Figure 2-1. 1932ES/1532ES Electrical Schematic
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SWITCH S1 "BASE/PLATFORM SWITCH" MAKES CONTACT FROM THE CENTER TO THE LEFT POSITION WHEN HELD IN THE BASE POSITION AND AUTOMATICALLY RETURNS TO THE PLATFORM POSITION AND MAKES CONTACT TO THE RIGHT POSITION WHEN RELEASED.

2. SWITCH S2 "UP/DOWN SWITCH" MAKES CONTACT FROM THE CENTER TO THE LEFT WHEN THE SWITCH IS HELD IN THE DOWN POSITION AND AUTOMATICALLY RETURNS TO THE CENTER POSITION WHEN RELEASED.

3. SWITCH LS1 BREAKS THE N/C SET OF CONTACTS WHEN THE PLATFORM REACHES APPROXIMATELY 7 FEET.

4. SWITCH LS2 MAKES THE N/C SET OF CONTACTS WHEN THE POTHOLE BARS ARE DOWN AND LOCKED IN PLACE.

5. UNIT SHOWN IN STOWED POSITION WITH POTHOLE BAR IN UP POSITION.

---

**ITEM** | **PART NO.** | **QTY.** | **DESCRIPTION** | **POSITION** | **LOCATION**
--- | --- | --- | --- | --- | ---
A-1 | 13495 | 1 | TILT SENSOR OPTION PACKAGE | | UNDER CHARGER 1 IN CONTROL BOX
A-2 | 13511 | 1 | PLATFORM MOUNTED HORN PACKAGE | | OPERATOR ACTIVATED HORN IN CONTROL BOX
A-3 | 13505 | 1 | MOTOR ARMATURE PACKAGE | | INDICATES LOWER CONTROL PANEL
A-4 | 25302 | 1 | FLASHING LIGHT PACKAGE | | WARN OF A POWERED UP MACHINE IN OFFICE AREA
A-5 | 13555 | 1 | HOUR METER PACKAGE | | NEXT TO TANK
A-6 | 13554 | 1 | BATTERY INDICATOR PACKAGE | | SLIDE BATTERY STATUS INDICATOR
B-1 | XXXX | 4 | 6 Vol Decycle Battery | | POWER FOR THE MOTOR AND CONTROL CIRCUIT IN BATTERY COMPARTMENT
B-2 | 8941 | 1 | SWITCH BATTERY DISCONNECT | | DISCONNECT ALL ELECTRICAL POWER IN METER CABINET
B-3 | 7225 | 1 | CIRCUIT BREAKER - 15 AMP MANUAL | | CONTROL CIRCUIT PROTECTION IN LOWER CONTROL PANEL
B-4 | 3057 | 1 | 24 VOLT CONTACTOR | | ALLOW MOTOR TO TURN ON IN MOTOR CABINET
C-1 | 9601 | 1 | CIRCUIT BOARD FOR UNIT 1-SEVERAL DIRECT SIGNALS TO THE PROPER LOCATION | | MOTOR CABINET NEAR TERMINAL STRIP
D-1 | 9801 | 1 | CIRCUIT BOARD FOR UNIT 2 SEVERAL DIRECT SIGNALS TO THE PROPER LOCATION | | MOTOR CABINET NEAR TERMINAL STRIP
E-1 | 8208 | 1 | DODGE B Y RING TERMINALS | | SUPPRESS DODGE IN CONTROL COIL
E-2 | 7800 | 1 | SWITCH, EMERGENCY STOP | | SIGNALS ALL MOVING FUNCTIONS IN LOWER CONTROL PANEL
E-3 | 7800 | 1 | SWITCH, EMERGENCY STOP | | SIGNALS ALL PLATFORM MOVING FUNCTIONS IN UPPER CONTROL BOX
E-4 | 8344 | 1 | FUSE 200 AMP | | MAIN LINE PANEL
L-1 | 8932 | 1 | CIRCUIT LIMIT DOUBLE POLE | | ENABLE HIGH SPEED IN UNDER CHARGER
L-2 | 8716 | 1 | CIRCUIT LIMIT SINGLE POLE | | DETECT POTHOLE BAR LOCATION IN UNDER CHARGER
M-1 | 8544 | 1 | MOTOR, 30 VOLT, 2 HP | | TURN THE HYDRAULIC PUMP IN MOTOR CABINET
M-2 | 8593 | 1 | CONTROLLER 250 AMP | | CHANGES THE MOTOR SPEED IN MOTOR CABINET
P-1 | 13927 | 1 | POTENTIOMETER 20K OHMS | | SENSES THE OPERATING INPUT IN UPPER CONTROL BOX
S-1 | 9230 | 1 | SWITCH, 2 POLE 2 POS | | ALLOWS BASE OR PLATFORM CONTROLS TO BE USED IN LOWER CONTROL PANEL
S-2 | 5054 | 1 | SWITCH, 2 POLE 2 POS | | ALLOWS DIRECTIONAL FUNCTIONS AT BASE CONTROLS IN LOWER CONTROL PANEL
S-3 | 8733 | 1 | SWITCH, BUSHING | | ENABLES OTHER FUNCTION TO BE USED AT PLATFORM UPPER CONTROL BOX, HANDLE
S-4 | 8449 | 1 | LIMIT SWITCH | | LEFT TURN SWITCH IN UPPER CONTROL BOX, HANDLE
S-5 | 8448 | 1 | LIMIT SWITCH | | LEFT TURN SWITCH IN UPPER CONTROL BOX, HANDLE
S-6 | 8999 | 1 | SWITCH, 4 POLE 2 POS | | ALLOW EITHER LIFT OR DRIVE FUNCTIONS IN UPPER CONTROL BOX
S-7 | 8955 | 1 | SWITCH, LIMIT V7 | | REVERSE OR LIFT SWITCH IN UPPER CONTROL BOX
S-8 | 8956 | 1 | SWITCH, LIMIT V7 | | FORWARD OR DOWN SWITCH IN UPPER CONTROL BOX
S-9 | 8960 | 1 | SWITCH, TUBE 1 POLE 2 POS | | TORQUE SWITCH IN UPPER CONTROL BOX
SOL-1 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | ACTIVATES LIFT VALVE IN MAIN MANIFOLD
SOL-2 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | ACTIVATES RIGHT TURN VALVE IN MAIN MANIFOLD
SOL-3 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | ACTIVATES LEFT TURN VALVE IN MAIN MANIFOLD
SOL-4 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | ACTIVATES BRAKE VALVE IN MAIN MANIFOLD
SOL-5 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | DECEL VALVE IN MAIN MANIFOLD
SOL-6 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | ACTIVATES REVERSE IN MAIN MANIFOLD
SOL-7 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | ACTIVATES FORWARD IN MAIN MANIFOLD
SOL BC10 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | ACTIVATES TORQUE VALVES IN MAIN MANIFOLD
SOL-11 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | ACTIVATES DOWN VALVE IN MAIN MANIFOLD
SOL-12 | 8914 | 1 | COIL, 24 VOLT 2 SPACE | | ACTIVATES DOWN VALVE IN MAIN MANIFOLD

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Figure 2-1 (cont'd). 1932ES/1532ES Electrical Schematic

8971R1
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SWITCH S1 "BASE/PLATFORM SWITCH" MAKES CONTACT FROM THE CENTER TO THE LEFT POSITION WHEN HELD IN THE BASE POSITION AND AUTOMATICALLY RETURNS TO THE PLATFORM POSITION AND MAKES CONTACT TO THE RIGHT POSITION WHEN RELEASED.

2. SWITCH S2 "UP/DOWN SWITCH" MAKES CONTACT FROM THE CENTER TO THE LEFT WHEN THE SWITCH IS HELD IN THE DOWN POSITION AND AUTOMATICALLY RETURNS TO THE CENTER POSITION WHEN RELEASED.

3. SWITCH LSI BREAKS THE N/C SET OF CONTACTS WHEN THE PLATFORM REACHES APPROXIMATELY 7 FEET.

4. SWITCH LS2 MAKES THE N/C SET OF CONTACTS WHEN THE POTHOLE BARS ARE DOWN AND LOCKED IN PLACE.

5. UNIT SHOWN IN STOWED POSITION WITH POTHOLE BAR IN UP POSITION.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART NO.</th>
<th>QTY.</th>
<th>DESCRIPTION</th>
<th>FUNCTION</th>
<th>LOCATION</th>
</tr>
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<tbody>
<tr>
<td>A1-M</td>
<td>13485</td>
<td>1</td>
<td>TILT SENSOR OPTION PACKAGE</td>
<td>WARNING WHEN MACHINE IS AT 4 DEG</td>
<td>UNDER CHARGER &amp; IN CONTROL BOX</td>
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<tr>
<td>A3-B6</td>
<td>13511</td>
<td>1</td>
<td>PLATFORM MOUNTED HORN PACKAGE</td>
<td>OPERATOR ACTIVATED HORN</td>
<td>CONTROL BOX AND UNDER PLATFORM</td>
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<tr>
<td>A7</td>
<td>13855</td>
<td>1</td>
<td>MOTION CONTROL PACKAGE</td>
<td>WARN OF A MOVEMENT</td>
<td>BEHIND LOWER CONTROL PANEL</td>
</tr>
<tr>
<td>A8</td>
<td>13855</td>
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<td>LEAK METER PACKAGE</td>
<td>RECORD TIME THAT MACHINE IS BEING USED</td>
<td>LOWER CONTROL PANEL</td>
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<tr>
<td>A11</td>
<td>13855</td>
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<td>BATTERY INDICATOR PACKAGE</td>
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<td>INSIDE BATTERY COMPARTMENT</td>
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<tr>
<td>BH-4</td>
<td>XXXX</td>
<td>4</td>
<td>4 VOLT DEEP CYCLE BATTERY</td>
<td>POWER FOR THE MOTOR AND CONTROL CIRCUIT</td>
<td>MOTOR CIRCUIT</td>
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<tr>
<td>R1</td>
<td>9841</td>
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<td>SWITCH BATTERY DISCONNECT</td>
<td>DISCONNECT ALL ELECTRICAL POWER</td>
<td>MOTOR CIRCUIT</td>
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<tr>
<td>CB1</td>
<td>7725</td>
<td>1</td>
<td>CIRCUIT BREAKER - 15 AMP MANUAL</td>
<td>CONTROL CIRCUIT PROTECTION</td>
<td>LOWER CONTROL PANEL</td>
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<tr>
<td>MC</td>
<td>5867</td>
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<td>24 VOLT CONTACTOR</td>
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<td>MOTOR CIRCUIT</td>
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<td>D1-D5</td>
<td>8501</td>
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<td>RELAYS FOR UNIT W/ SEVON</td>
<td>DIRECT SIGNALS TO THE PROPER LOCATION</td>
<td>MOTOR CIRCUIT NEAR TERMINAL STRIP</td>
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<td>LOWER CONTROL PANEL</td>
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<tr>
<td>ES1</td>
<td>7800</td>
<td>1</td>
<td>SWITCH, EMERGENCY STOP</td>
<td>SHUT DOWN ALL PLATFORM MOVING FUNCTIONS</td>
<td>UPPER CONTROL BOX</td>
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<tr>
<td>ES2</td>
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<td>1</td>
<td>RELAY, 200 AMP</td>
<td>MAIN LINE FUSE</td>
<td>MOTOR CIRCUIT</td>
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<tr>
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<td>ENABLE HIGH SPEED</td>
<td>UNDER CHARGER</td>
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<tr>
<td>LS2</td>
<td>8775</td>
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<td>UNDER CHARGER</td>
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<td>MOTOR, 2 HP</td>
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<td>MOTOR CIRCUIT</td>
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<tr>
<td>P50</td>
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<td>CONTROLLER, DC 250 AMP</td>
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<td>MOTOR CIRCUIT</td>
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<td>UPPER CONTROL BOX</td>
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<tr>
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<td>9051</td>
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<td>LOWER CONTROL PANEL</td>
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<td>LOWER CONTROL PANEL</td>
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<td>S3</td>
<td>8573</td>
<td>1</td>
<td>SWITCH, PUSH-BUTTON</td>
<td>ENABLES OTHER FUNCTION TO BE USED AT PLATFORM</td>
<td>WILL OPERATE CIRCUIT</td>
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<td>S4</td>
<td>8448</td>
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<td>RIGHT TURN SWITCH</td>
<td>UPPER CONTROL BOX</td>
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<tr>
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<td>UPPER CONTROL BOX</td>
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<td>ALLOW EITHER LEFT OR DRIVE FUNCTIONS</td>
<td>UPPER CONTROL BOX</td>
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<td>UPPER CONTROL BOX</td>
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<td>TORQUE SWITCH</td>
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<td>MAIN MANIFOLD</td>
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<td>COIL, 24 VOLT 2 SPARC</td>
<td>ACTIVATES RIGHT TURN VALVE</td>
<td>MAIN MANIFOLD</td>
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<tr>
<td>SDL3</td>
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<td>COIL, 24 VOLT 2 SPARC</td>
<td>ACTIVATES LEFT TURN VALVE</td>
<td>MAIN MANIFOLD</td>
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<tr>
<td>SDL4</td>
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<td>COIL, 24 VOLT 2 SPARC</td>
<td>ACTIVATES BRAKE VALVE</td>
<td>MAIN MANIFOLD</td>
</tr>
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<td>SDL5</td>
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<td>COIL, 24 VOLT 2 SPARC</td>
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<tr>
<td>SDL6</td>
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</tr>
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<td>LIFT MANIFOLD</td>
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</tbody>
</table>

Fig. 2-1 (cont.) 1932ES / 1532ES Electrical Schematic
Fig. 2-1 (cont.) 1932ES / 1532ES Electrical Schematic
Fig. 2-2  1932ES / 1532ES Hydraulic Schematic
25280 - MAIN MANIFOLD ASSEMBLY

2975-METERING PLUG
HDW8813
TO BRAKE CYLINDER

PRESSURE IN FROM PUMP 759B HOSE ASSEMBLY HDW17438

TO STEERING CYLINDER 9038 HOSE ASSEMBLY

TO DRIVE MANIFOLD 9030 HOSE ASSEMBLY 2X

HDW5904
RETURN TO TANK 9038 HOSE ASSEMBLY

8490-PRESSURE RELIEF VALVE

9041-VALVE 4 WAY
9042-24 VOLT COIL 4X

DRIVE VALVES/COILS

5975-VALVE 2 WAY

8914-24 VOLT DECELERATION VALVE/COIL HDW9975-8X

HDW772 HDW771
PRESSURE TEST PORT

6975-VALVE 2 WAY

8914-24 VOLT BRAKE VALVE/COIL

WIRE #19 WIRE NEG
25799-MANIFOLD

6712-COUNTERBALANCE VALVE

WIRE NEG

WIRE #8

WIRE #1

WIRE #151

WIRE #7

WIRE #10

WIRE #151

STEERING VALVES/COILS

Fig. 7-3  1932ES / 1532ES Main Manifold
25304 - DRIVE MANIFOLD

8538 FLOW DIVIDER 2-1
HDW7438
HDW7314 (9)
WIRE NEG 3X
WIRE #13 3X

7151 VALVE 2 WAY

TO HYDRAULIC DRIVE MOTORS 9075 HOSE
ASSEMBLY 4X

INPUT/OUTPUT FROM MAIN MANIFOLD 9030 HOSE
ASSEMBLY

6976 (2) 3-WAY VALVE (POWER)
6163 (3) 24V COIL

HDW7438 HDW9071

RIGHT WHEEL MOTOR

LEFT WHEEL MOTOR

HDW7601 (2)

13859 DRIVE MANIFOLD

HDW6904 (2X)

ART701 RD
BM14746
10/23/97

Fig. 7-4 1932ES / 1532ES Drive Manifold
Figure 7-4a. 1932ES/1532ES Drive Manifold

25304 - DRIVE MANIFOLD

- 7151 VALVE 2 WAY
- HDW7438
- 8538 FLOW DIVIDER 2-1
- HDW7314 (9)
- WIRE NEG 3X
- WIRE #13 3X
- HDW5904 (2X)
- 6976 (2) 3-WAY VALVE (POWER)
- 6163 (3) 24V COIL
- HDW7601
- HDW9157
- LEFT WHEEL MOTOR
- HDW7601 (2)
- 13859 DRIVE MANIFOLD
- TO LEFT DRIVE MOTOR 8408 HOSE ASSEMBLY 2X
- TO RIGHT DRIVE MOTOR 8322 HOSE ASSEMBLY 2X
- INPUT/OUTPUT FROM MAIN MANIFOLD 9030 HOSE ASSEMBLY

ART701 R1
BM14746
12/15/97

8971R1
13921 - LIFT MANIFOLD

Fig. 7-5 1932ES / 1532ES Lift Manifold