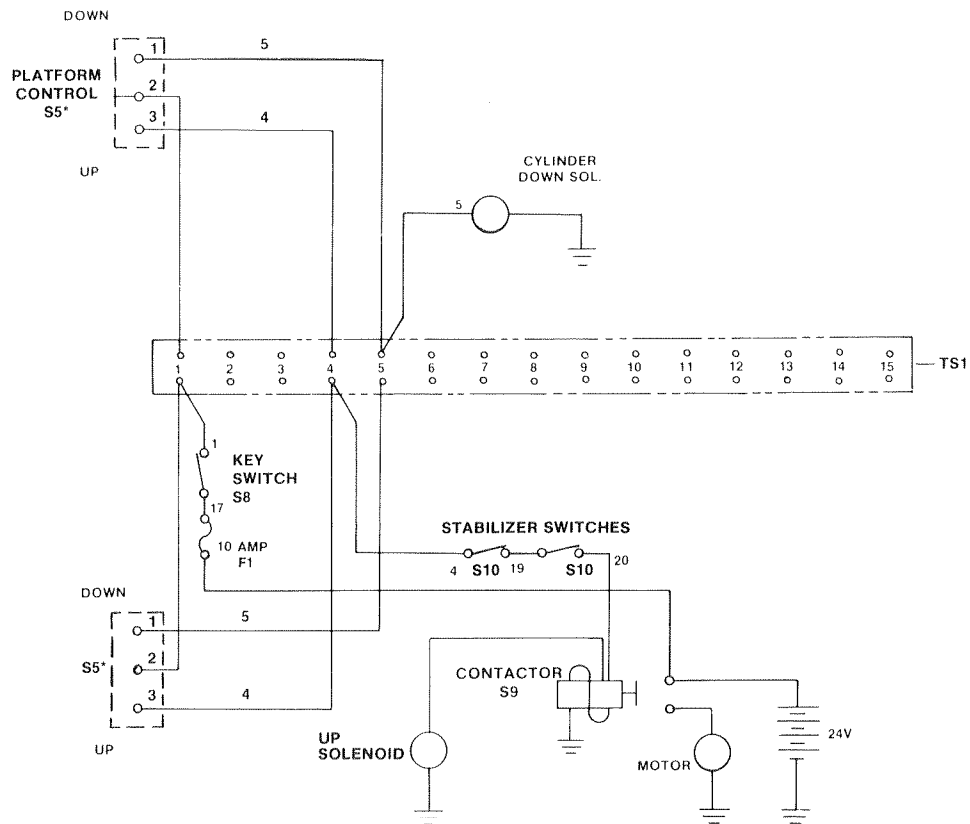


# ELECTRICAL WIRING DIAGRAM BATTERY MANUAL PLANT MASTER SERIES



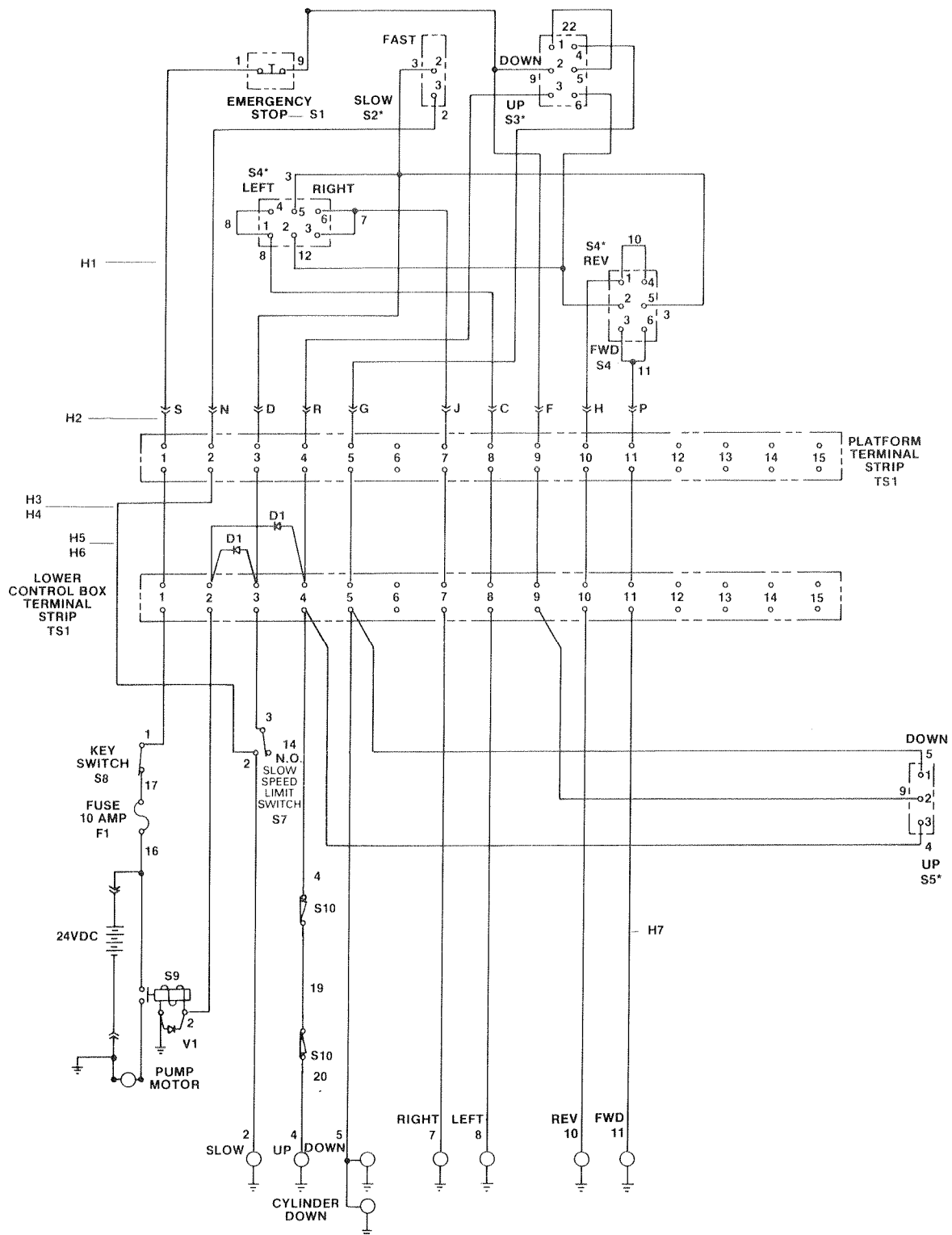
**Figure 52.**

\* NOTE: Switch wiring as seen from rear of switch.

| Symbol | Description       | Part No. |
|--------|-------------------|----------|
| F1     | Fuse 10 AMP       | 6190     |
| S5     | Switch, Up/Down   | 5230     |
| S8     | Key Switch        | 5936     |
| S9     | Contactors        | 5967     |
| S10    | Stabilizer Switch | 6504     |
| TS1    | Terminal Strip    | 5991     |

# ELECTRICAL WIRING DIAGRAM

## PLANT MASTER (PM) ONE-WHEEL DRIVE SERIES



\* NOTE: Switch wiring as seen from rear of switch.

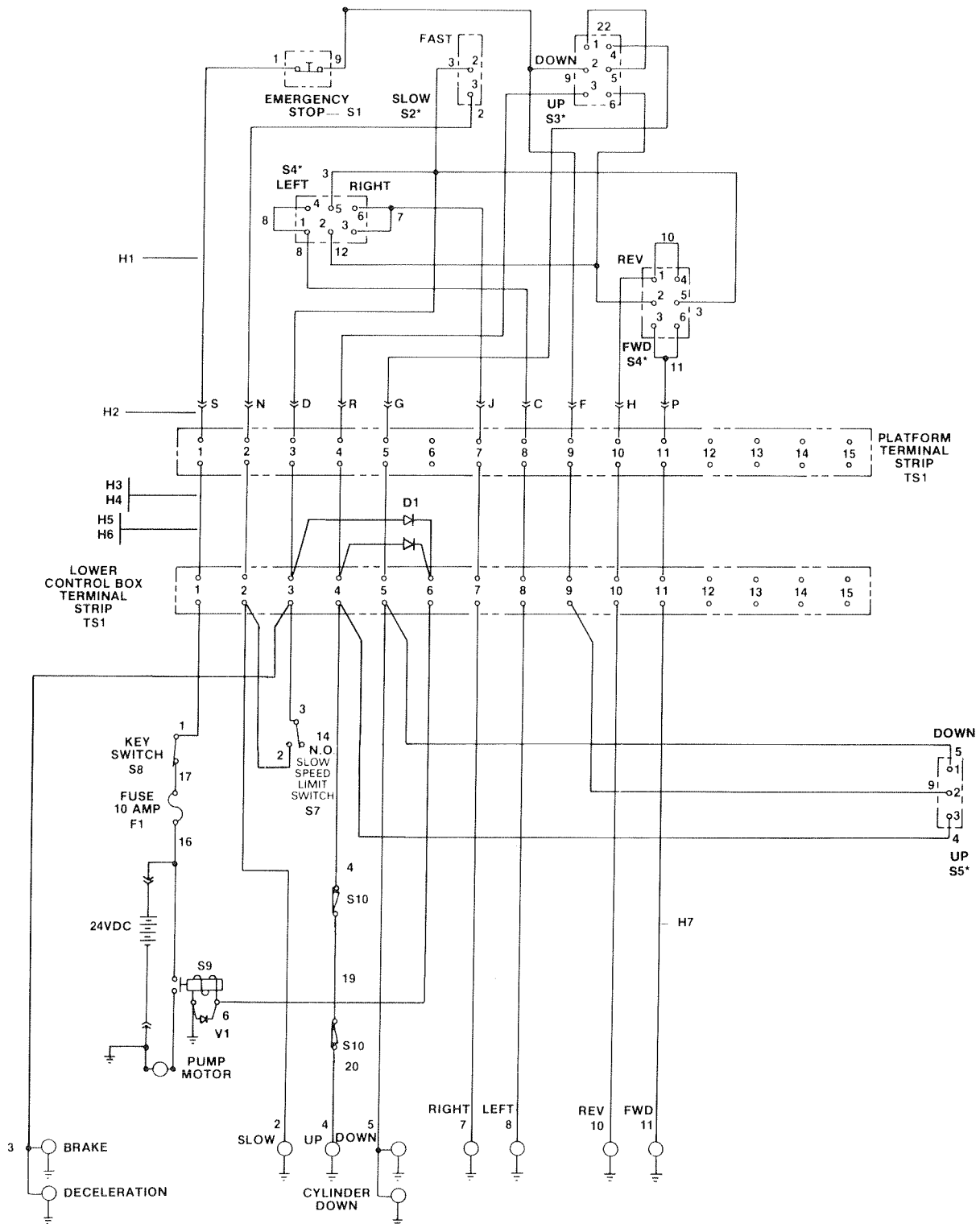
Up/Down Switch at Upper Control Box — Contacts Made With Toggle at Keyway Position 1-2, 4-5 — Center Position 1-2, 5-6 — Opposite Keyway 2-3, 5-6

Figure 53.

**Symbol Identification for Figure 53.**

| <b>Symbol</b> | <b>Description</b>            | <b>Part No.</b> |
|---------------|-------------------------------|-----------------|
| D1            | Diode Assembly (3A.600PIV)    | 6070            |
| F1            | Fuse                          | 6190            |
| H1            | Harness, Control Box          | 5982            |
| H2            | Harness, To Control Box       | 5983            |
| H3            | Harness, 15' Nos. 1,3,9,10,11 | 6072            |
| H4            | Harness, 15' Nos. 2,4,5,6,7,8 | 6073            |
| H5            | Harness, 19' Nos. 1,3,9,10,11 | 6075            |
| H6            | Harness, 19' Nos. 2,4,5,6,7   | 6076            |
| H7            | Harness, Manifold             | 6021            |
| S1            | Switch, Emergency Stop        |                 |
|               | Body                          | 6665            |
|               | Retainer                      | 6666            |
|               | Contact                       | 6667            |
| S2            | Switch, Slow/Fast             | 5630            |
| S3            | Switch, Up/Down               | 5979            |
| S4            | Switch, Steering, Fwd./Rev.   | 5694            |
| S5            | Switch, Lower Up/Down         | 5230            |
| S7            | Switch, Slow Sp. Limit        | 6016            |
| S8            | Switch, Key                   | 5936            |
| S9            | Contact Assy., Motor Start    | 5967            |
| S10           | Switch, Stabilizer            | 6504            |
| TS1           | Terminal Strip                | 5991            |
| V1            | Varistor Assembly             | 6231            |

# ELECTRICAL WIRING DIAGRAM PLANT MASTER (PM) (TWO-WHEEL DRIVE SERIES) AISLE MASTER (AM)



\* NOTE: Switch wiring as seen from the rear of switch.

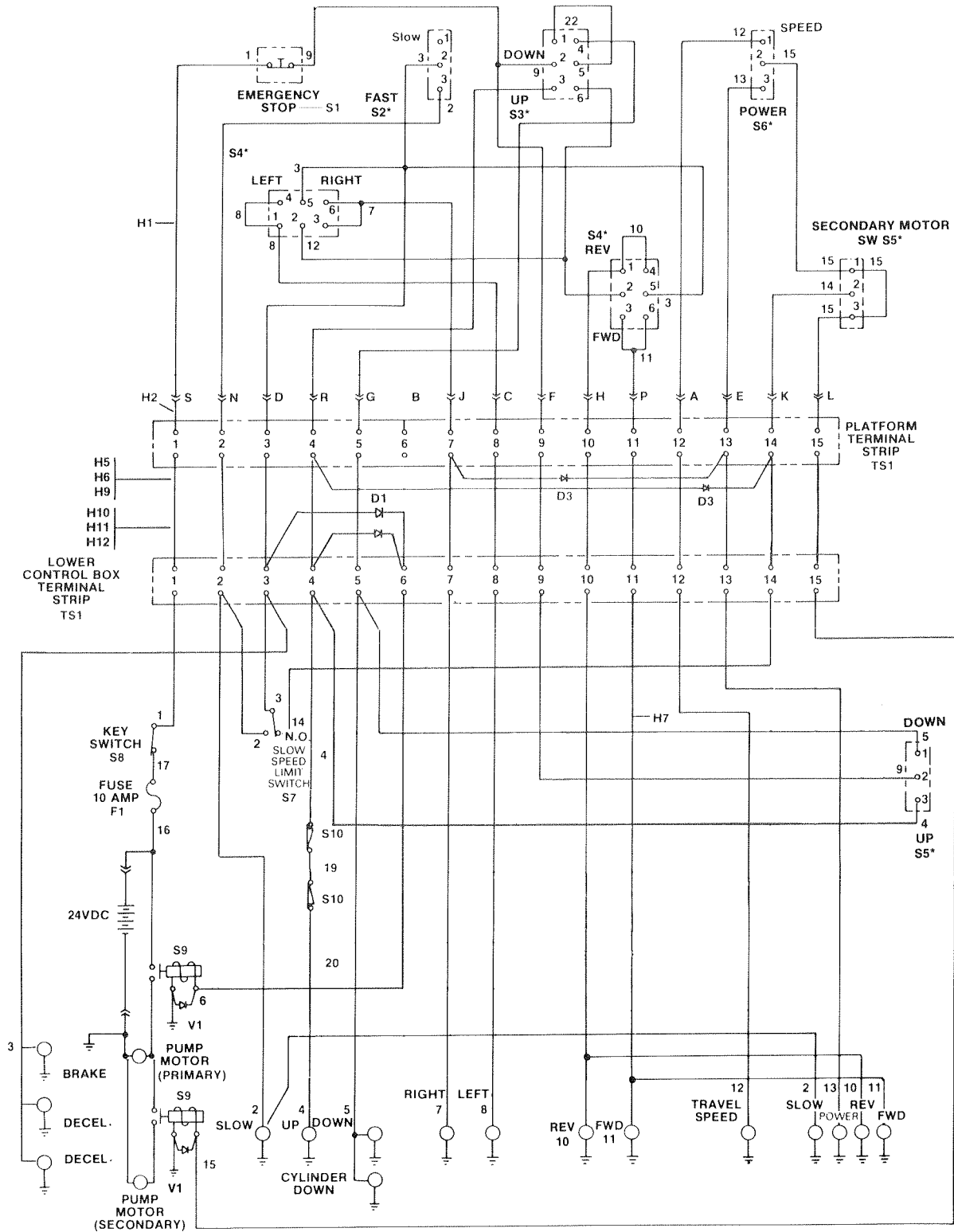
Up/Down Switch at Upper Control Box — Contacts Made With Toggle at Keyway Position 1-2, 4-5 — Center Position 1-2, 5-6 — Opposite Keyway 2-3, 5-6

Figure 54.

### Symbol Identification for Figure 54.

| Symbol | Description                   | Part No. |
|--------|-------------------------------|----------|
| D1     | Diode Assembly (3A.600PIV)    | 6070     |
| F1     | Fuse                          | 6190     |
| H1     | Harness, Control Box          | 5982     |
| H2     | Harness, To Control Box       | 5983     |
| H3     | Harness, 15' Nos. 1,3,9,10,11 | 6072     |
| H4     | Harness, 15' Nos. 2,4,5,6,7,8 | 6073     |
| H5     | Harness, 19' Nos. 1,3,9,10,11 | 6075     |
| H6     | Harness, 19' Nos. 2,4,5,6,7,8 | 6076     |
| H7     | Harness, Manifold             | 6021     |
| S1     | Switch, Emergency Stop        |          |
|        | Body                          | 6665     |
|        | Retainer                      | 6666     |
|        | Contactor                     | 6667     |
| S2     | Switch, Slow/Fast             | 5630     |
| S3     | Switch, Up/Down               | 5979     |
| S4     | Switch, Steering, Fwd./Rev.   | 5694     |
| S7     | Switch, Slow Sp. Limit        | 6016     |
| S8     | Switch, Key                   | 5936     |
| S9     | Contactor Assy., Motor Start  | 5967     |
| S10    | Switch, Stabilizer            | 6504     |
| TS1    | Terminal Strip                | 5991     |
| V1     | Varistor Assembly             | 6231     |

# ELECTRICAL WIRING DIAGRAM TORQUE MASTER (TM) SERIES

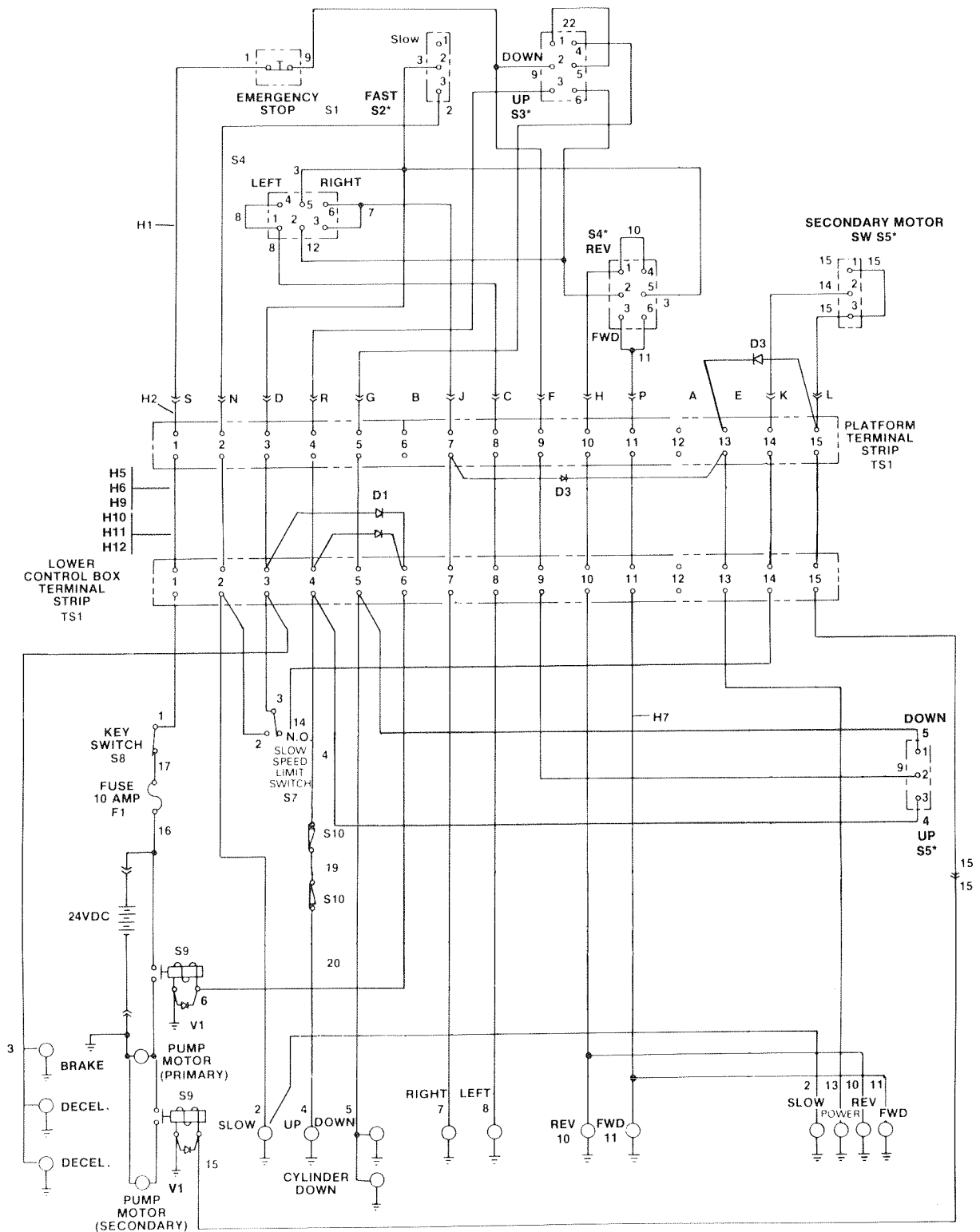


\* NOTE: Switch wiring as seen from rear of switch.

Up/Down Switch at Upper Control Box — Contacts Made With Toggle at Keyway Position 1-2, 4-5 — Center Position 1-2, 5-6 — Opposite Keyway 2-3, 5-6

Figure 55.

# ELECTRICAL WIRING DIAGRAM AISLE MASTER (AM) AND PLANT MASTER (PM) HI TORQUE SERIES



UP/DOWN SWITCH AT UPPER CONTROL BOX - CONTACTS MADE WITH TOGGLE AT KEYWAY POSITION 1-2, 4-5 - CENTER POSITION 1-2, 5-6 - OPPOSITE KEYWAY 2-3, 5-6  
NOTE: F2 FUSE (2A) - EMERGENCY STOP, 1 USED; FORWARD, 2 USED; REVERSE, 2 USED.

\* NOTE: Switch wiring as seen from rear of switch.

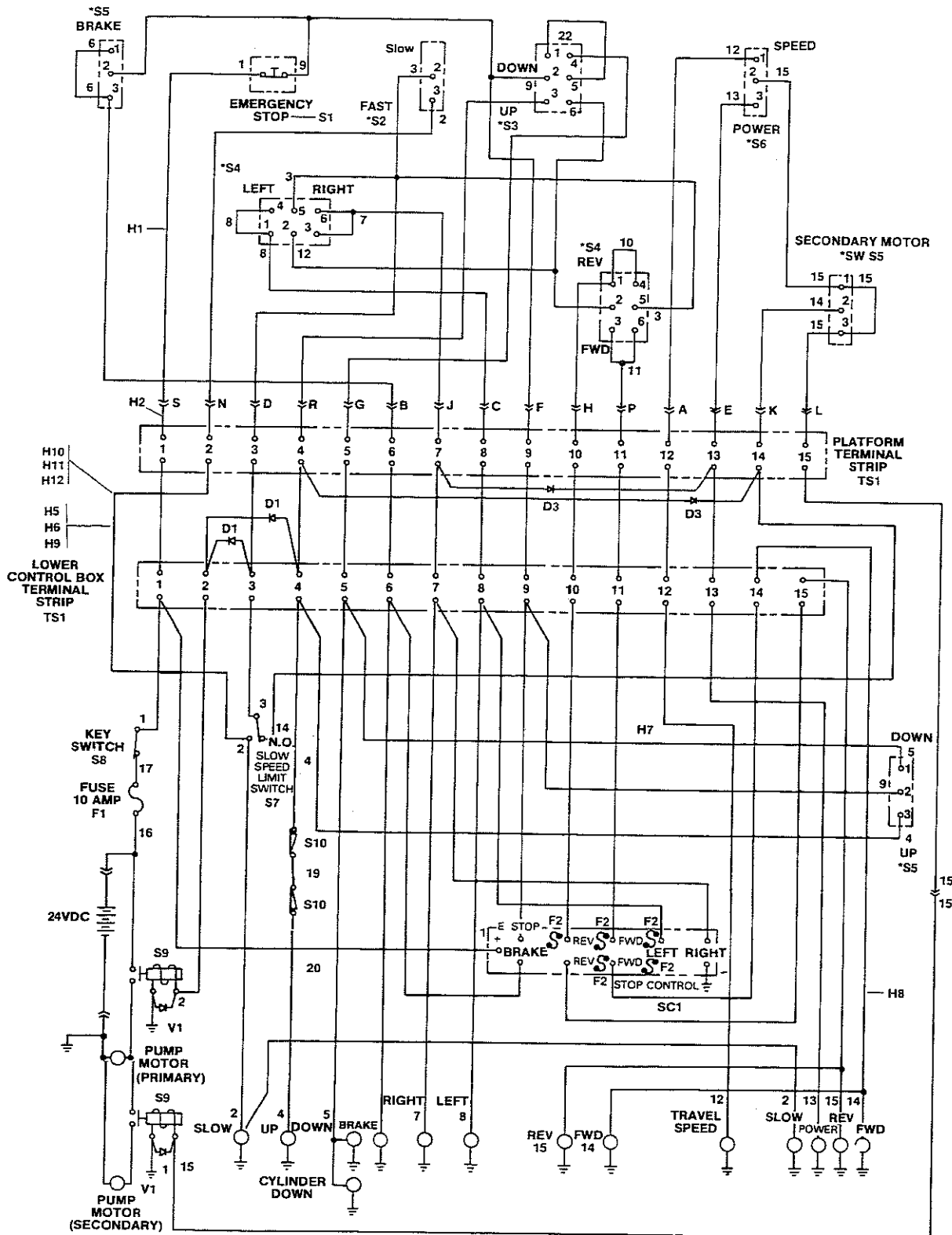
Figure 56.

**Symbol Identification for Figure 55 & 56.**

| <b>Symbol</b> | <b>Description</b>                                      | <b>Part No.</b>      |
|---------------|---------------------------------------------------------|----------------------|
| D1            | Diode Assembly (3A.600PIV)                              | 6070                 |
| D3            | Diode Assembly(3A.600PIV)                               | 6241                 |
| F1            | Fuse                                                    | 6190                 |
| H1            | Harness, Control Box<br>Wire Set                        | 5982<br>6296         |
| H2            | Harness, To Control Box                                 | 5983                 |
| H5            | Harness, 20 Nos. 1,3,9,10,11                            | 6075                 |
| H6            | Harness, 20 Nos. 2,4,5,6,7,8                            | 6076                 |
| H7            | Harness, Component Tray                                 | 6600                 |
| H9            | Harness, 20 Nos. 12,13,14,15                            | 6074                 |
| H10           | Harness, 15 Nos. 1,3,9,10,11                            | 6072                 |
| H11           | Harness, 15 Nos. 2,4,5,6,7,8                            | 6073                 |
| H12           | Harness, 15 Nos. 12,13,14,15                            | 6071                 |
| S1            | Switch, Emergency Stop<br>Body<br>Retainer<br>Contactor | 6665<br>6666<br>6667 |
| S2            | Switch, Slow/Fast                                       | 5630                 |
| S3            | Switch, Up/Down                                         | 5979                 |
| S4            | Switch, Steering, Fwd./Rev.                             | 5694                 |
| S6            | Switch, Power/Speed                                     | 6234                 |
| S7            | Switch, Slow Sp. Limit                                  | 6016                 |
| S8            | Switch, Key                                             | 5936                 |
| S9            | Contactor Assy., Motor Start                            | 5967                 |
| S10           | Switch, Stabilizer                                      | 6504                 |
| TS1           | Terminal Strip                                          | 5991                 |
| V1            | Varistor Assembly                                       | 6231                 |



# ELECTRICAL WIRING DIAGRAM TORQUE MASTER (TM) SERIES



\* Note: Switch Wiring as Seen From Rear of Switch.

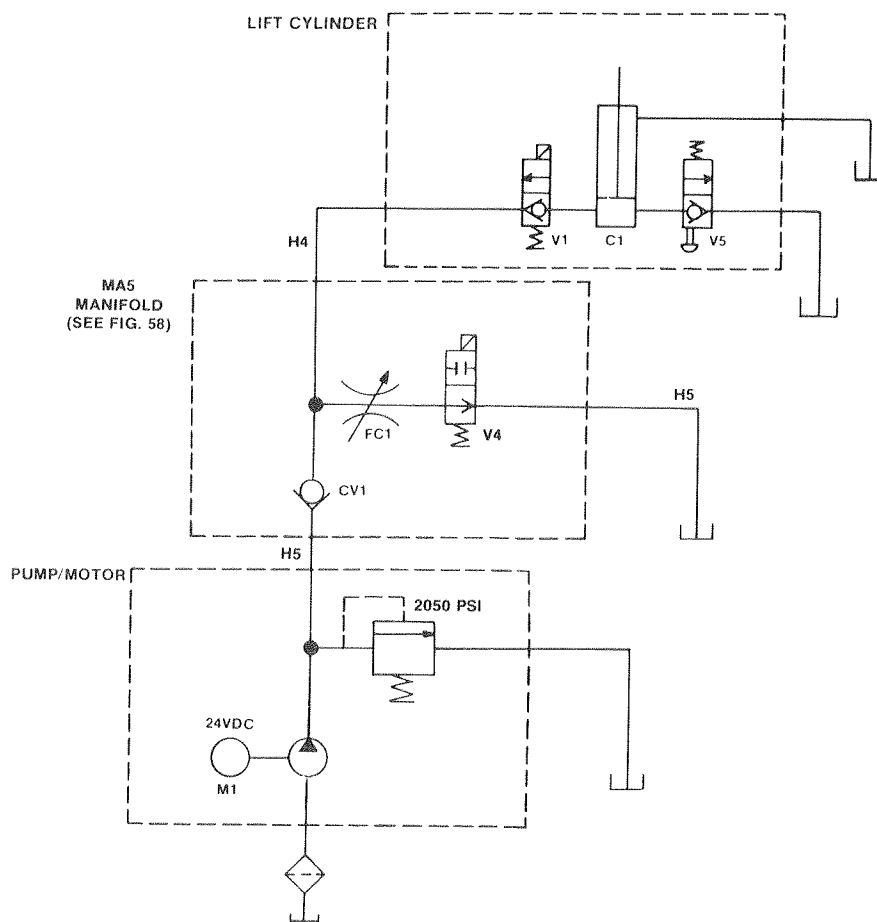
UP/DOWN SWITCH AT UPPER CONTROL BOX - CONTACTS MADE WITH TOGGLE AT  
KEYWAY POSITION 1-2, 4-5 - CENTER POSITION 1-2, 5-6 - OPPOSITE KEYWAY 2-3, 5-6  
NOTE: F2 FUSE (2A) - EMERGENCY STOP, 1 USED; FORWARD, 2 USED; REVERSE, 2 USED.

Figure 50.

**Symbol Identification for Figure 50.**

| <b>Symbol</b> | <b>Description</b>               | <b>Part No.</b> |
|---------------|----------------------------------|-----------------|
| D1            | Diode Assembly                   | 6070            |
| D3            | Diode Assembly                   | 6241            |
| F1            | Fuse                             | 6190            |
| F2            | Fuse Package                     | 6301            |
| H1            | Harness, Control Box<br>Wire Set | 5982<br>6296    |
| H2            | Harness, To Control Box          | 5983            |
| H5            | Harness, 20 Nos. 1,3,9,10,11     | 6075            |
| H6            | Harness, 20 Nos. 2,4,5,6,7,8     | 6076            |
| H7            | Harness, Manifold                | 6021            |
| H8            | Harness, Manifold to Manifold    | 6230            |
| H9            | Harness, 20 Nos. 12,13,14,15     | 6074            |
| H10           | Harness, 15 Nos. 1,3,9,10,11     | 6072            |
| H11           | Harness, 15 Nos. 2,4,5,6,7,8     | 6073            |
| H12           | Harness, 15 Nos. 12,13,14,15     | 6071            |
| S1            | Switch, Emergency Stop           | 5631            |
| S2            | Switch, Slow/Fast                | 5630            |
| S3            | Switch, Up/Down                  | 5979            |
| S4            | Switch, Steering, Fwd./Rev.      | 5694            |
| S5            | Switch, Brake, Lower Up/Down     | 5230            |
| S6            | Switch, Power/Speed              | 6234            |
| S7            | Switch, Slow Sp. Limit           | 6016            |
| S8            | Switch, Key                      | 5936            |
| S9            | Contactor, Motor Start           | 5967            |
| S10           | Switch, Outtrigger               | 6504            |
| SC1           | Stop Control                     | 5974            |
| TS1           | Terminal Strip                   | 5991            |
| V1            | Varistor Assembly                | 6231            |

# **HYDRAULIC SCHEMATIC** **BATTERY MANUAL — PLANT MASTER SERIES**



**Figure 57.**

| Symbol | Description                | Part No. |
|--------|----------------------------|----------|
| C1     | Lift Cylinder              | 4155     |
|        | Seal Kit W/Wire Lock       | 4088     |
|        | Wire, Lock                 | 6313     |
| CV1    | Check Valve                | 5434     |
|        | "O" Ring Kit               | 5475     |
| F1     | Filter Element             | 6156     |
| FC1    | Flow Control               | 5963     |
|        | "O" Ring Kit               | 5475     |
| H4     | Hose                       | 6001     |
| H5     | Hose                       | 5999     |
| M1     | 24 VDC Motor               | 6194     |
| MA5    | Manifold Pt.               | 2141     |
| P1     | Hydraulic Pump             | 6334     |
| V1     | 2-Way NC Valve - Down      | 5964     |
|        | "O" Ring Kit               | 5475     |
|        | Valve Only                 | 6973     |
|        | Coil Only, 24V             | 6163     |
| V4     | 2-Way N.O.                 | 5962     |
|        | "O" Ring Kit               | 5475     |
|        | Valve Only                 | 6974     |
|        | Coil Only, 24V             | 6163     |
| V5     | Manual Pull-Emergency Down | 5435     |
|        | "O" Ring Kit"              | 5475     |

**NOTES**

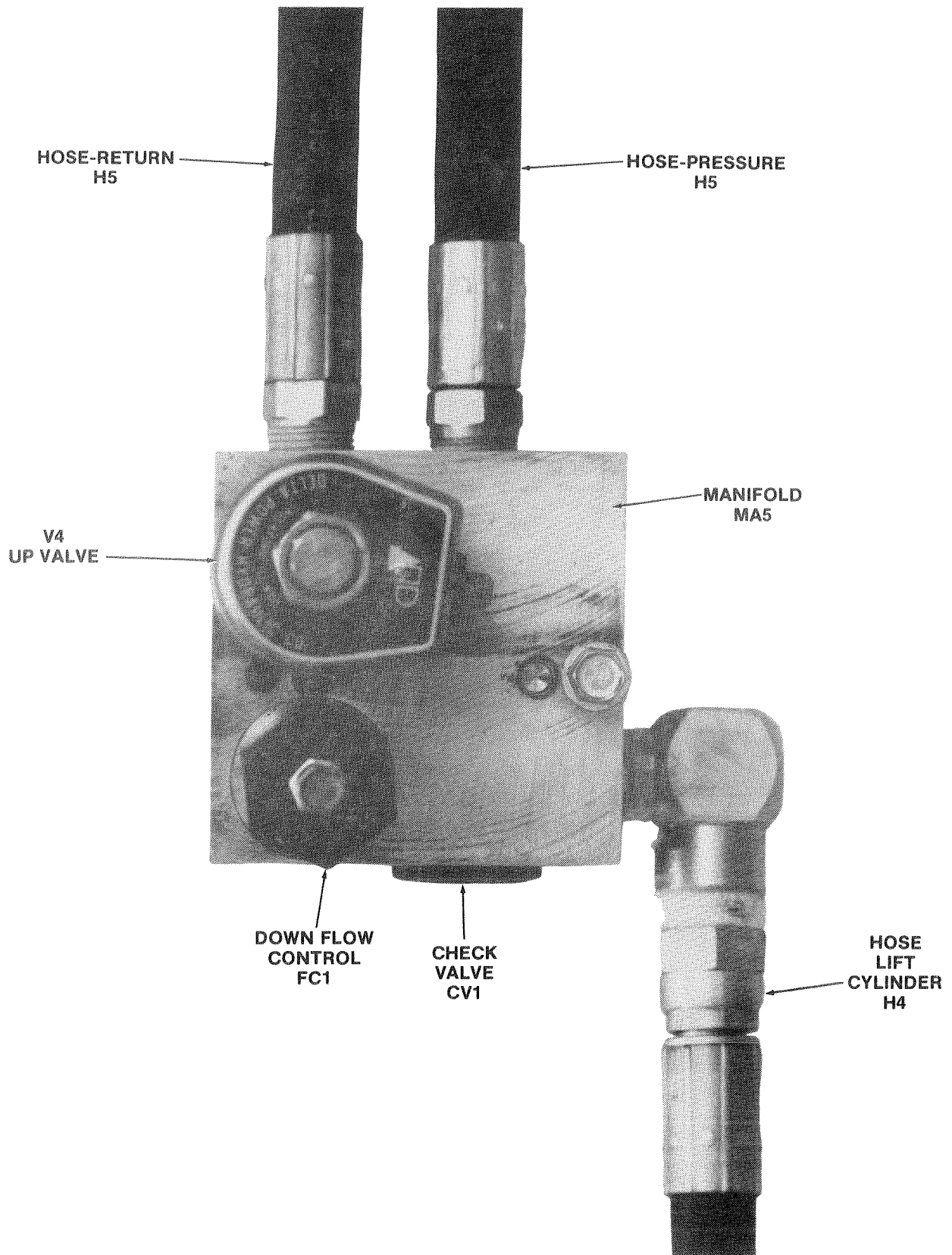


Figure 58. Manifold Assembly Battery Manual

# **HYDRAULIC SCHEMATIC** **PLANT MASTER (PM) SERIES 1-WHEEL DRIVE**

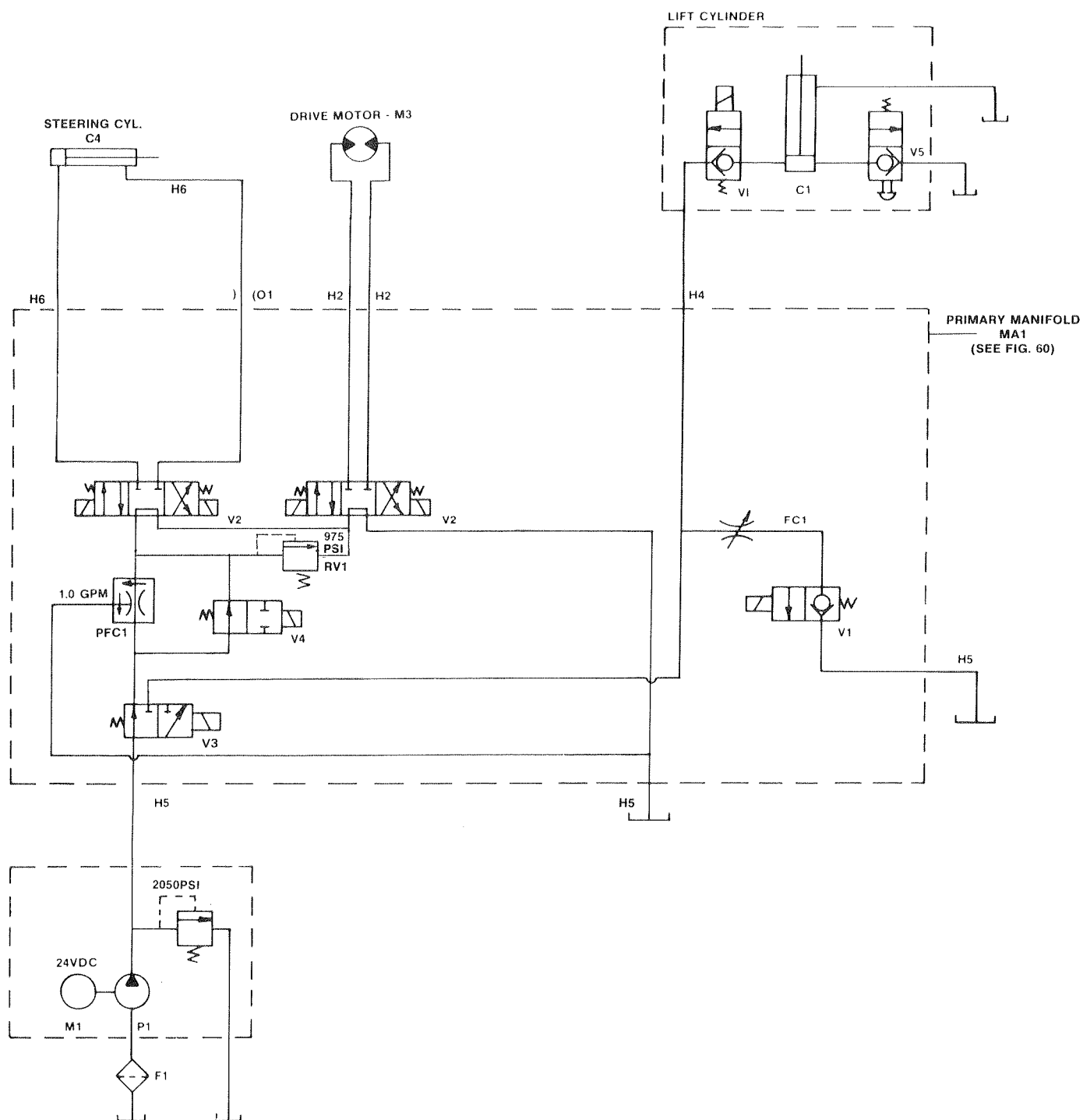


Figure 59.

### Symbol Identification for Figure 59.

| Symbol | Description                            | Part No. |
|--------|----------------------------------------|----------|
| C1     | Lift Cylinder                          | 4155     |
|        | Seal Kit W/Wire Lock                   | 5838     |
|        | Wire, Lock                             | 6313     |
| C4     | Steering Cylinder                      | 2512     |
|        | Seal Kit                               | 5947     |
| F1     | Filter Element                         | 6156     |
| FC1    | Flow Control                           | 5963     |
|        | "O" Ring Kit                           | 5475     |
| H6     | Hose                                   | 6003     |
| H2     | Hose                                   | 6002     |
| H4     | Hose                                   | 6001     |
| H5     | Hose                                   | 5999     |
| M1     | 24VDC Motor                            | 6194     |
| M3     | Drive Motor                            | 5949     |
| MA1    | Primary Manifold Pt.                   | 4166     |
| O1     | Orifice, Fitting Assembly              | 6107     |
| P1     | Hydraulic Pump                         | 6334     |
| PFC1   | Priority Flow Control 1.0 GPM (STD.)   | 5954     |
|        | Priority Flow Control .5 GPM (Special) | 6189     |
|        | "O" Ring Kit                           | 5475     |
| RV1    | Relief Valve                           | 6316     |
|        | "O" Ring Kit                           | 5475     |
| V1     | 2-Way N.C. Valve                       | 5964     |
|        | "O" Ring Kit                           | 5475     |
|        | Valve Only                             | 6973     |
|        | Coil Only - 24VDC                      | 6163     |
| V2     | 4-Way 3-Position Valve                 | 5960     |
|        | Spring and "O" Ring Kit                | 6161     |
|        | Valve Only                             | 5960X    |
|        | Coil Only 24 VDC                       | 6163     |
| V3     | 3-Way 2-Position Valve                 | 5961     |
|        | "O" Ring Kit                           | 5476     |
|        | Valve Only                             | 6976     |
|        | Coil Only 24 VDC                       | 6163     |
| V4     | 2-Way N.O.                             | 5962     |
|        | "O" Ring Kit                           | 5475     |
|        | Valve Only                             | 6974     |
|        | Coil Only - 24 VDC                     | 6163     |
| V5     | Manual Pull - Emergency Down           | 5435     |
|        | "O" Ring Kit                           | 5475     |

## NOTES



## MANIFOLD ASSEMBLY PLANT MASTER 1-WHEEL DRIVE

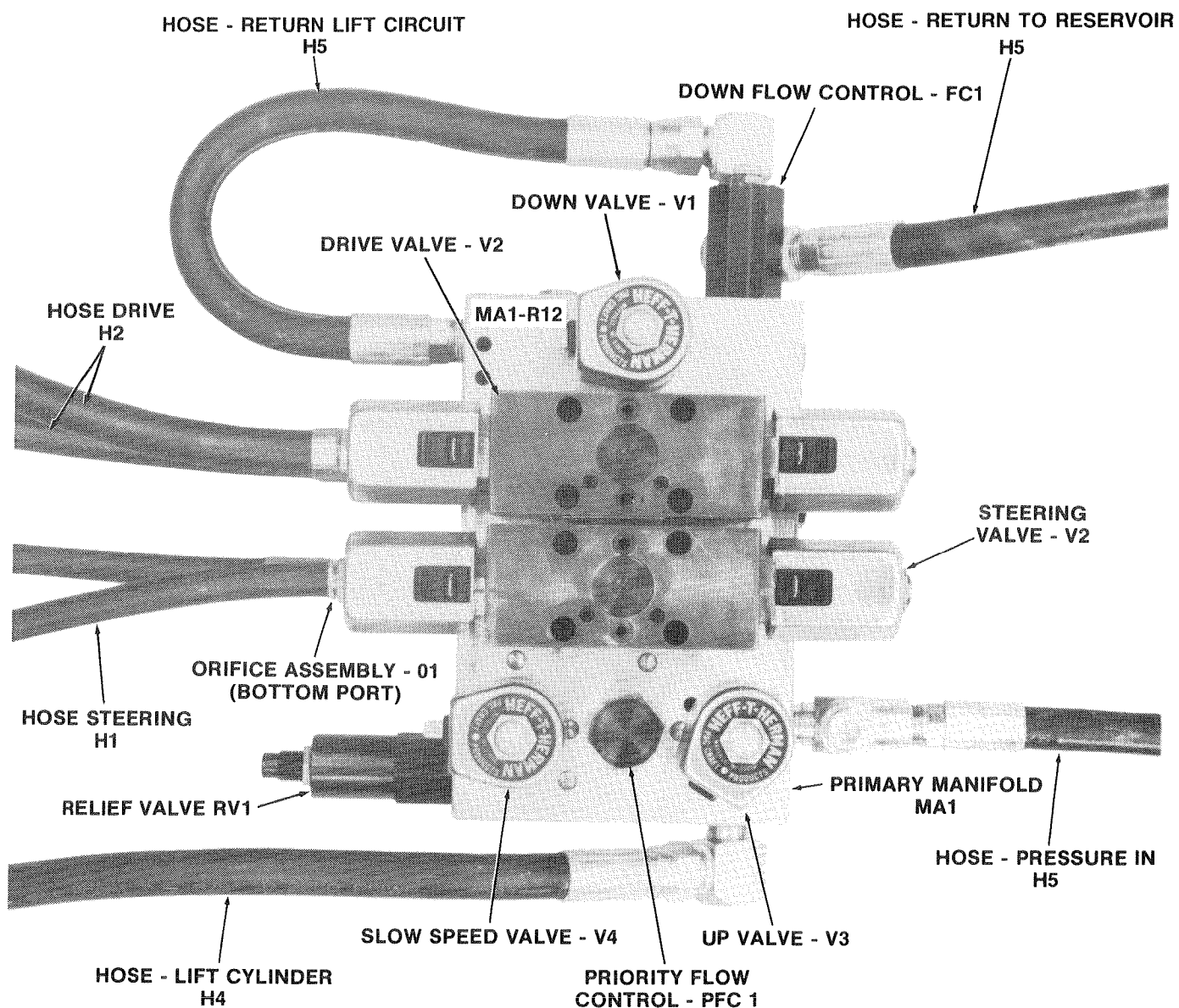


Figure 60.

# **AISLE MASTER HYDRAULIC SCHEMATIC (AM) AND PLANT MASTER (PM) SERIES 2-WHEEL DRIVE**

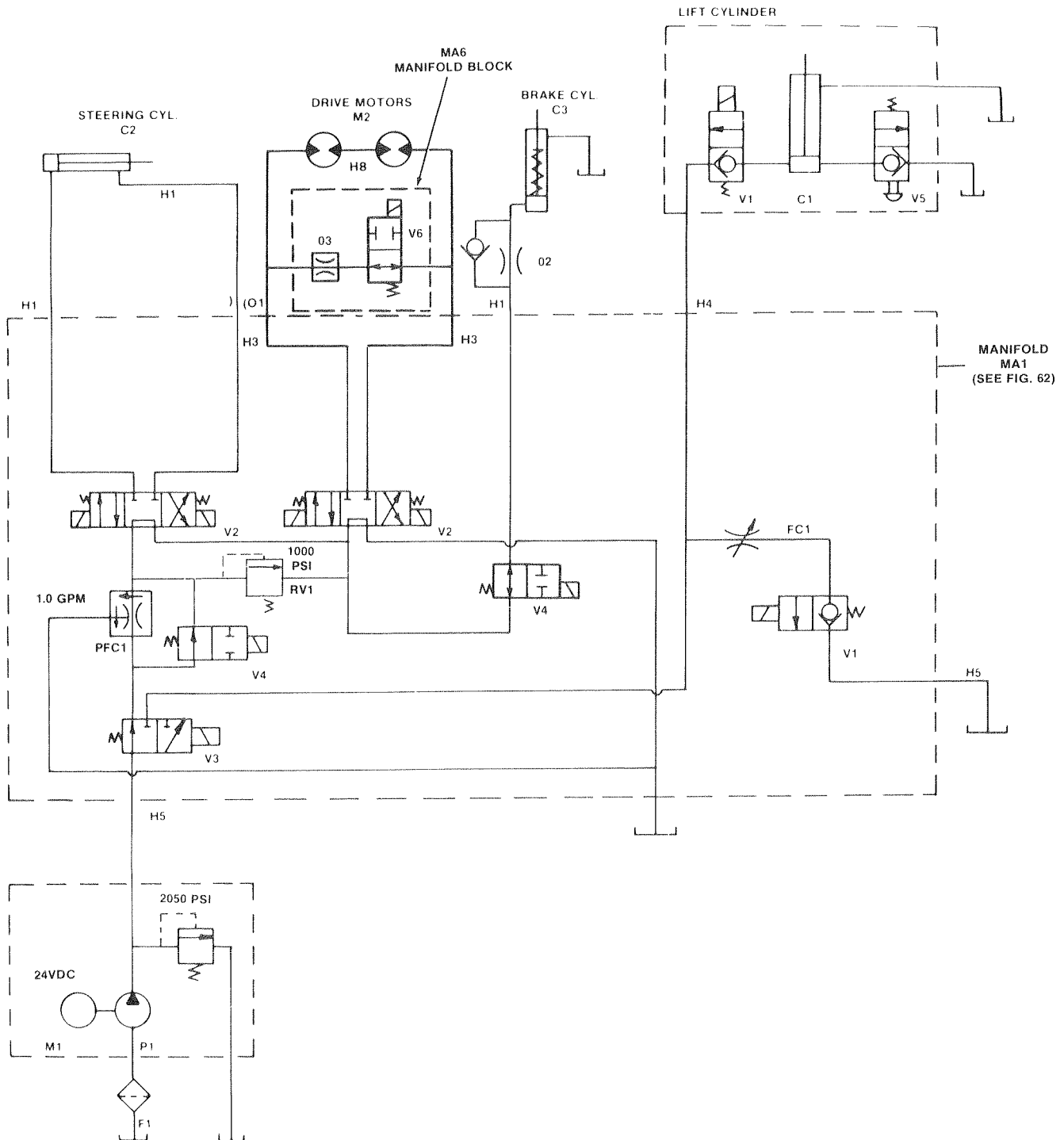


Figure 61.

**Symbol Identification for Figure 61.**

| <b>Symbol</b> | <b>Description</b>                                                                             | <b>Part No.</b>               |
|---------------|------------------------------------------------------------------------------------------------|-------------------------------|
| C1            | Lift Cylinder<br>Seal Kit                                                                      | 4155<br>4088                  |
| C2            | Steering Cylinder<br>Seal Kit                                                                  | 2838<br>5947                  |
| C3            | Brake Cylinder<br>Seal Kit                                                                     | 2483<br>5947                  |
| F1            | Filter Element                                                                                 | 6156                          |
| FC1           | Flow Control<br>"O" Ring Kit                                                                   | 5963<br>5475                  |
| H1            | Hose                                                                                           | 5997                          |
| H3            | Hose                                                                                           | 6351                          |
| H4            | Hose                                                                                           | 6001                          |
| H5            | Hose                                                                                           | 5999                          |
| H8            | Hose                                                                                           | 5996                          |
| M1            | 24 VDC Motor                                                                                   | 6194                          |
| M2            | Drive Motor                                                                                    | 6032                          |
| MA1           | Primary Manifold                                                                               | 4166                          |
| MA6           | Manifold Block                                                                                 | 2972                          |
| O1            | Orifice, Fitting Assembly                                                                      | 6107                          |
| O2            | Orifice, Fitting Assembly                                                                      | 4055                          |
| O3            | Orifice, Fitting (Brass)                                                                       | 2974                          |
| P1            | Hydraulic Pump                                                                                 | 6334                          |
| PFC1          | Priority Flow Control 1.0 GPM (STD.)<br>Priority Flow Control .5 GPM (Special)<br>"O" Ring Kit | 5954<br>6189<br>5475          |
| RV1           | Relief Valve<br>"O" Ring Kit                                                                   | 6316<br>5475                  |
| V1            | 2-Way N.C. Valve<br>"O" Ring Kit<br>Valve Only<br>Coil Only - 24 VDC                           | 5964<br>5475<br>6973<br>6163  |
| V2            | 4-Way 3-Position Valve<br>Spring and "O" Ring Kit<br>Valve Only<br>Coil Only 24 VDC            | 5960<br>6161<br>5960X<br>6163 |
| V3            | 3-Way 2-Position Valve<br>"O" Ring Kit<br>Valve Only<br>Coil Only 24 VDC                       | 5961<br>5476<br>6976<br>6163  |
| V4            | 2-Way N.O.<br>"O" Ring Kit<br>Valve Only<br>Coil Only - 24 VDC                                 | 5962<br>5475<br>6974<br>6163  |
| V5            | Manual Pull - Emergency Down<br>"O" Ring Kit                                                   | 5435<br>5475                  |
| V6            | 2-Way N.O. (Spool Valve)<br>"O" Ring Kit<br>Valve Only<br>Coil Only - 24 VDC                   | 6554<br>5475<br>6975<br>6163  |

## NOTES

## MANIFOLD ASSEMBLY AISLE MASTER AND PLANT MASTER 2-WHEEL DRIVE

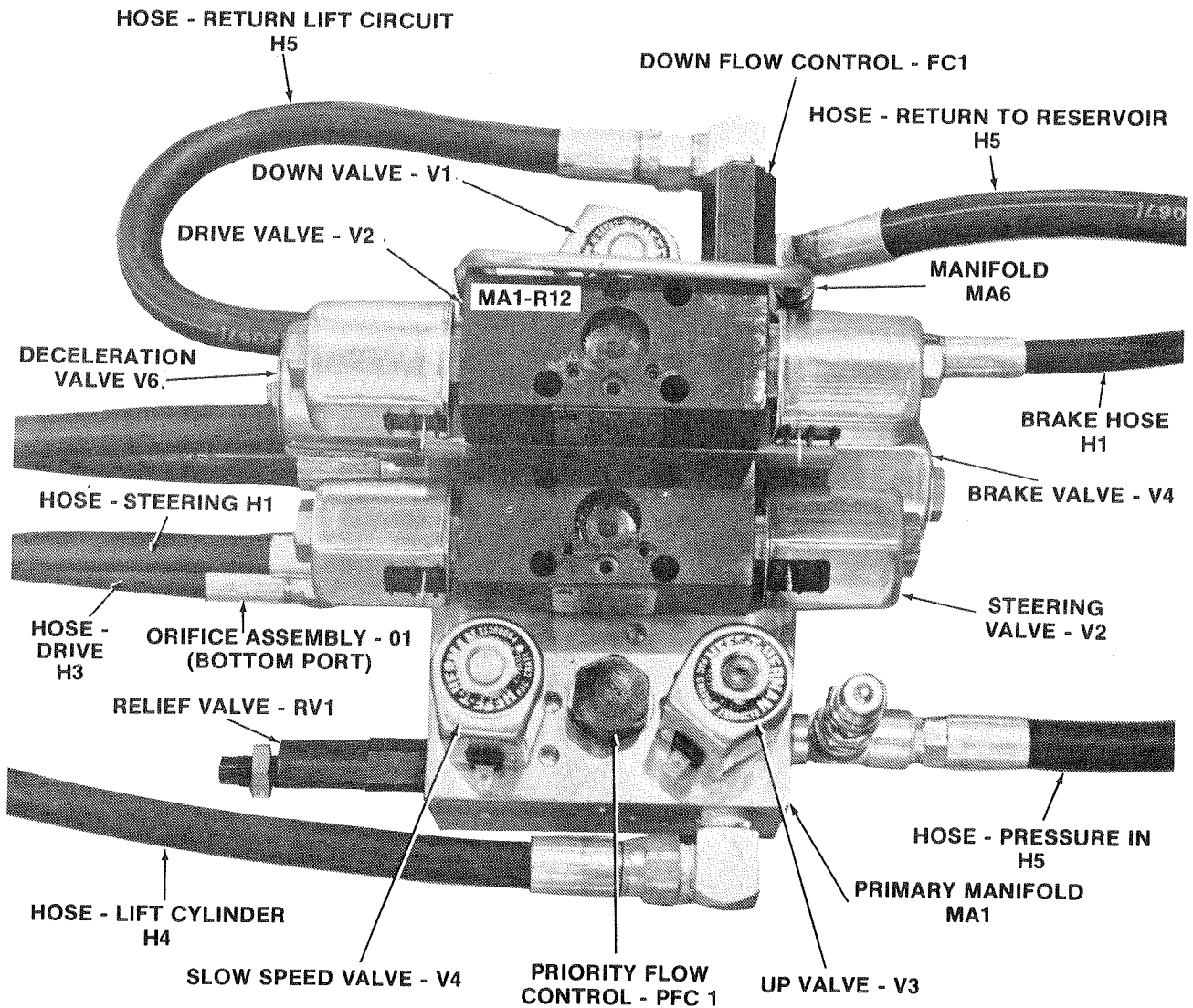
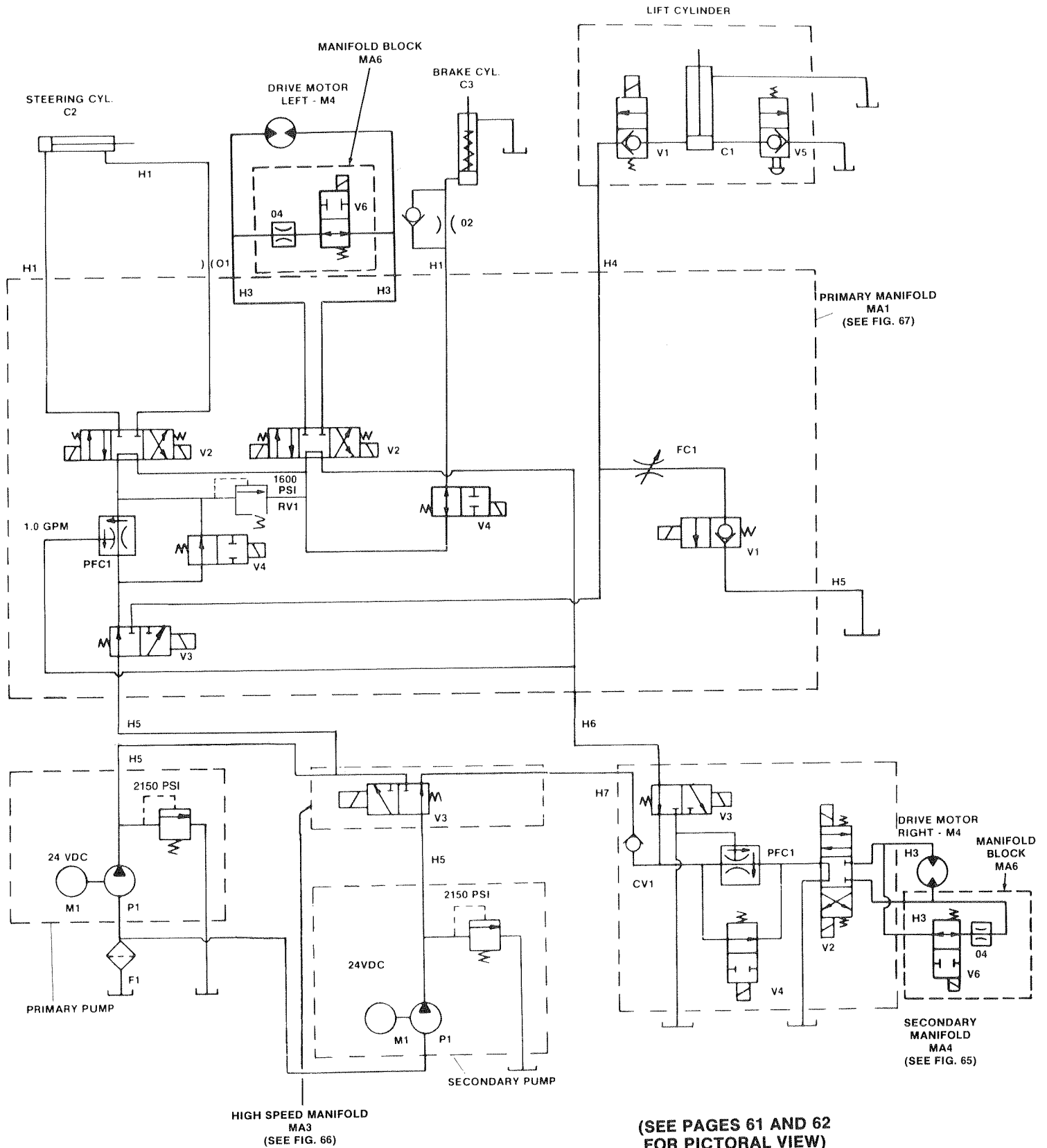


Figure 62.

# **HYDRAULIC SCHEMATIC** **TORQUE MASTER (TM II) SERIES**

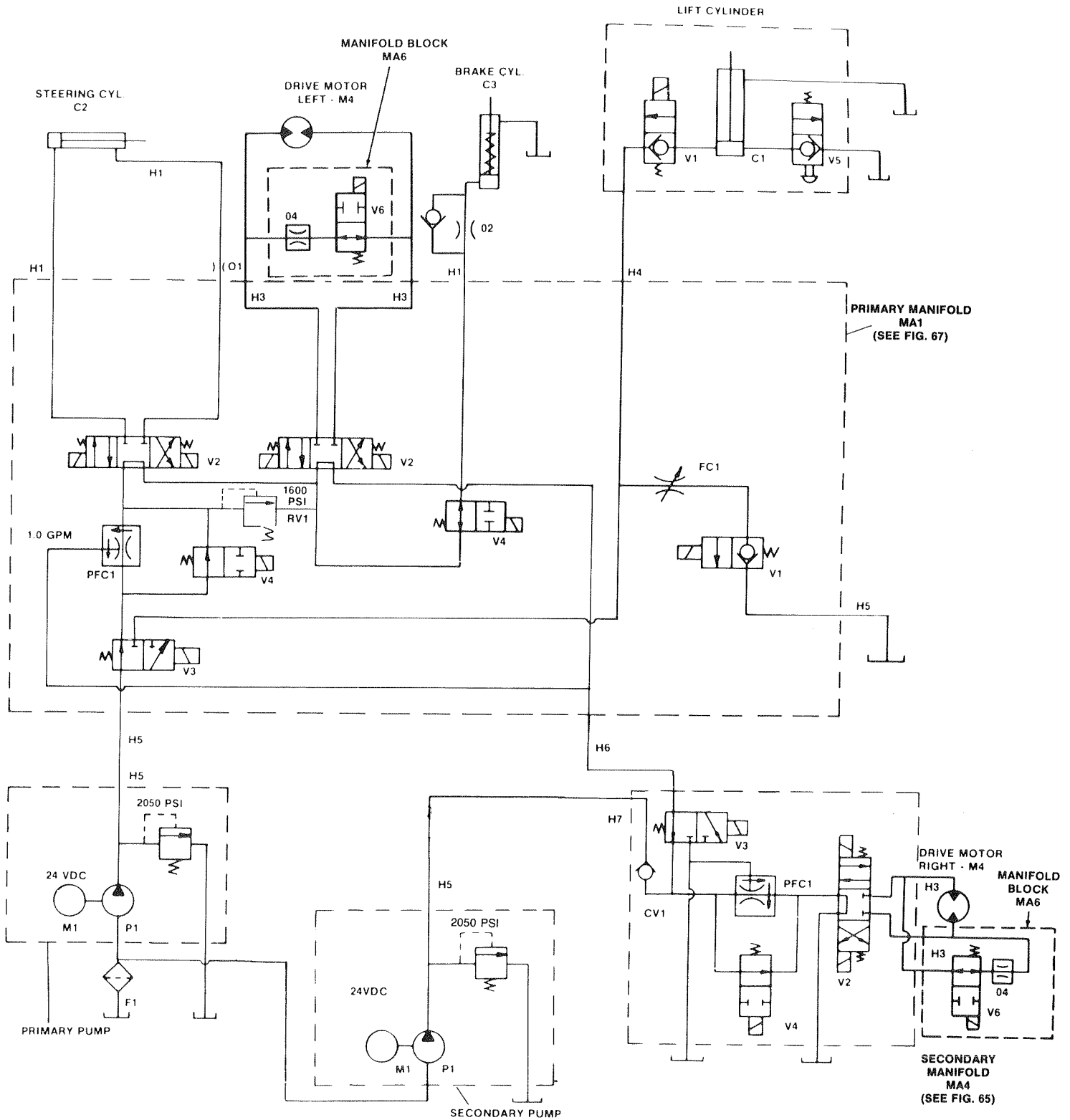


**Figure 63.**

# HYDRAULIC SCHEMATIC

## HI TORQUE SERIES(AM)

### (PM)



(SEE PAGES 61 AND 62  
FOR PICTORAL VIEW)

Figure 64.

### Symbol Identification for Figures 63 & 64.

| Symbol | Description               | Part No. | Symbol | Description                            | Part No. |
|--------|---------------------------|----------|--------|----------------------------------------|----------|
| C1     | Lift Cylinder             | 4155     | P1     | Hydraulic Pump                         | 6334     |
|        | Seal Kit W/Wire Lock      | 4088     | PFC1   | Priority Flow Control 1.0 GPM (STD.)   | 5954     |
| C2     | Steering Cylinder         | 2838     |        | Priority Flow Control .5 GPM (Special) | 6189     |
|        | Seal Kit                  | 5947     |        | "O" Ring Kit                           | 5475     |
| C3     | Brake Cylinder            | 2483     | RV1    | Relief Valve                           | 6316     |
|        | Seal Kit                  | 5947     |        | "O" Ring Kit                           | 5475     |
| CV1    | Check Valve               | 5434     | V1     | 2-Way N.C. Valve                       | 5964     |
|        | "O" Ring Kit              | 5475     |        | "O" Ring Kit                           | 5475     |
| FC1    | Flow Control              | 5963     |        | Valve Only                             | 6973     |
|        | "O" Ring Kit              | 5475     |        | Coil Only - 24 VDC                     | 6163     |
| H1     | Hose                      | 5997     | V2     | 4-Way 3-Position Valve                 | 5960     |
| H3     | Hose                      | 6351     |        | Spring and "O" Ring Kit                | 6161     |
| H4     | Hose                      | 6001     |        | Valve Only                             | 5960X    |
| H5     | Hose                      | 5999     |        | Coil Only 24 VDC                       | 6163     |
| H6     | Hose                      | 6237     | V3     | 3-Way 2-Position Valve                 | 5961     |
| H7     | Hose                      | 6238     |        | "O" Ring Kit                           | 5476     |
| M1     | 24 VDC Motor              | 6194     |        | Valve Only                             | 6976     |
| M4     | Drive Motor (Hydraulic)   | 6210     |        | Coil Only - 24 VDC                     | 6163     |
| MA1    | Primary Manifold          | 4166     | V4     | 2-Way N.O.                             | 5962     |
| MA3    | High Speed Manifold Pt.   | 2281     |        | "O" Ring Kit                           | 5475     |
| MA4    | Secondary Manifold Pt.    | 4167     |        | Valve Only                             | 6974     |
| MA6    | Manifold Block            | 2972     |        | Coil Only - 24 VDC                     | 6163     |
| O1     | Orifice, Fitting Assembly | 6107     | V5     | Manual Pull - Emergency Down           | 5435     |
| O2     | Orifice, Fitting Assembly | 4055     |        | "O" Ring Kit                           | 5475     |
| O4     | Orifice, Fitting (Brass)  | 2975     | V6     | 2-Way N.O. (Spool Valve)               | 6554     |
|        |                           |          |        | "O" Ring Kit                           | 5475     |
|        |                           |          |        | Valve Only                             | 6975     |
|        |                           |          |        | Coil Only - 24 VDC                     | 6163     |



## SECONDARY MANIFOLD ASSEMBLY TORQUE MASTER

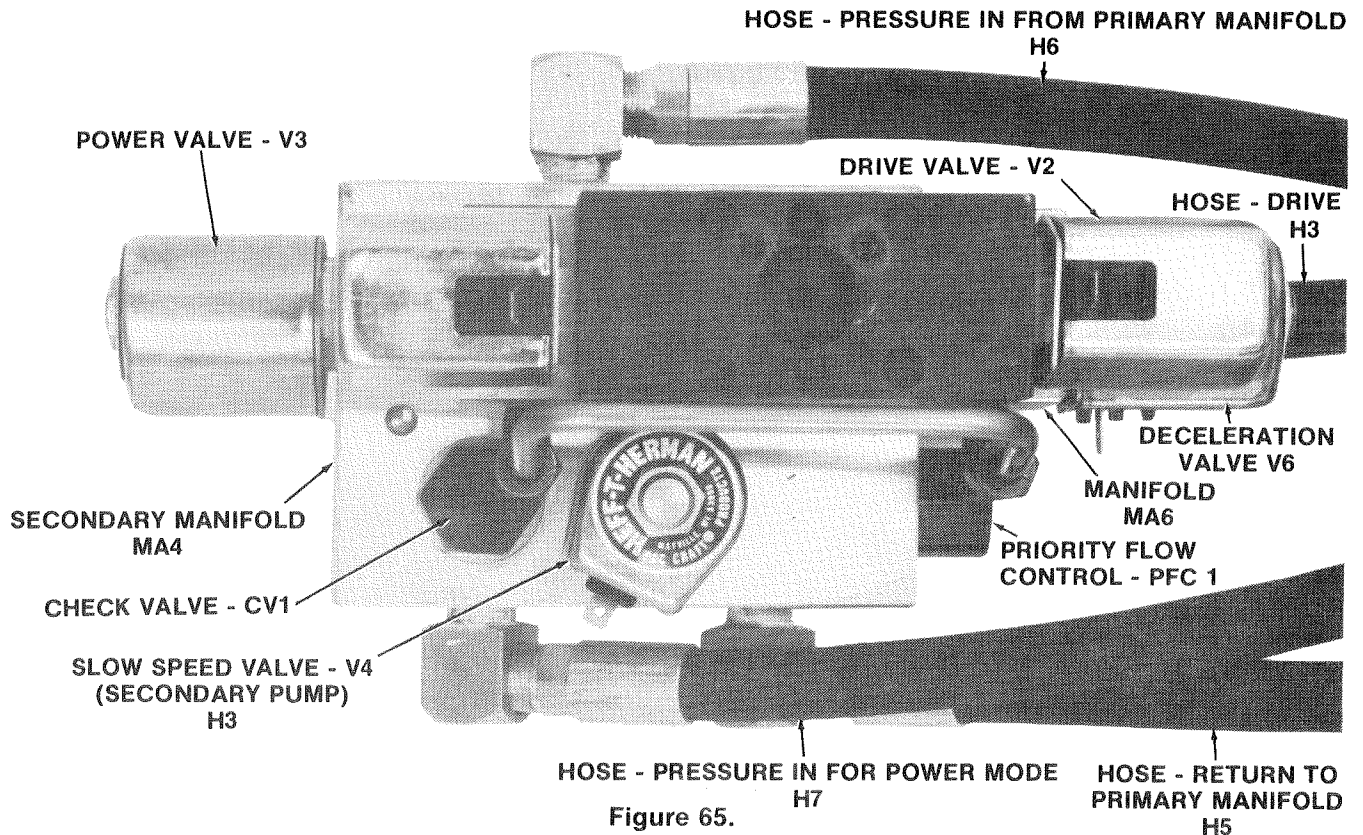


Figure 65.

## HIGH SPEED MANIFOLD ASSEMBLY TORQUE MASTER

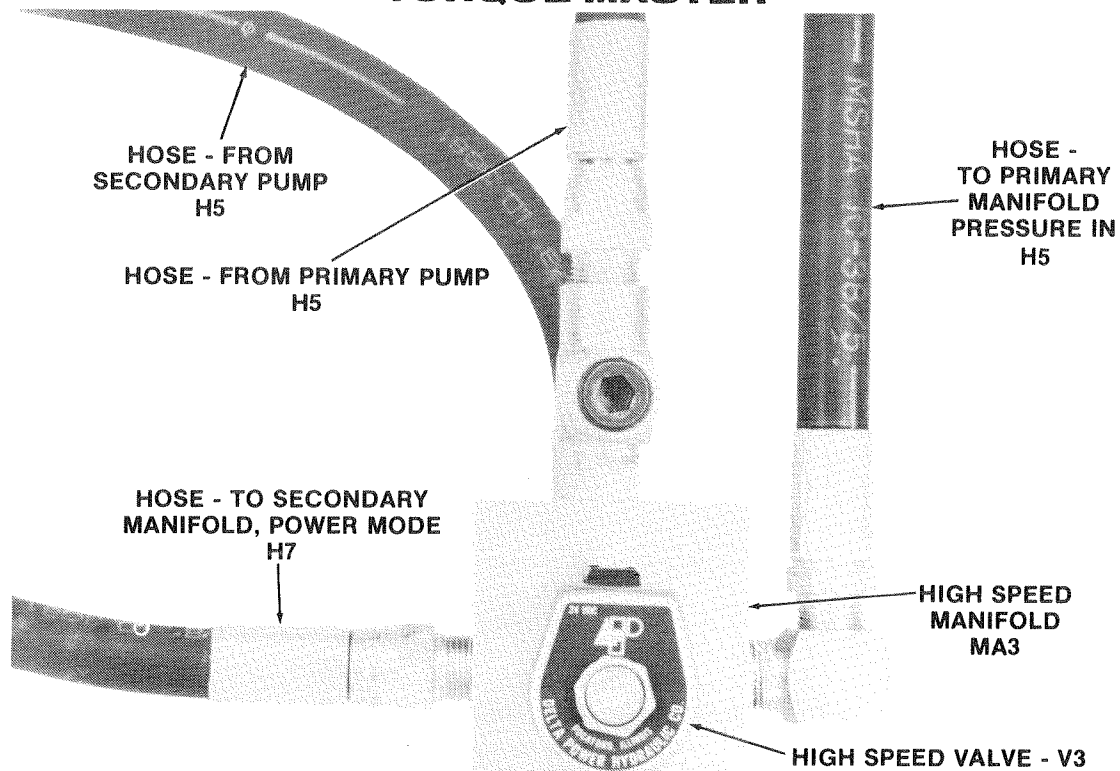


Figure 66.

## PRIMARY MANIFOLD ASSEMBLY TORQUE MASTER

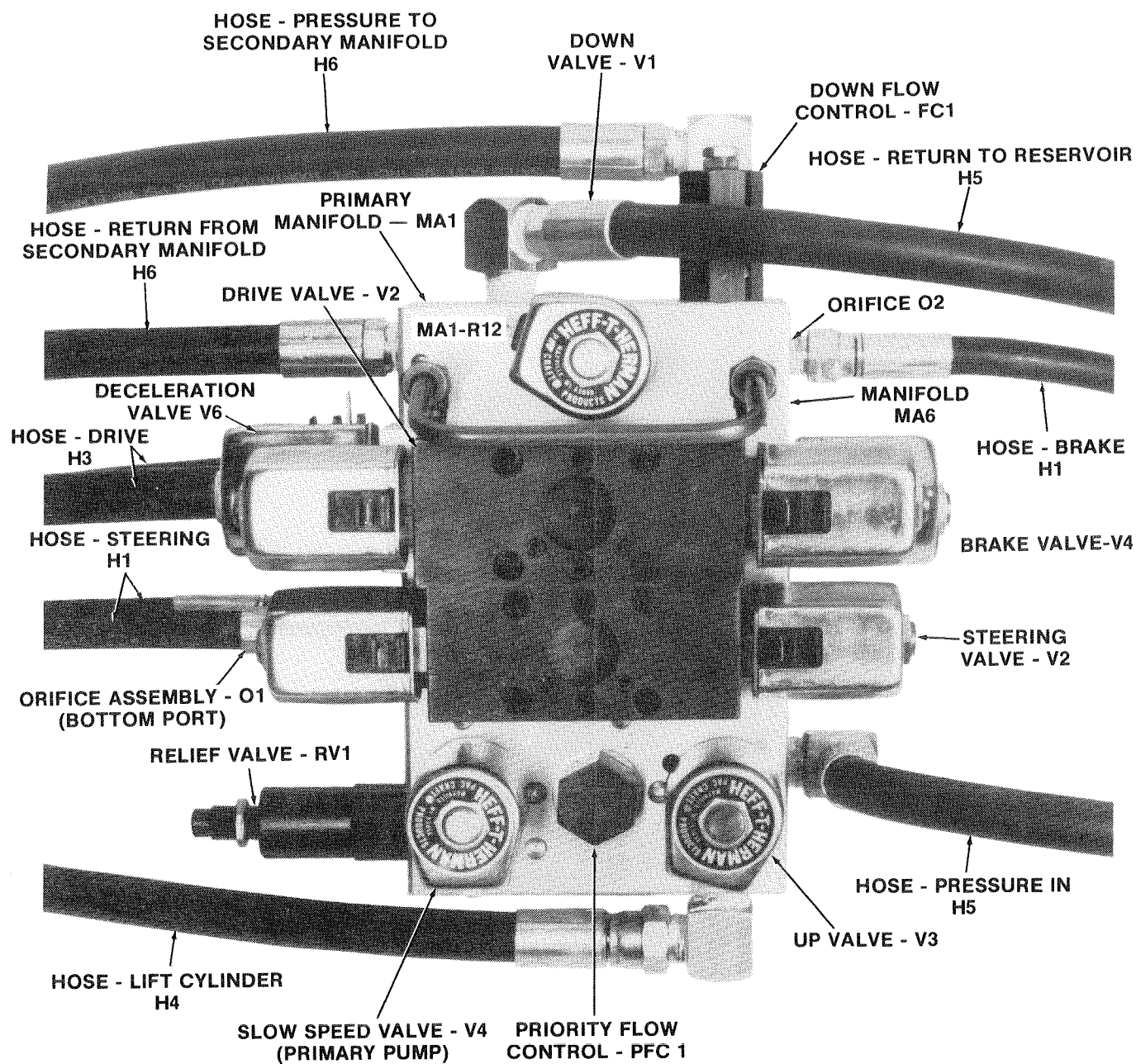


Figure 67.