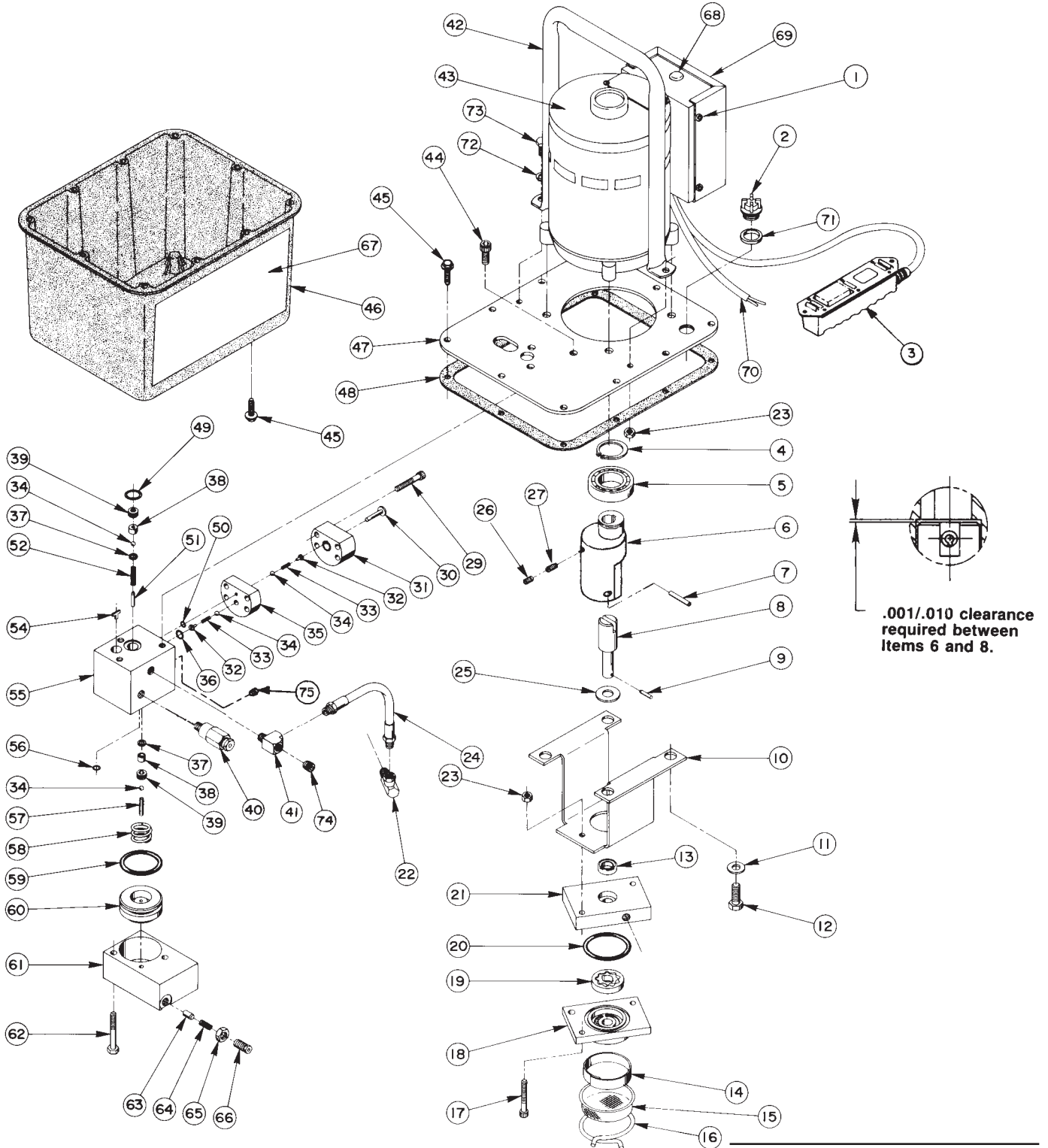


Parts List for:

4044-50-220  
4046-50-220  
HE172 (220V, 50 Hz)  
HE174 (220 V., 50 Hz)

PE17-AMKUS  
PE172-50-220  
PE172A-50-220  
PE172-CCL  
PE174-50-220

**ELECTRIC HYDRAULIC PUMP**



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

# Parts List, Form No. 100585, Back sheet 1 of 4

| Item No. | Part No.   | No. Req'd | Description  |
|----------|------------|-----------|--|
| 1        | 11141      | 4         | Self-Tapping Screw (#6-20 X 3/8 Lg.)                                   |
| 2        | 20937      | 1         | Filler/Vent Plug   |
|          | †27142     | 1         | Filler/Vent Plug   |
| 3        | 25017      | 1         | Remote Hand Switch Assembly (See Back sheet 4 of 4)                    |
| 4        | 209798     | 1         | Retaining Ring   |
| 5        | 209805     | 1         | Ball Bearing   |
| 6        | 45596      | 1         | Eccentric  |
| 7        | 10973      | 1         | Slotted Spring Pin   |
| 8        | 304835     | 1         | Drive Shaft  |
| 9        | 209794     | 1         | Gerotor Drive Pin  |
| 10       | 52174      | 1         | Pump Mounting Bracket  |
| 11       | 10258      | 4         | Washer   |
| 12       | 213663     | 4         | Screw (3/8-16 UNC X 1" Lg.; Torque to 230/250 in. lbs.)                |
| 13       | *304830    | 1         | Seal   |
|          | †250156    | 1         | Seal   |
| 14       | 21846      | 1         | Filter Support   |
| 15       | 21608      | 1         | Filter   |
| 16       | 11461      | 1         | Clamp Ring   |
| 17       | 10854      | 2         | Cap Screw (1/4-20 UNC X 1-3/4 Lg.; Torque to 60/80 in. lbs.)           |
| 18       | 61169      | 1         | Lower Gerotor Housing  |
|          | 45912      | 1         | Lower Gerotor Housing (For PE17-AMKUS)                                 |
| 19       | 304826     | 1         | Gerotor Set  |
| 20       | *10922     | 1         | O-ring (2-1/8" X 1-15/16" X 3/32)                                      |
|          | †250158    | 1         | O-ring (2-1/8" X 1-15/16" X 3/32)                                      |
| 21       | 61170      | 1         | Upper Gerotor Housing  |
|          | 45913      | 1         | Upper Gerotor Housing (For PE17-AMKUS)                                 |
| 22       | 14440      | 1         | Swivel Elbow Fitting   |
| 23       | 10199      | 4         | Nut  |
| 24       | 304819     | 1         | Hose Assembly  |
| 25       | 12595      | 1         | Brass Washer   |
| 26       | 10519      | 1         | Set Screw (1/4-20 UNC X 3/8 Lg.; Torque to 60/80 in. lbs.)             |
| 27       | 10136      | 1         | Set Screw (1/4-20 X 1/4 Lg.; Torque to 60/80 in. lbs.)                 |
| 29       | 10022      | 4         | Cap Screw (1/4-20 UNC X 1-1/2" Lg.; Torque to 110/130 in. lbs.)        |
| 30       | 304820     | 1         | High Pressure Piston   |
| 31       | 45560      | 1         | Piston Block   |
| 32       | 24549      | 2         | Valve Guide  |
| 33       | *10445     | 2         | Compression Spring (5/32 O.D. X 3/4 Lg.)                               |
| 34       | *12223     | 4         | Ball   |
| 35       | 45559      | 1         | Check Block  |
| 36       | *14763     | 1         | O-ring (7/16 X 5/16 X 1/16)  |
|          | †13472     | 1         | O-ring (7/16 X 5/16 X 1/16)  |
| 37       | *10442     | 2         | Copper Washer  |
| 38       | *209787    | 2         | Replaceable Seat   |
| 39       | 209797     | 2         | Hollow Lock Screw (7/16-20 UNF-3A; Torque to 110/130 in. lbs.)         |
| 40       | 21278      | 1         | Relief Valve Assembly (Set at 10,100/10,700 PSI)                       |
|          | 21278-6    | 1         | Low Pressure Relief Valve (For PE17-AMKUS, Set at 600/640 PSI)         |
|          | 207975-105 | 1         | Relief Valve (For PE172-CCL; 10,500 PSI)                               |
| 41       | 19463      | 1         | Tee Fitting  |
| 42       | 47492      | 1         | Handle   |
| 43       | 58196WH2   | 1         | Electric Motor   |
|          | 250313     | 1         | Electric Motor (For PE17-AMKUS; includes toggle switch and power cord) |
| 44       | 10030      | 1         | Cap Screw (5/16-18 UNC X 3/4 Lg.; Torque to 220/240 in. lbs.)          |
| 45       | 209799     | 14        | Self-Tapping Screw (1/4-10 X 7/8 Lg.; For plastic reservoir)           |
| 46       | 61165      | 1         | Reservoir  |

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

| Item No. | Part No.        | No. Req'd | Description   |
|----------|-----------------|-----------|---|
| 47       | <b>61166BK2</b> | 1         | Cover Plate   |
| 48       | <b>*40164</b>   | 1         | Cover Gasket  |
| 49       | <b>*10273</b>   | 1         | O-ring (13/16 X 5/8 X 3/32)                                   |
|          | † <b>250157</b> | 1         | O-ring (13/16 X 5/8 X 3/32)                                   |
| 50       | <b>*10265</b>   | 1         | O-ring (5/16 X 3/16 X 1/16)                                   |
|          | † <b>17714</b>  | 1         | O-ring (5/16 X 3/16 X 1/16)                                   |
| 51       | <b>12149</b>    | 1         | Dowel Pin   |
| 52       | <b>*16057</b>   | 1         | Compression Spring  |
| 54       | <b>209795</b>   | 1         | Outlet Ball Stop  |
| 55       | <b>61167</b>    | 1         | Check Body  |
| 56       | <b>*10266</b>   | 1         | O-ring (3/8 X 1/4 X 1/16)                                     |
|          | † <b>17715</b>  | 1         | O-ring (3/8 X 1/4 X 1/16)                                     |
| 57       | <b>211843</b>   | 1         | Dowel Pin (Loctite pin in piston hole with radius end out)    |
| 58       | <b>*16346</b>   | 1         | Compression Spring (1" O.D. X 7/8 Lg.)                        |
| 59       | <b>*10283</b>   | 1         | O-ring (2" X 1-5/8 X 3/16)                                    |
|          | † <b>250159</b> | 1         | O-ring (2" X 1-5/8 X 3/16)                                    |
| 60       | <b>46063</b>    | 1         | Auto. Valve Piston  |
| 61       | <b>*52167</b>   | 1         | Auto. Valve Block   |
| 62       | <b>13037</b>    | 2         | Cap Screw (1/4-20 UNC X 2" Lg.; Torque to 40/50 in. lbs.)     |
| 63       | <b>15156</b>    | 1         | Dowel Pin (Tapered end toward spring.)                        |
|          | <b>211170</b>   | 1         | Dowel Pin (For PE17-AMKUS; Tapered end toward threaded plug.) |
| 64       | <b>*11221</b>   | 1         | Compression Spring (1/4 O.D. X 1" Lg.)                        |
| 65       | <b>10386</b>    | 1         | Locknut   |
| 66       | <b>29786</b>    | 1         | Adjusting Screw   |
|          | <b>10047</b>    | 1         | Adjusting Screw (For PE17-AMKUS)                              |
| 67       | <b>304840</b>   | 2         | Trade Name Decal (For 4044-50-220)                            |
|          | <b>304841</b>   | 2         | Trade Name Decal (For PE Series)                              |
|          | <b>305101</b>   | 2         | Trade Name Decal (For HE172)                                  |
|          | <b>305257</b>   | 2         | Trade Name Decal (For HE174)                                  |
|          | <b>307137</b>   | 2         | Trade Name Decal (For 4046-50-220)                            |
| 68       | <b>17782</b>    | 1         | Snap Button   |
| 69       | <b>42576WH2</b> | 1         | Control Box Cover   |
| 70       | <b>12293</b>    | 1         | Power Cord  |
| 71       | <b>200415</b>   | 1         | Rubber Seal   |
|          | † <b>17723</b>  | 1         | Rubber Seal   |
| 72       | <b>10245</b>    | 2         | Lockwasher  |
| 73       | <b>10009</b>    | 2         | Cap Screw (1/4-20 UNC X 3/4 Lg.; Torque to 60/80 in. lbs.)    |
| 74       | <b>10427</b>    | 1         | Pipe Plug (1/8 NPTF)  |
| 75       | <b>15130</b>    | 1         | Pipe Plug (1/16 NPTF)   |

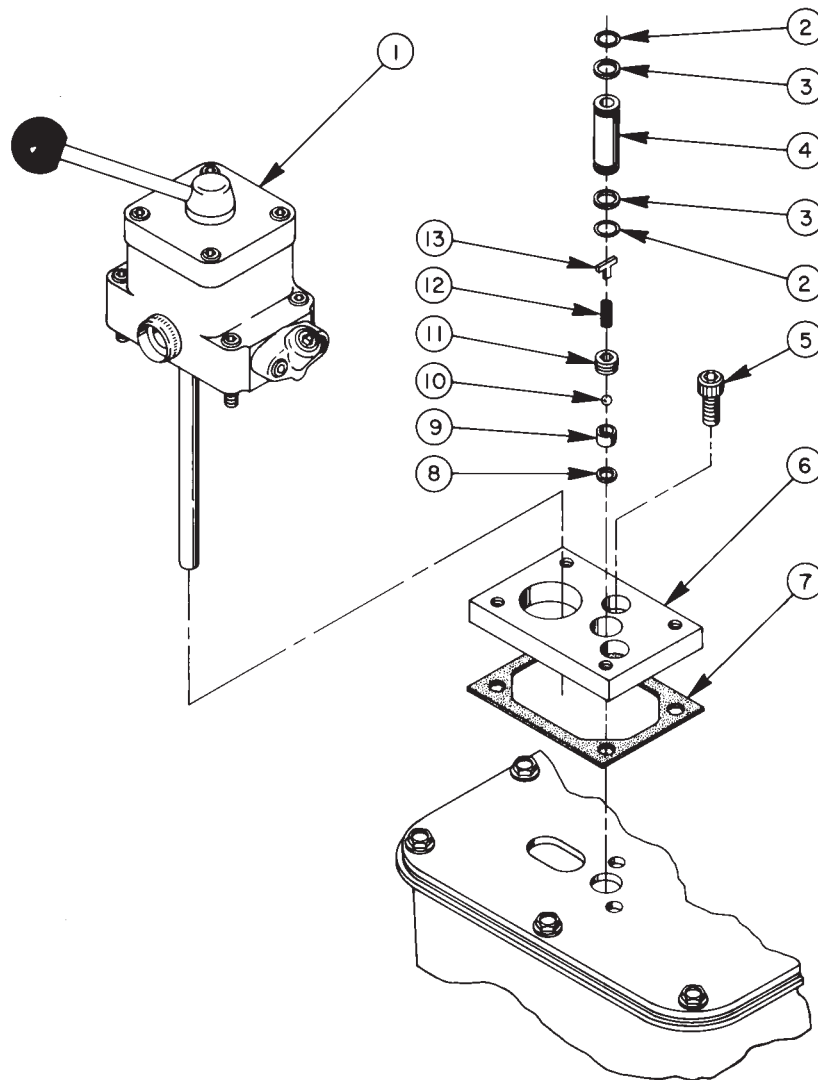
**PARTS INCLUDED BUT NOT SHOWN**

|                 |   |   |
|-----------------|---|---|
| <b>*200188</b>  | 1 | Warning Decal                                   |
| † <b>11278</b>  | 1 | Tube Elbow                                      |
| † <b>15061</b>  | 1 | Male Connector                                  |
| † <b>251229</b> | 1 | Oil Line  |
| † <b>250328</b> | 1 | Decal (EPR Seals)                               |
| <b>351060</b>   | 1 | Gasket (Between motor and cover plate)          |
| <b>10020</b>    | 3 | Cap Screw (1/4-20 X 1-1/4" Lg.; For PE17-AMKUS) |
| <b>18969</b>    | 1 | Tee Fitting (For PE17-AMKUS)                    |
| <b>211594</b>   | 2 | Rubber Bumper (For PE17-AMKUS)                  |
| <b>250607</b>   | 2 | Seal Washer (For PE172-CCL)                     |
| <b>25600-1</b>  | 1 | Cylinder Half Coupler (For PE172-CCL)           |
| <b>9040</b>     | 1 | Gauge (10,000 PSI; For PE172-CCL)               |
| <b>9670</b>     | 1 | Tee Fitting (For PE172-CCL)                     |
| <b>9797</b>     | 1 | Dust Cap (For PE172-CCL)                        |

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

## OPTIONAL VALVE ASSEMBLIES

### 4-Way Tandem Center Directional Valve

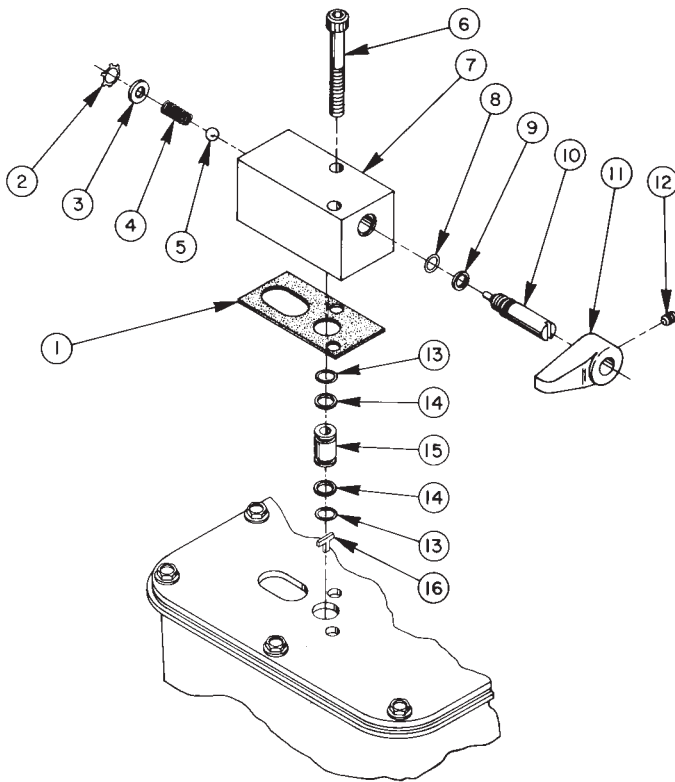


| Item No. | Part No. | No. Req'd | Description  |
|----------|----------|-----------|--|
| 1        | 9500     | 1         | 4-Way Valve Ass'y<br>(See Form No. 100623)                       |
| 2        | •*10268  | 2         | O-ring (1/2 X 3/8 X 1/16)  |
|          | †17716   | 2         | O-ring (1/2 X 3/8 X 1/16)  |
| 3        | •*11863  | 2         | Backup Washer  |
| 4        | 209809   | 1         | Coupling   |
| 5        | 10030    | 2         | Cap Screw (5/16-18 UNC X 3/4 Lg.;<br>Torque to 220/240 in. lbs.) |
| 6        | 52165    | 1         | Adapter Block Manifold   |

| Item No. | Part No. | No. Req'd | Description   |
|----------|----------|-----------|---|
| 7        | *200395  | 1         | Gasket  |
| 8        | •*10442  | 1         | Copper Washer   |
| 9        | •*209787 | 1         | Replaceable Seat  |
| 10       | •*12223  | 1         | Steel Ball  |
| 11       | 209797   | 1         | Hollow Lock Screw (7/16-20<br>UNF-3A; Torque to 110/130 in. lbs.) |
| 12       | *211797  | 1         | Compression Spring<br>(5/32 O.D. X 5/8 Lg.)                       |
| 13       | •209795  | 1         | Outlet Ball Stop  |

Part numbers marked with an asterisk (\*) are contained in Repair Kit No. 300430.  
 Part numbers marked with a dagger (†) are contained in EPR Seal Kit No. 300648.  
 Part numbers marked with a bullet (•) are contained in Outlet Check Repair Kit No. 300606.

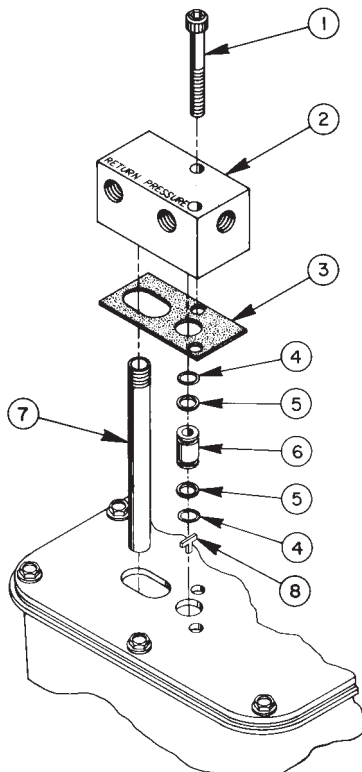
**Two Position, 2-Way Manual Valve**



| Item No. | Part No. | No. Req'd | Description   |
|----------|----------|-----------|---|
| 1        | *304829  | 1         | Gasket  |
| 2        | *11088   | 1         | Retaining Ring  |
| 3        | 11089    | 1         | Washer  |
| 4        | *11024   | 1         | Compression Spring<br>(1/4 O.D. X 5/8 Lg.)                            |
| 5        | *10375   | 1         | Steel Ball  |
| 6        | 209945   | 2         | Cap Screw<br>(5/16-18 UNC X 2-1/2 Lg.;<br>Torque to 220/240 in. lbs.) |
| 7        | 52168    | 1         | Valve Body  |
| 8        | *10267   | 1         | O-ring (7/16 X 15/16 X 1/16)  |
|          | †13472   | 1         | O-ring (7/16 X 15/16 X 1/16)  |
| 9        | *15085   | 1         | Backup Washer   |
| 10       | 304849   | 1         | Release Valve Screw   |
| 11       | 213109   | 1         | Release Valve Handle  |
| 12       | 10556    | 1         | Set Screw<br>(1/4-20 UNC X 1/4 Lg.)                                   |
| 13       | *10268   | 2         | O-ring (1/2 X 3/8 X 1/16)   |
|          | †17716   | 2         | O-ring (1/2 X 3/8 X 1/16)   |
| 14       | *11863   | 2         | Backup Washer   |
| 15       | 202505   | 1         | Coupling  |
| 16       | 209795   | 1         | Outlet Ball Stop<br>(Part of the Basic Pump Ass'y)                    |
|          | 52170    | 1         | Complete Valve Ass'y<br>(Consists of items 1 thru 15)                 |

Part numbers marked with an asterisk (\*) are contained in Repair Kit No. 300430.  
 Part numbers marked with a dagger (†) are contained in EPR Seal Kit No. 300648.

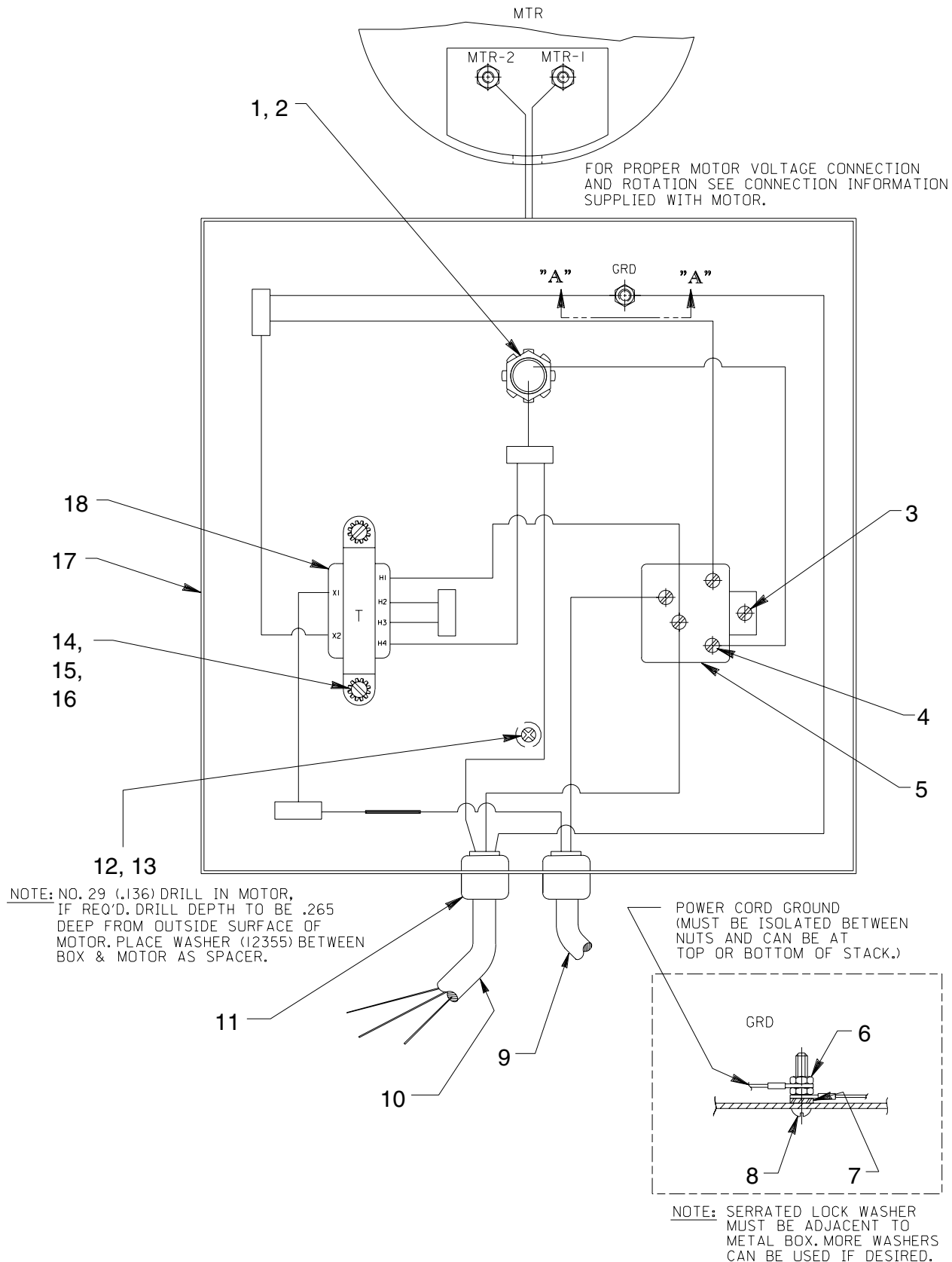
**Manifold Assembly**



| Item No. | Part No. | No. Req'd | Description   |
|----------|----------|-----------|---|
| 1        | 209945   | 2         | Cap Screw<br>(5/16-18 UNC X 2-1/2 Lg.;<br>Torque to 220/240 in. lbs.) |
| 2        | 45554    | 1         | Manifold  |
| 3        | *304829  | 1         | Gasket  |
| 4        | *10268   | 2         | O-ring (1/2 X 3/8 X 1/16)   |
|          | †17716   | 2         | O-ring (1/2 X 3/8 X 1/16)   |
| 5        | *11863   | 2         | Backup Washer   |
| 6        | 202505   | 1         | Coupling  |
| 7        | 200609   | 1         | Drain Line  |
| 8        | 209795   | 1         | Outlet Ball Stop (Part of the<br>Basic Pump Ass'y)                    |

Part numbers marked with an asterisk (\*) are contained in Repair Kit No. 300430.  
 Part numbers marked with a dagger (†) are contained in EPR Seal Kit No. 300648.

# MOTOR CONTROL ASSEMBLY



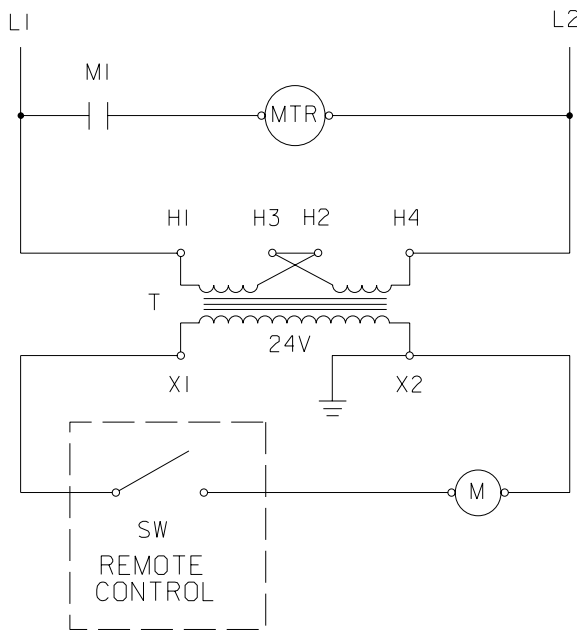
Note: Shaded areas reflect last revision(s) made to this form.

VIEW **A-A**  
(NOT PART OF PE172-CCL)

| Item No. | Part No. | No. Req'd | Description                                    | Item No. | Part No. | No. Req'd | Description                      |
|----------|----------|-----------|--|----------|----------|-----------|----------------------------------|
| 1        | 11202    | 1         | Nipple   | 10       | 12293    | 7.25 ft.  | Power Cord                       |
| 3        | 17370    | 1         | Screw (6-20 X 1/4 Lg.)                         | 11       | 15993    | 2         | Bushing                          |
| 4        | 10975    | 4         | Machine Screw<br>(#8-32 UNC X 5/16 Lg.)        | 12       | 252253   | 1         | Screw (#8-32 X 1/2 Lg.)          |
| 5        | 14667    | 1         | Starter  | 13       | 12355    | 1         | Washer                           |
| 6        | 10197    | 1         | Nut  | 14       | 10962    | 2         | Mach. Screw (8-32 UNC X 1/2 Lg.) |
| 7        | 11108    | 1         | Washer   | 15       | 10196    | 2         | Nut                              |
| 8        | 10167    | 1         | Machine Screw<br>(10-24 UNC X 3/4 Lg.)         | 16       | 11388    | 2         | Lockwasher                       |
| 9        | 25017    | 1         | Remote Hand Switch<br>(See Back sheet 4 of 4.) | 17       | 42575WH2 | 1         | Elect. Control Box               |
|          |          |           |  | 18       | 305665   | 1         | Transformer                      |

### ELECTRIC SCHEMATIC

220 V., 50 Hz.



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

### 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  |

### ASSEMBLY INSTRUCTIONS

After all components have been installed and torqued, the electric motor/gerotor shafts must turn freely when rotated by hand. If binding is encountered, proceed as follows:

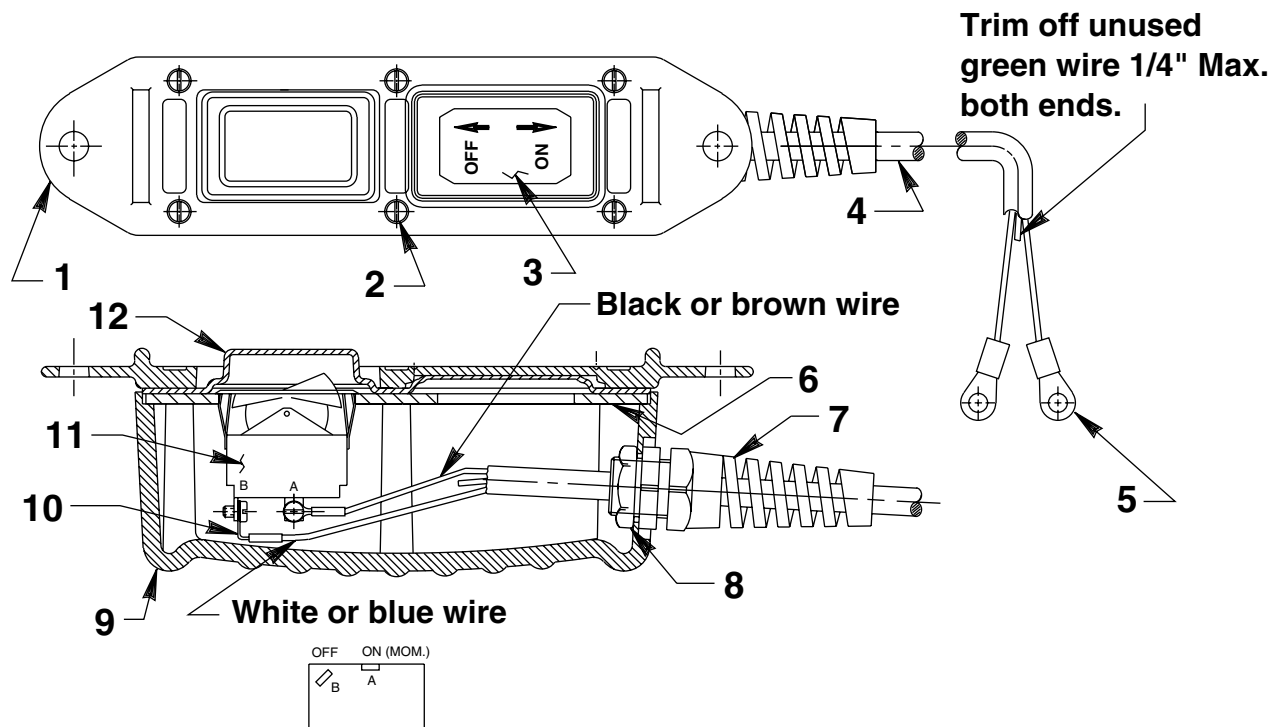
1. Loosen electric motor mounting screws and gerotor housing bolts.
2. Retighten screws finger tight.
3. Rotate shafts by hand until free (no binding).
4. Retorque per print.
5. Rotate shafts again by hand to verify that binding is not encountered after torquing.

Adjust the alignment of the low pressure pump section and the alignment of the high pressure pump section to reduce noise to a minimum. Torque screw #10030 (Item #44 on sheet 1 of 4) and screws #209945 (Item #6 on sheet 3 of 4, if pump is equipped with a two position, 2-way valve. Item #1 on sheet 3 of 4, if pump is equipped with a manifold.) or screws #10030 (Item #5 on sheet 3 of 4, if pump is equipped with a 4-way tandem valve) before testing and after any alignment of the high pressure pump section. Always replace washers #10258 (Item #11 on sheet 1 of 4) if the low pressure pump section has been realigned and the washers have been deformed.



## REMOTE HAND SWITCH ASSEMBLY

No. 25017



| Item No. | Part No. | No. Req'd | Description                                    |
|----------|----------|-----------|--|
| 1        | 420050-1 | 1         | Cover  |
| 2        | 250248   | 6         | Screw (4-24 x 3/4 Lg.)                         |
| 3        | 202763   | 1         | Decal  |
| 4        | 12908    | 11 ft.    | Cable (18/3 SJTO)                              |
| 5        | 10458    | 2         | Ring Terminal                                  |
| 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       | 10525    | 2         | Ring Terminal                                  |
| 11       | 16772    | 1         | Rocker Switch                                  |
| 12       | 420050-2 | 1         | Gasket   |

Note: This page was added at the last revision(s) made to this form.

Refer to any operating instructions included with this 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 our Technical Services Department.