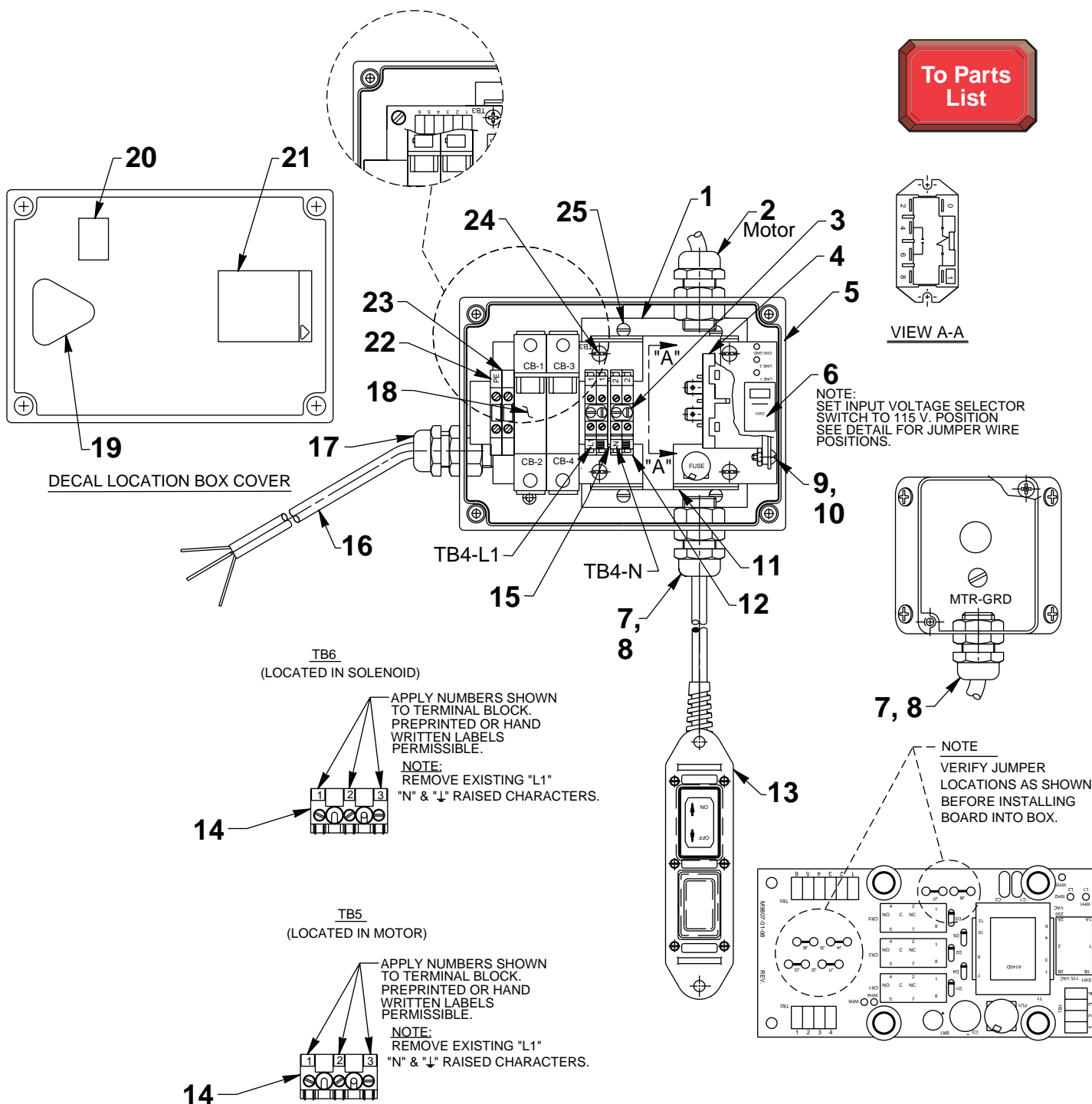


NOTE: Assemble in sequence shown. Lubricate under head on threads. Torque to 170 in. lbs.

MOTOR CONTROL ASSEMBLY

110 V., 50 Hz.; For PE462-E110 & PE464-E110

To Parts List

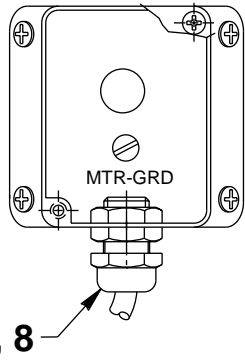
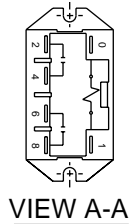
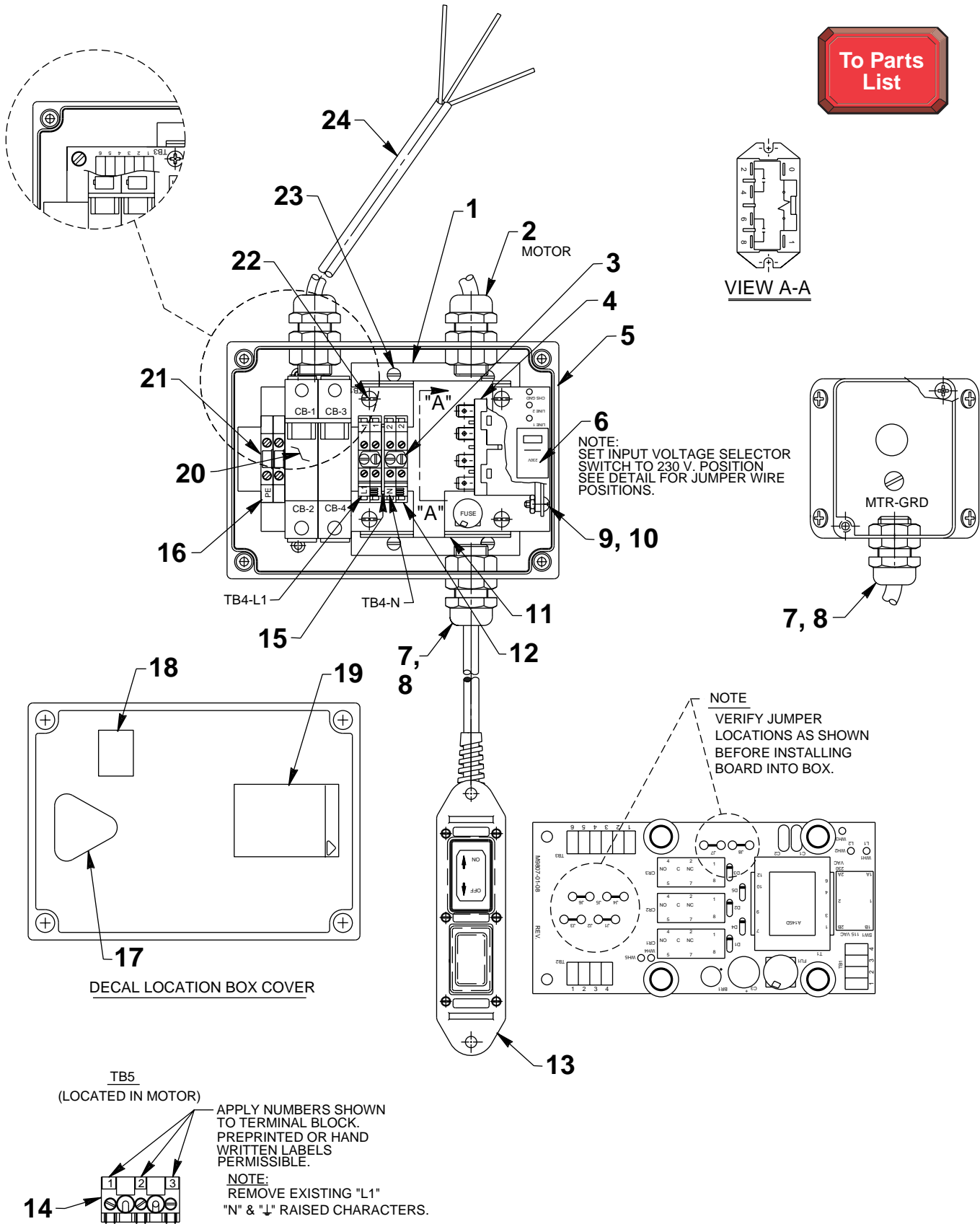


| Item No. | Part No. | No. Req'd | Description |
|----------|-----------|-----------|--------------------------------------|
| 1 | 351588 | 1 | Mounting Plate |
| 2 | 251879 | 2' | Cable (1.5MM/3 HAR) |
| 3 | 251845 | 2 | Center 2 Pole Jumper |
| 4 | 360001 | 1 | Relay (120 Volt) |
| 5 | 59036 | 1 | Control Box |
| 6 | 421898 | 1 | Circuit Board |
| 7 | 216666 | 3 | Strain Relief Bushing |
| 8 | 216680 | 3 | Conduit Locknut |
| 9 | 10447 | 2 | Rnd. Hd. Screw (8-32 x 5/16) |
| 10 | 10196 | 2 | Hex Nut (8-32) |
| 11 | 421608WH2 | 1 | Mounting Bracket |
| 12 | 251840 | 4 | Terminal Block |
| 13 | 251881 | 1 | Hand Control (See back sheet 8 of 9) |
| 14 | 251550 | 2 | Terminal Block |
| 15 | 251842 | 1 | End Barrier |
| 16 | 252241 | 8' | Cable (4.0MM/3 HAR) |
| 17 | 252387 | 1 | Strain Relief Bushing |
| 18 | 360002-25 | 1 | Circuit Breaker (25 AMP) |
| 19 | 251898 | 1 | CE Electrical Warning Decal |
| 20 | 350988 | 1 | CE Decal |
| 21 | 251762 | 1 | Warning Decal |
| 22 | 251852 | 7 | Marker Card |
| 23 | 251841 | 2 | Grounding Terminal Block |
| 24 | 12409 | 4 | Rnd. Hd. Screw (8/32 x 5/8) |
| 25 | 252253 | 4 | Pan Hd. Screw (8-32 x 3/8) |



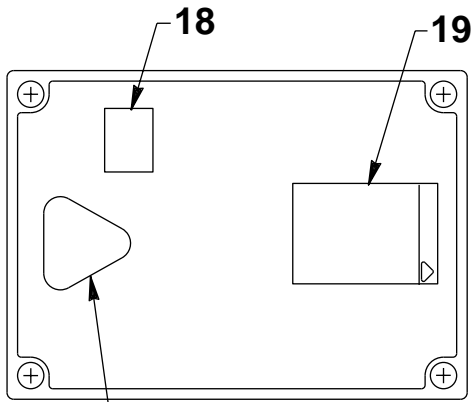
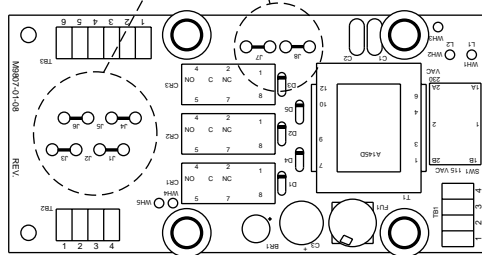
MOTOR CONTROL ASSEMBLY

220 V., 50 Hz.; For PE462-E220, PE462A-E220, & PE464-E220



NOTE:
SET INPUT VOLTAGE SELECTOR SWITCH TO 230 V. POSITION
SEE DETAIL FOR JUMPER WIRE POSITIONS.

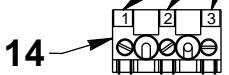
NOTE
VERIFY JUMPER LOCATIONS AS SHOWN
BEFORE INSTALLING BOARD INTO BOX.



DECAL LOCATION BOX COVER

TB5
(LOCATED IN MOTOR)

APPLY NUMBERS SHOWN TO TERMINAL BLOCK. PREPRINTED OR HAND WRITTEN LABELS PERMISSIBLE.
NOTE:
REMOVE EXISTING "L1" "N" & "↓" RAISED CHARACTERS.



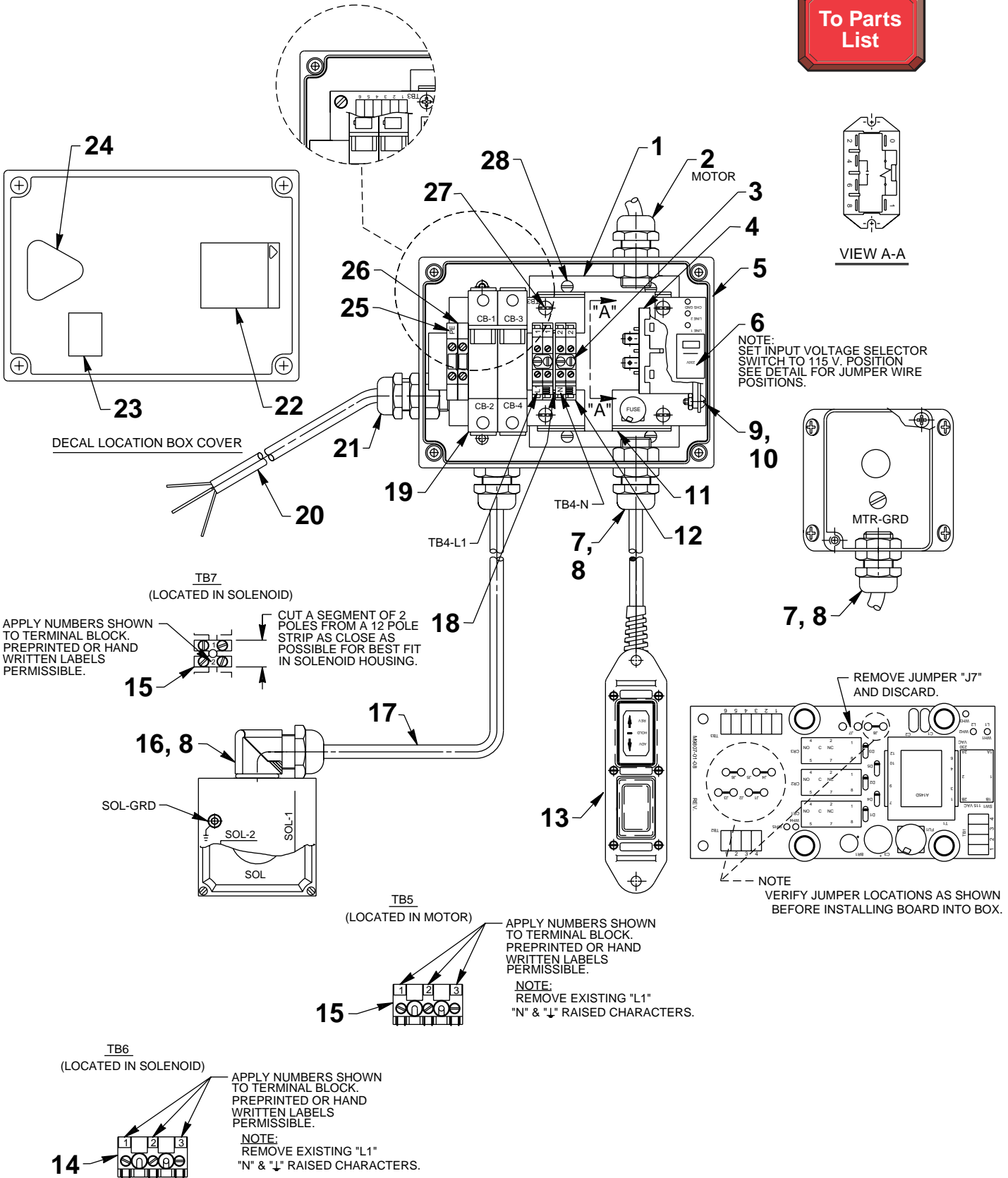
14

| Item No. | Part No. | No. Req'd | Description |
|----------|-----------|-----------|--------------------------------------|
| 1 | 351588 | 1 | Mounting Plate |
| 2 | 251879 | 2' | Cable (1.5MM/3 HAR) |
| 3 | 251845 | 2 | Center 2 Pole Jumper |
| 4 | 421663 | 1 | Relay (240 Volt) |
| 5 | 59036 | 1 | Control Box |
| 6 | 421898 | 1 | Circuit Board |
| 7 | 216666 | 4 | Strain Relief Bushing |
| 8 | 216680 | 4 | Conduit Locknut |
| 9 | 10447 | 2 | Rnd. Hd. Screw (8-32 x 5/16) |
| 10 | 10196 | 2 | Hex Nut (8-32) |
| 11 | 421608WH2 | 1 | Mounting Bracket |
| 12 | 251840 | 4 | Terminal Block |
| 13 | 251881 | 1 | Hand Control (See back sheet 8 of 9) |
| 14 | 251550 | 1 | Terminal Block |
| 15 | 251842 | 1 | End Barrier |
| 16 | 251852 | 7 | Marker Card |
| 17 | 251898 | 1 | CE Electrical Warning Decal |
| 18 | 350988 | 1 | CE Decal |
| 19 | 251762 | 1 | Warning Decal |
| 20 | 360002-13 | 1 | Circuit Breaker (13 AMP) |
| 21 | 251841 | 2 | Grounding Terminal Block |
| 22 | 12409 | 4 | Rnd. Hd. Screw (8/32 x 5/8) |
| 23 | 252253 | 4 | Pan Hd. Screw (8-32 x 3/8) |
| 24 | 251879 | 8' | Cable (1.5MM/3 HAR) |



MOTOR CONTROL ASSEMBLY

110 V., 50 Hz.; For PE462S-E110

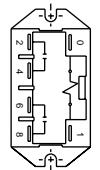


| Item No. | Part No. | No. Req'd | Description |
|----------|-----------|-----------|---------------------------------|
| 1 | 351588 | 1 | Mounting Plate |
| 2 | 251879 | 2' | Cable (1.5MM/3 HAR) |
| 3 | 251845 | 2 | Center 2 Pole Jumper |
| 4 | 360001 | 1 | Relay (120 Volt) |
| 5 | 59036 | 1 | Control Box |
| 6 | 421898 | 1 | Circuit Board |
| 7 | 216666 | 4 | Strain Relief Bushing |
| 8 | 216680 | 5 | Conduit Locknut |
| 9 | 10447 | 2 | Rnd. Hd. Screw (8-32 x 5/16) |
| 10 | 10196 | 2 | Hex Nut (8-32) |
| 11 | 421608WH2 | 1 | Mounting Bracket |
| 12 | 251840 | 4 | Terminal Block |
| 13 | 252508 | 1 | Hand Control (See sheet 9 of 9) |
| 14 | 251550 | 2 | Terminal Block |
| 15 | 351130 | 1 | Terminal Block |
| 16 | 216667 | 1 | Strain Relief Bushing |
| 17 | 251879 | 33" | Cable (1.5MM/3 HAR) |
| 18 | 251842 | 1 | End Barrier |
| 19 | 360002-25 | 1 | Circuit Breaker (25 AMP) |
| 20 | 252241 | 8' | Cable (4.0MM/3 HAR) |
| 21 | 252387 | 1 | Strain Relief Bushing |
| 22 | 251762 | 1 | Warning Decal |
| 23 | 350988 | 1 | CE Decal |
| 24 | 251898 | 1 | CE Electrical Warning Decal |
| 25 | 251852 | 7 | Marker Card |
| 26 | 251841 | 2 | Grounding Terminal Block |
| 27 | 12409 | 4 | Rnd. Hd. Screw (8/32 x 5/8) |
| 28 | 252253 | 4 | Pan Hd. Screw (8-32 x 3/8) |

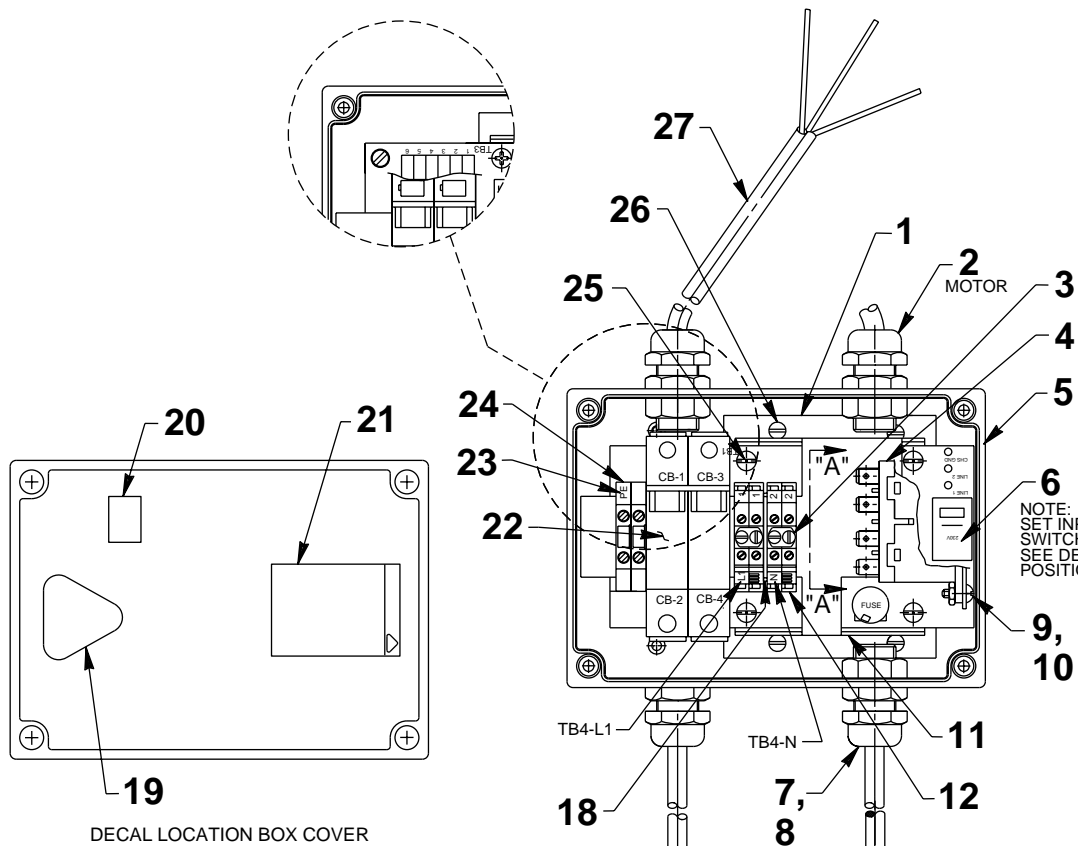


MOTOR CONTROL ASSEMBLY

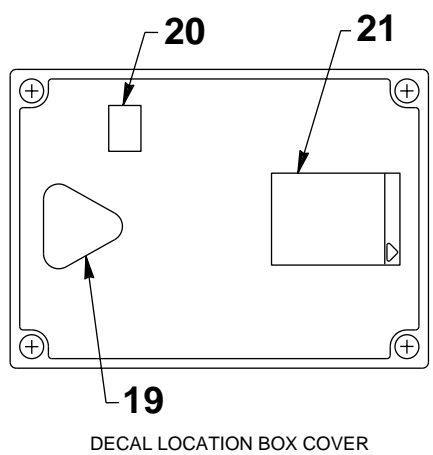
220 V., 50 Hz.; For PE462S-E220



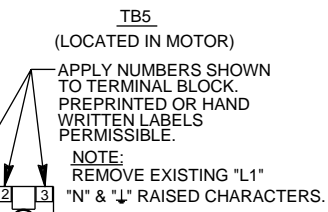
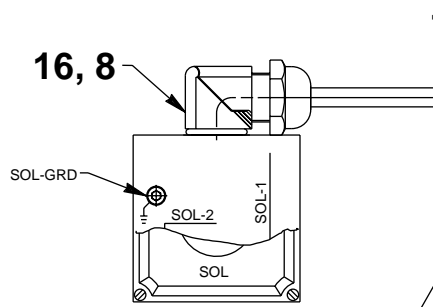
VIEW A-A



NOTE:
SET INPUT VOLTAGE SELECTOR
SWITCH TO 230 V. POSITION
SEE DETAIL FOR JUMPER WIRE
POSITIONS.



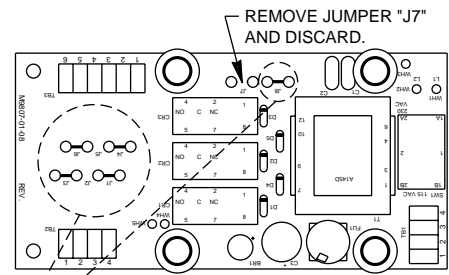
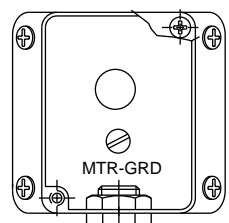
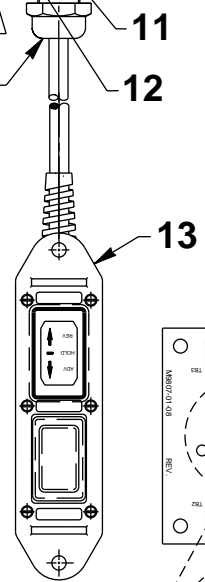
DECAL LOCATION BOX COVER



TB5
(LOCATED IN MOTOR)

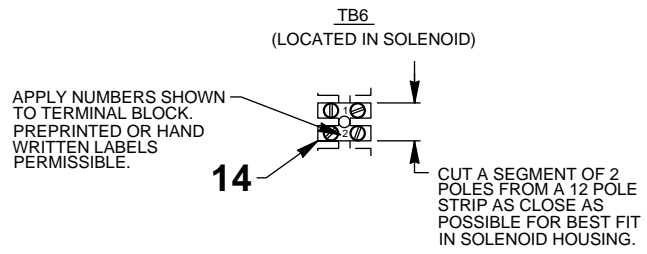
APPLY NUMBERS SHOWN TO TERMINAL BLOCK. PREPRINTED OR HAND WRITTEN LABELS PERMISSIBLE.

NOTE:
REMOVE EXISTING "L1" "N" & "↓" RAISED CHARACTERS.



REMOVE JUMPER "J7" AND DISCARD.

NOTE
VERIFY JUMPER LOCATIONS AS SHOWN BEFORE INSTALLING BOARD INTO BOX.



TB6
(LOCATED IN SOLENOID)

APPLY NUMBERS SHOWN TO TERMINAL BLOCK. PREPRINTED OR HAND WRITTEN LABELS PERMISSIBLE.

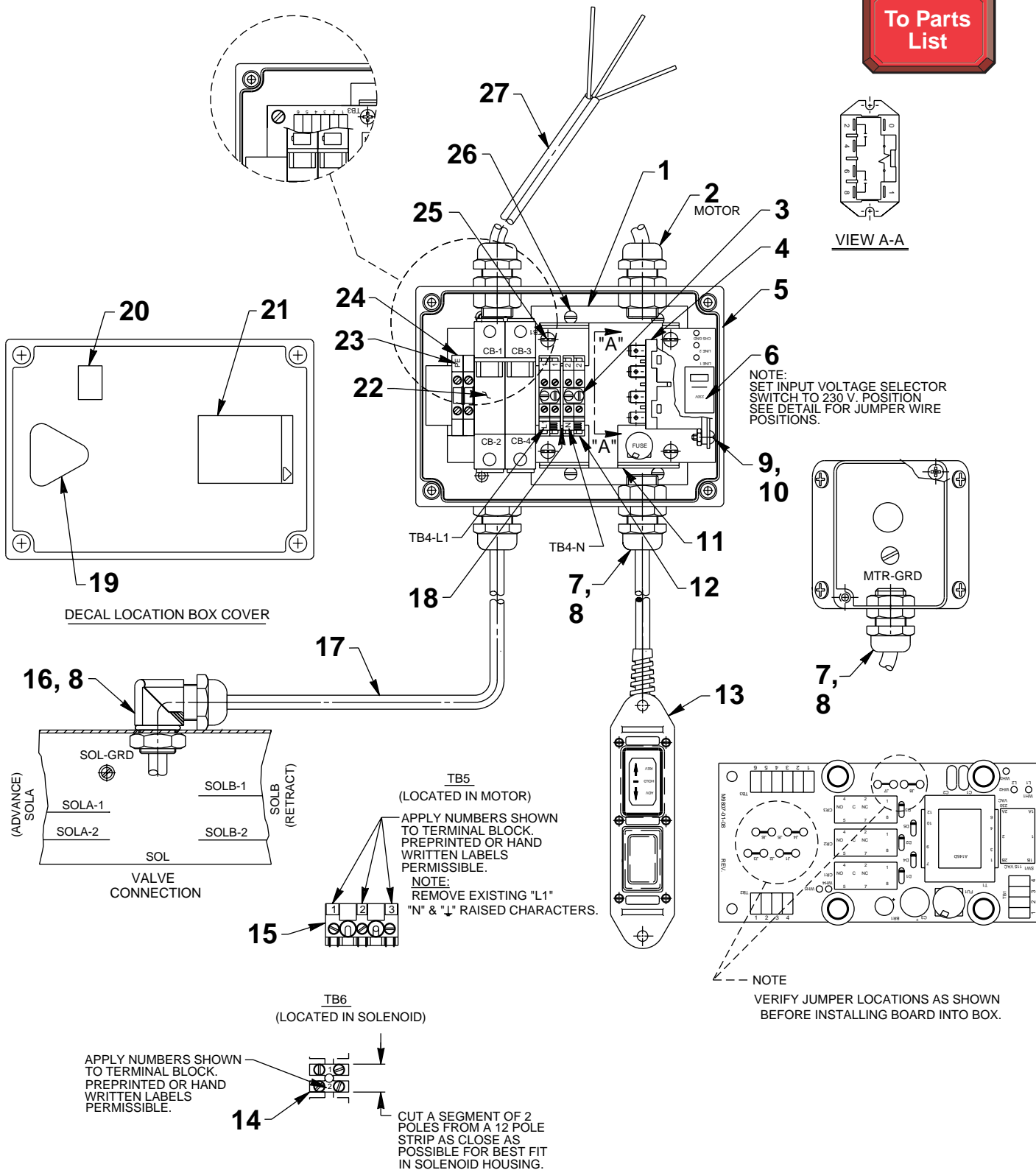
CUT A SEGMENT OF 2 POLES FROM A 12 POLE STRIP AS CLOSE AS POSSIBLE FOR BEST FIT IN SOLENOID HOUSING.

| Item No. | Part No. | No. Req'd | Description |
|----------|-----------|-----------|---------------------------------|
| 1 | 351588 | 1 | Mounting Plate |
| 2 | 251879 | 2' | Cable (1.5MM/3 HAR) |
| 3 | 251845 | 2 | Center 2 Pole Jumper |
| 4 | 421663 | 1 | Relay (240 Volt) |
| 5 | 59036 | 1 | Control Box |
| 6 | 421898 | 1 | Circuit Board |
| 7 | 216666 | 5 | Strain Relief Bushing |
| 8 | 216680 | 6 | Conduit Locknut |
| 9 | 10447 | 2 | Rnd. Hd. Screw (8-32 x 5/16) |
| 10 | 10196 | 2 | Hex Nut (8-32) |
| 11 | 421608WH2 | 1 | Mounting Bracket |
| 12 | 251840 | 4 | Terminal Block |
| 13 | 252508 | 1 | Hand Control (See sheet 9 of 9) |
| 14 | 351130 | 1 | Terminal Block |
| 15 | 251550 | 1 | Terminal Block |
| 16 | 216667 | 1 | Strain Relief Bushing |
| 17 | 251879 | 33" | Cable (1.5MM/3 HAR) |
| 18 | 251842 | 1 | End Barrier |
| 19 | 251898 | 1 | CE Electrical Warning Decal |
| 20 | 350988 | 1 | CE Decal |
| 21 | 251762 | 1 | Warning Decal |
| 22 | 360002-6 | 1 | Circuit Breaker (6 AMP) |
| 23 | 251852 | 7 | Marker Card |
| 24 | 251841 | 2 | Grounding Terminal Block |
| 25 | 12409 | 4 | Rnd. Hd. Screw (8/32 x 5/8) |
| 26 | 252253 | 4 | Pan Hd. Screw (8-32 x 3/8) |
| 27 | 251879 | 8' | Cable (1.5MM/3 HAR) |



MOTOR CONTROL ASSEMBLY

220 V., 50 Hz.; For PE464S-E220

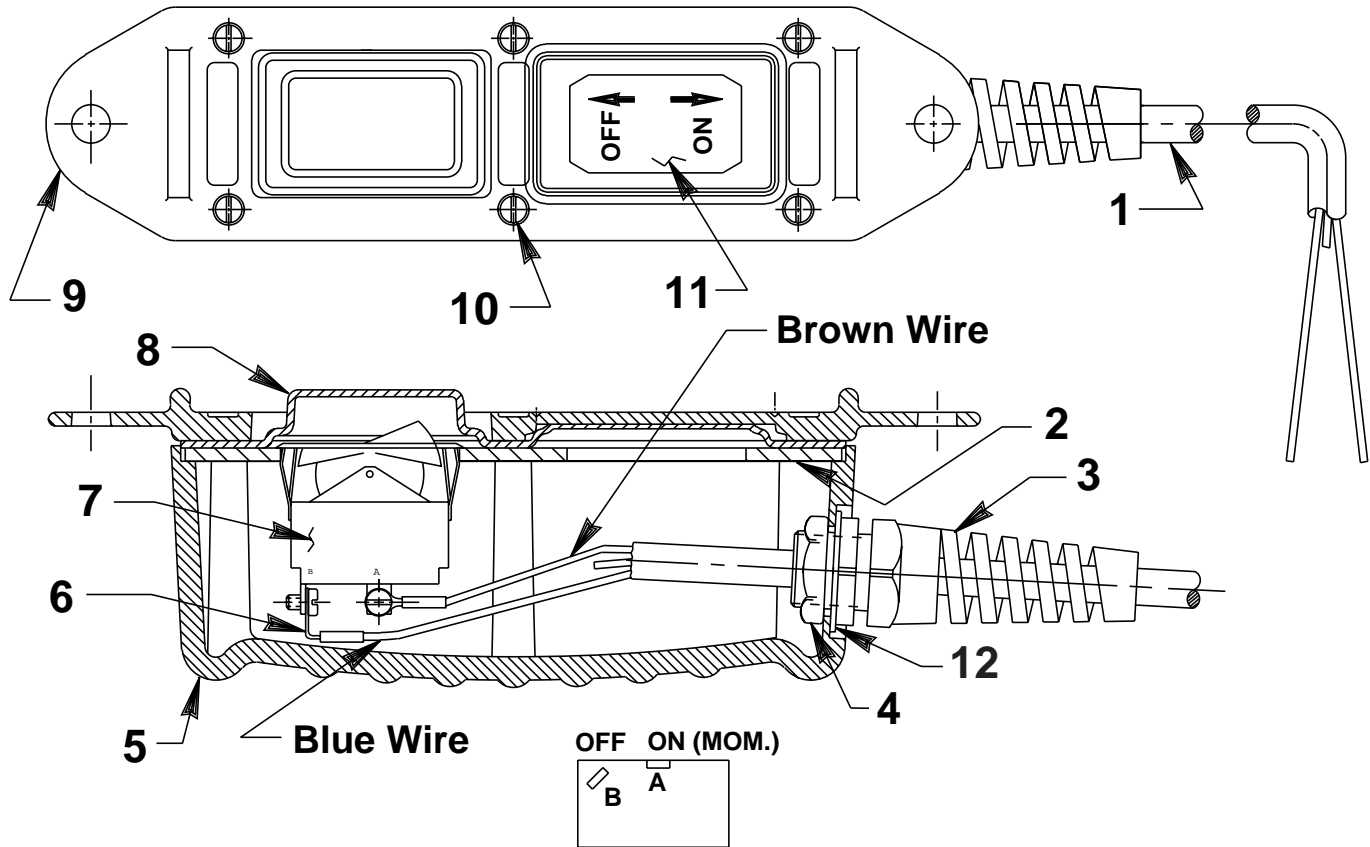


| Item No. | Part No. | No. Req'd | Description |
|----------|-----------|-----------|---------------------------------|
| 1 | 351588 | 1 | Mounting Plate |
| 2 | 251879 | 2' | Cable (1.5MM/3 HAR) |
| 3 | 251845 | 2 | Center 2 Pole Jumper |
| 4 | 421663 | 1 | Relay (240 Volt) |
| 5 | 59036 | 1 | Control Box |
| 6 | 421898 | 1 | Circuit Board |
| 7 | 216666 | 5 | Strain Relief Bushing |
| 8 | 216680 | 6 | Conduit Locknut |
| 9 | 10447 | 2 | Rnd. Hd. Screw (8-32 x 5/16) |
| 10 | 10196 | 2 | Hex Nut (8-32) |
| 11 | 421608WH2 | 1 | Mounting Bracket |
| 12 | 251840 | 4 | Terminal Block |
| 13 | 252508 | 1 | Hand Control (See sheet 9 of 9) |
| 14 | 351130 | 1 | Terminal Block |
| 15 | 251550 | 1 | Terminal Block |
| 16 | 216667 | 1 | Strain Relief Bushing |
| 17 | 251864 | 28" | Cable (1.5MM/5 HAR) |
| 18 | 251842 | 1 | End Barrier |
| 19 | 251898 | 1 | CE Electrical Warning Decal |
| 20 | 350988 | 1 | CE Decal |
| 21 | 251762 | 1 | Warning Decal |
| 22 | 360002-13 | 1 | Circuit Breaker (13 AMP) |
| 23 | 251852 | 7 | Marker Card |
| 24 | 251841 | 2 | Grounding Terminal Block |
| 25 | 12409 | 4 | Rnd. Hd. Screw (8/32 x 5/8) |
| 26 | 252253 | 4 | Pan Hd. Screw (8-32 x 3/8) |
| 27 | 251879 | 8' | Cable (1.5MM/3 HAR) |



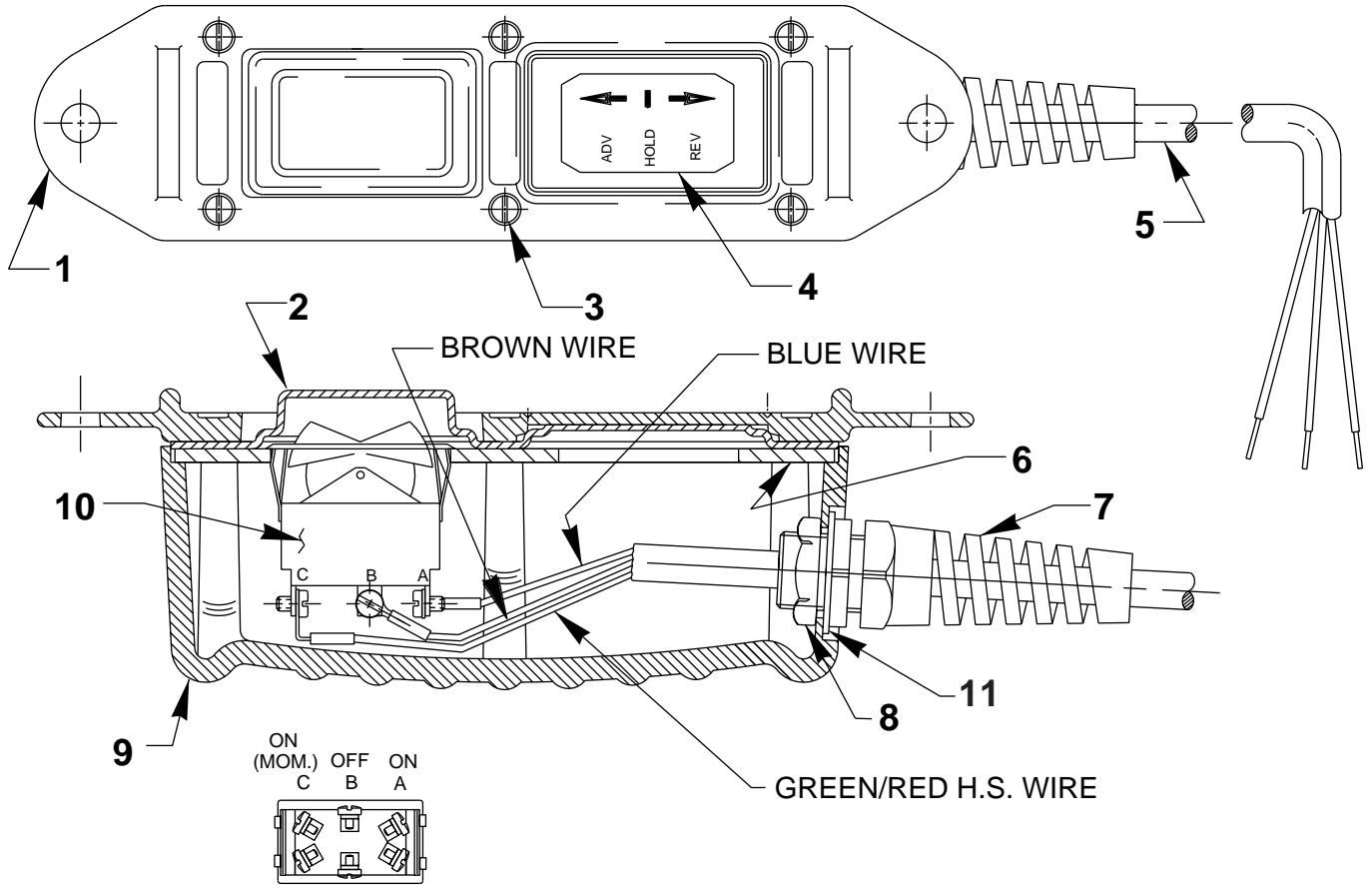
Note: Shaded areas reflect last revision(s) made to this form.

#251881 REMOTE HAND SWITCH ASSEMBLY



| Item No. | Part No. | No. Req'd | Description |
|----------|----------|-----------|-------------------------|
| 1 | 251879 | 10 ft. | Electrical Cable (14/3) |
| 2 | 420050-3 | 1 | Switch Mounting Plate |
| 3 | 251818 | 1 | Strain Relief Connector |
| 4 | 251802 | 1 | Locknut (3/4-16 UNF) |
| 5 | 420050-4 | 1 | Switch Housing |
| 6 | 10525 | 2 | Ring Terminal |
| 7 | 16772 | 1 | Rocker Switch |
| 8 | 420050-2 | 1 | Gasket |
| 9 | 420050-1 | 1 | Cover |
| 10 | 250248 | 6 | Screw (4-24 x 3/4 Lg.) |
| 11 | 202763 | 1 | Decal |
| 12 | 253607 | 1 | Rubber Gasket |

#252508 REMOTE HAND SWITCH ASSEMBLY



| Item No. | Part No. | No. Req'd | Description |
|----------|----------|-----------|--------------------------------|
| 1 | 420050-1 | 1 | Plastic Cover |
| 2 | 420050-2 | 1 | Remote Hand Switch Gasket |
| 3 | 250248 | 6 | Tapping Screw (4-24 X 3/4 Lg.) |
| 4 | 202776 | 1 | Label Controls Decal |
| 5 | 251879 | 10 ft. | Cable (1.5 mm/3 HAR) |
| 6 | 420050-3 | 1 | Switch Mounting Plate |

| Item No. | Part No. | No. Req'd | Description |
|----------|----------|-----------|--|
| 7 | 251818 | 1 | Strain Relief Bushing |
| 8 | 251802 | 1 | Hex Lock Nut (Torque to 30/35 in. lbs.) |
| 9 | 420050-4 | 1 | Switch Housing |
| 10 | 16774 | 1 | Rocker Switch |
| 11 | 253607 | 1 | Rubber Gasket |