



# Harsco Track Technologies

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## SERVICE BULLETIN MAINTENANCE OF WAY EQUIPMENT

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**DATE:** 2-28-2002 **BULLETIN NO:** 02-006

**TITLE:** TRAVEL CIRCUIT UPGRADE SERVICE GROUPS  
D1532WAC Travel Circuit Upgrade Kit  
H4548WAA Pressure Switch Relay Kit

**RATING:**  **DIRECTIVE** (Action Is Required)  **ALERT** (Potential Problem)  
 **INFORMATION** (Action Is Optional)  **PRODUCT IMPROVEMENT** (Enhance Product)

**PRODUCT SERIES / MODEL:** TR10 Tie Exchanger

**SERIAL NO:** All TR10 Phase III Models Serial # 5580819 and Higher

**SUMMARY:** HTT has discovered that the spool in the P4 pump travel assist valve may stick on occasion due to circuit flow characteristics. If the spool sticks, the valve unnecessarily passes pressurized oil to tank when the travel circuit is de-energized creating heat in the hydraulic system. A directional valve with larger flow capacities has been sourced that will directly replace the existing valve. In addition, it has been discovered that the electrical contacts, located in the travel circuit pressure switch, can fail prematurely when energized for long durations of time. An electrical circuit change incorporating a current isolation relay has been designed to extend the life of the pressure switch contacts.

**OPERATIONAL IMPACT:** Installing this kit will prevent the travel assist spool from sticking resulting in lower hydraulic oil operating temperature. The current isolation relay will extend the life of the travel pressure switch electrical contacts.

**ACTION:** The installation of these Service Group requires:  
● Installing a new pump travel assist valve, pressure switch and relay.

**CONTACT:** If you have any questions or if we can be of any service, please contact the Service Department at the Columbia, SC. facility, (803) 822-9160.

**SAFETY INFORMATION**

- **FOLLOW APPLICABLE RAILROAD LOCKOUT - TAGOUT PROCEDURE TO REMOVE ALL ENERGY SOURCES FROM MACHINE. FAILURE TO COMPLY COULD RESULT IN SEVERE BODILY INJURY.**

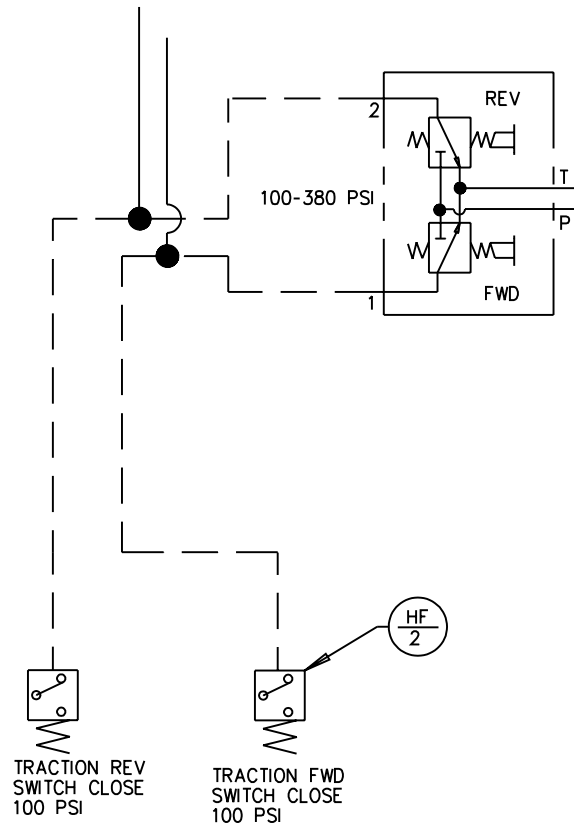
**SERVICE GROUP INSTALLATION**

1. See Figure 1. Disconnect the electrical cable and hydraulic line from the existing traction forward pressure switch. Remove the existing pressure switch and install the new pressure switch (2) in the same location. Reconnect the electrical cable and hydraulic line to the new traction forward pressure switch (2).
2. See Figure 2. Disconnect the electrical cable from the existing traction circuit directional valve. Remove the directional valve from the manifold. Install the new directional valve (1) to the manifold. Reconnect the electrical cable to the new traction circuit directional valve (1). Change the hydraulic line from port A to port B and the plug from port B to port A in the direction valve manifold.
3. Reference the existing traction circuit electrical schematic Figure 3 and the new traction circuit electrical schematic Figure 4 when making electrical changes.
4. See Figure 5. Install the relay mount (1) and relay (2) on the engine control panel in the approximate location shown.
5. See Figure 6. Remove wire #27 from D1(1) and TSA(18). Install new wire #26A from D1(1) to TSA(34).
6. See Figure 5 and Figure 7. Install wire #26A in the PI and socket of CL601 and receptacle on pin (25). Connect wire #26A to the engine control panel TSA(34) and valve j-box TSA(39).
7. See Figure 5 and Figure 7. Remove wire #27 in CL517 TSA(8). Renumber this wire to 26A and connect to new terminal 26A TSA(39). Also change wire #27 to #26A on opposite end of CL517 in the forward traction pressure switch.
8. Start the engine and pressurize the traction travel circuit.
9. Check the new traction assist valve and forward pressure switch for hydraulic leaks.
10. Operate the travel function to verify proper operation of the traction travel circuit.

SERVICE GROUP INSTALLATION

H4530XAA-2

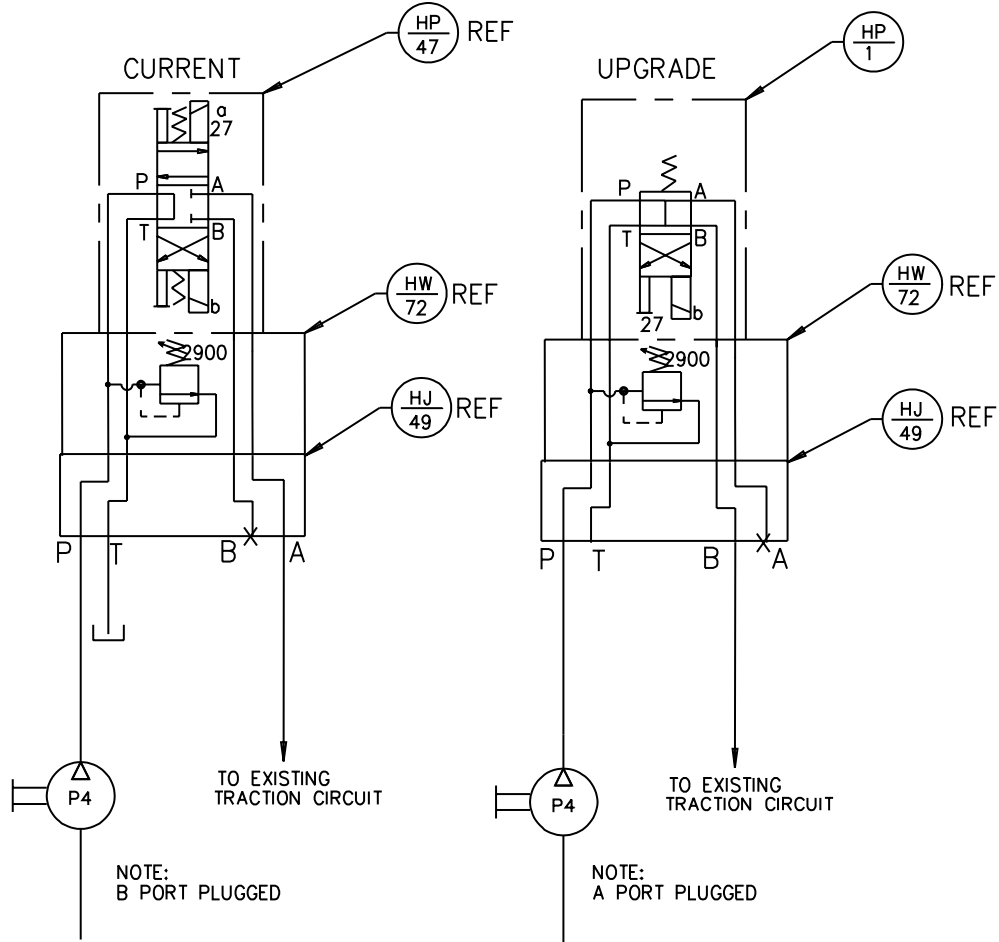
FIGURE 1  
TRACTION ASSIST PRESSURE SWITCH HYDRAULIC CIRCUIT



**SERVICE GROUP INSTALLATION**

H4530XAA-1

**FIGURE 2  
TRACTION ASSIST DIRECTIONAL VALVE HYDRAULIC CIRCUIT**



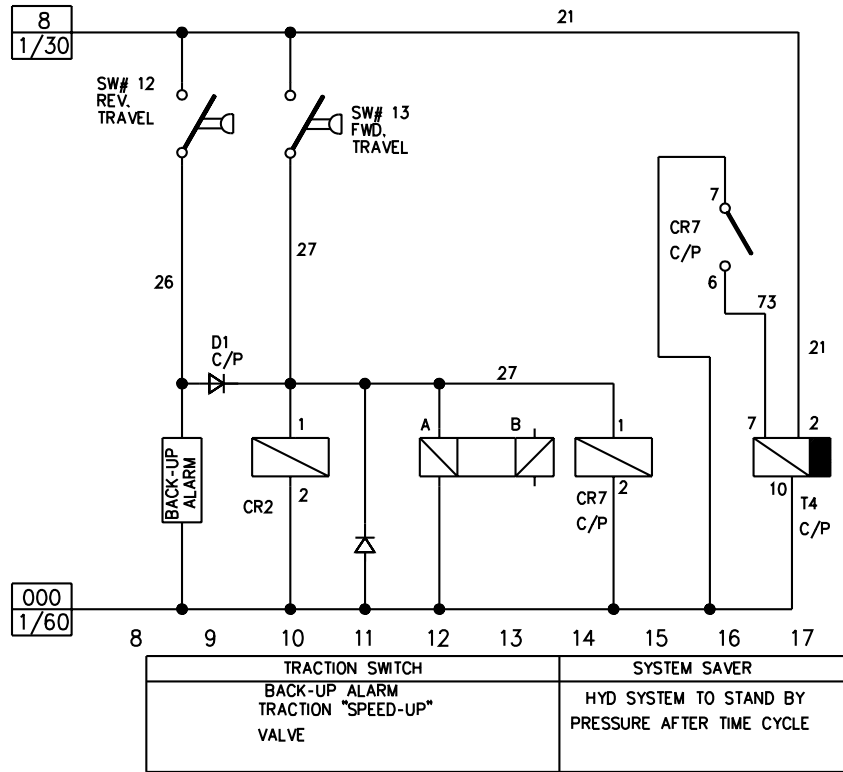
**PROCEDURE**

1. INSTALL NEW FORWARD TRAVEL PRESSURE SWITCH ITEM 2 IN THE SAME LOCATION
2. INSTALL NEW VALVE ITEM 1
3. CHANGE PORT A AND PORT B PLUMBING

SERVICE GROUP INSTALLATION

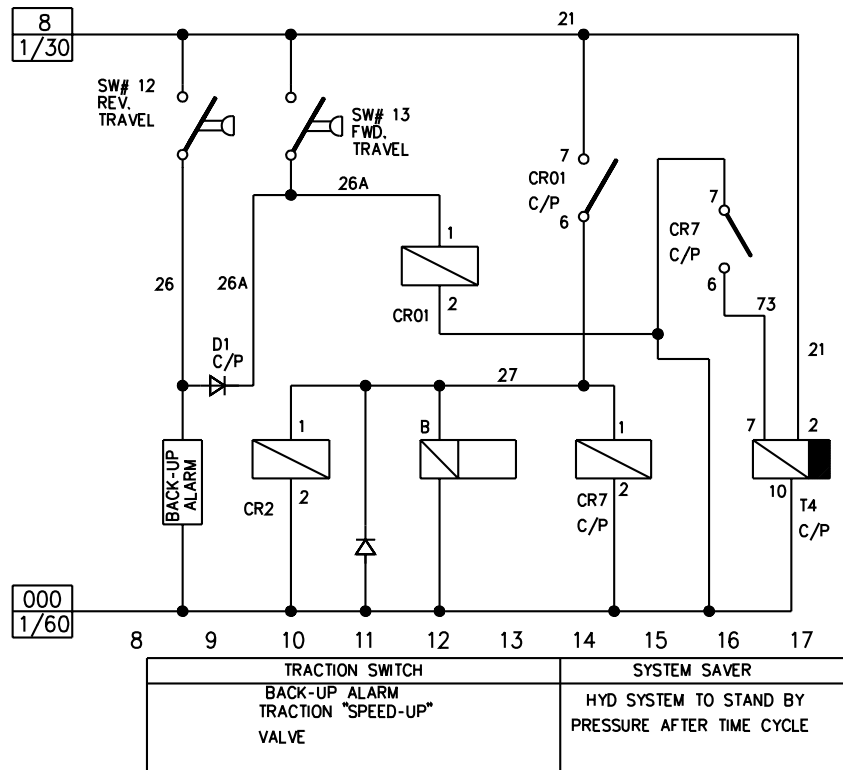
H4548WAA-1

FIGURE 3  
EXISTING TRACTION ASSIST CIRCUIT ELECTRICAL SCHEMATIC



H4548WAA-2

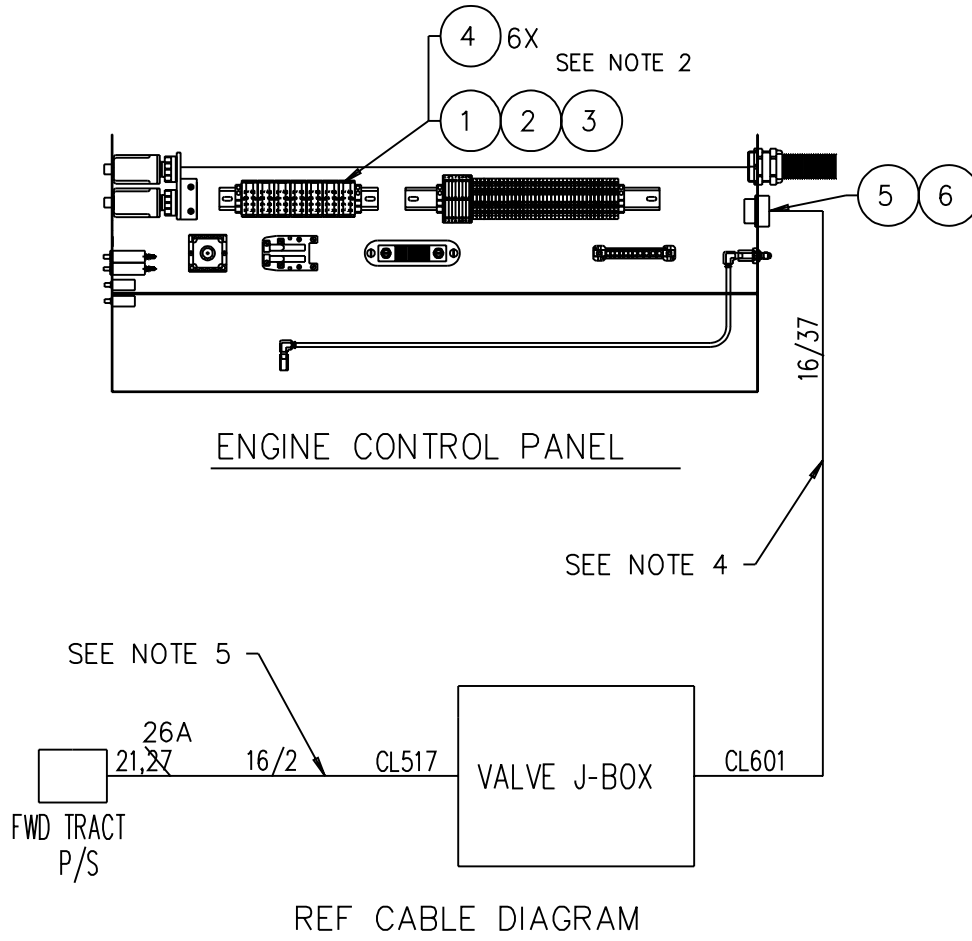
FIGURE 4  
NEW TRACTION ASSIST CIRCUIT ELECTRICAL SCHEMATIC



**SERVICE GROUP INSTALLATION**

H4548WAA-3

**FIGURE 5  
TRACTION ASSIST CIRCUIT INTERCONNECT WIRING**



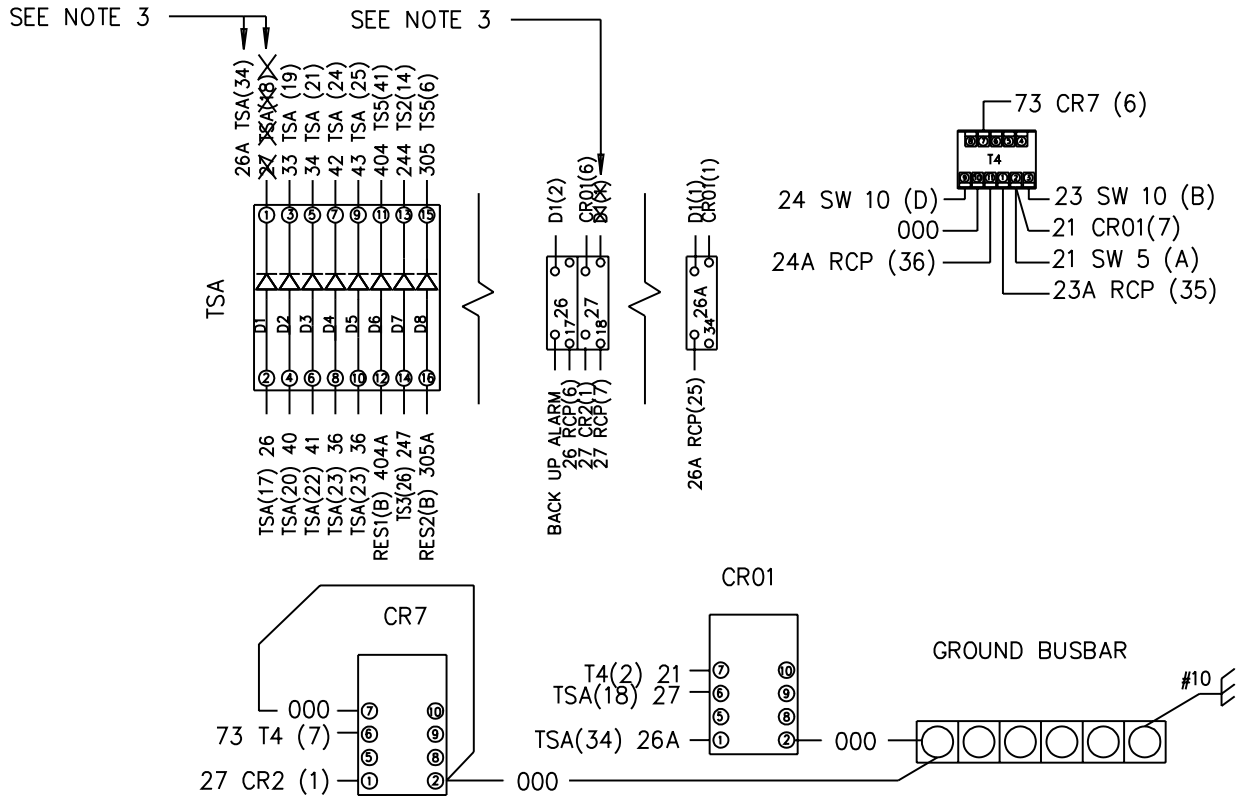
**NOTES:**

- 1 - BOLD TEXT REF ADDITION.
- 2 - INSTALL ITEM 1 & 2 (RELAY MOUNT AND RELAY) IN APPX AREA, AND REF "ENGINE CONTROL PANEL WIRING".
- 3 - REMOVE WIRE 27 FROM D1(1) AND TSA(18).  
INSTALL NEW WIRE 26A FROM D1(1) TO TSA(34).
- 4 - INSTALL WIRE 26A IN THE PI AND SOCKET OF CL601 AND RECEPT. ON PIN(25). CONNECT WIRE 26A TO THE ENGINE CONTROL PANEL TSA(34) AND VALVE J-BOX TSA(39).
- 5 - REF "VALVE J-BOX WIRING" AND REMOVE WIRE 27 IN CL517 TSA(8). RENUMBER THIS WIRE TO 26A AND CONNECT TO NEW TERMINAL 26A TSA(39). ALSO CHANGE WIRE 27 TO 26A ON OPPOSITE END OF CL517 IN THE FOWARD TRACTION PRESSURE SWITCH.

SERVICE GROUP INSTALLATION

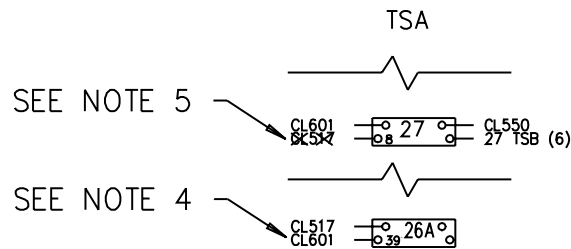
H4548WAA-4

FIGURE 6  
ENGINE CONTROL PANEL WIRING



H4548WAA-5

FIGURE 7  
ENGINE JUNCTION BOX WIRING



**SERVICE GROUP PARTS LIST**

ITEM	PART NO	DESCRIPTION	QTY
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*Note: See Figure 1 and Figure 2 for Item Numbers:*

	D1532WAC	TRAVEL CIRCUIT UPGRADE KIT . . . . .	1
1	A1215Y11	Directional Valve - Traction Circuit . . . . .	1
2	A6111Y02	Pressure Switch - Forward Travel . . . . .	1

*Note: See Figure 5 for Item Numbers.*

	H4548WAA	PRESSURE SWITCH RELAY KIT. . . . .	1
1	A6444Y01	Relay DPDT . . . . .	1
2	A6444Y02	Relay Mount . . . . .	1
3	A9297Y03	Wire - 16 AWG Copper. . . . .	20"
4	0-3250001-0-86	Terminal - Push On 16-14 AWG. . . . .	6
5	A1333Y01	Pin for AMP RCPT . . . . .	3
6	A1333Y02	Contact Socket . . . . .	3

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