



# Harsco Track Technologies

Harsco

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## SERVICE BULLETIN MAINTENANCE OF WAY EQUIPMENT

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**DATE:** 6-26-2008 **BULLETIN NO:** 08-003

**TITLE:** JUPITER INPUT / OUTPUT CABLES

**RATING:**

<input type="checkbox"/>	<b>DIRECTIVE</b> (Action Is Required)	<input type="checkbox"/>	<b>ALERT</b> (Potential Problem)
<input checked="" type="checkbox"/>	<b>INFORMATION</b> (Action Is Optional)	<input type="checkbox"/>	<b>PRODUCT IMPROVEMENT</b> (Enhance Product)

**PRODUCT SERIES / MODEL:** All Machines Equipped with Jupiter Control System

**SERIAL NO:** All Machines Equipped with Jupiter Control System

**SUMMARY:** The yellow and gray Jupiter input / output cables are being discontinued as repair parts and will be superceded (replaced) with black halogen free Jupiter input / output cables on all machines equipped with the Jupiter Control System. The Jupiter Modules (analog input, digital input and digital output) will accept either 4 pin or 5 pin cables and if a 4 pin cable is replaced by a 5 pin cable, the machine operational functions will not be affected.

**OPERATIONAL IMPACT:** Customers will have fewer cables to stock as repair parts for different types of machines equipped with the Jupiter Control System. In response to customer's environmental concerns, all replacement cables have a stronger external halogen free outer jacket.

**ACTION:** See Ordering Jupiter Input / Output Cables instructions in this Service Bulletin to order replacement cables.

**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**

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

**ORDERING JUPITER INPUT / OUTPUT CABLES** - See Figures 1 and 2

1. Find the part number of the existing cable that is to be replaced from the identification label (1) on the existing cable or from the Parts Manual for your machine. The replacement cable can be ordered in either of the following ways:
  - 1.1 Order the part number of the existing cable. If the cable is a yellow or gray Jupiter input / output cable, it will be automatically superseded (replaced) by a black halogen free Jupiter input / output cable.
  - 1.2 Convert the part number of the existing cable to the new part number using the Conversion Charts at the end of this Service Bulletin and then order the new part number.

*Note: The Jupiter Modules (analog input, digital input and digital output) will accept either 4 pin or 5 pin cables and if a 4 pin cable is replaced by a 5 pin cable, the machine operational functions will not be affected.*

**INSTALLING JUPITER INPUT / OUTPUT CABLES**

1. Route the new input / output cable from the Jupiter Module (analog input, digital input or digital output) to the machine component (valve, switch, sensor, etc.) using the same route of the existing cable. Be sure to route the new cable so the new cable ends match the existing cable ends. Make sure that the new cable is clear of all moving parts on the machine and then secure the new cable to the machine.
2. The Jupiter Module end of the cable has a M12 type connector. Disconnect the existing cable end from the module. Then connect the new cable end to the module as follows:
  - 2.1 M12 Type Connector: Align the pins in the cable end with the pins in the module connector and push in. Turn the cable end to start the threads on the module connector and tighten until it can no longer be turned by hand. Then wiggle the cable end slightly, push in and tighten again until it can no longer be turned by hand. Repeat this procedure until the cable end is securely tightened on the module connector.
3. The component end of the cable may have a M12 type connector, DIN type connector or pig tail (loose wires). Connect the end of the cable as follows:
  - 3.1 M12 Type Connector: Disconnect the existing M12 connector from the component connector. Then connect the new cable M12 connector to the component connector using the installation and tightening procedure listed in Step 2.1.

### INSTALLING JUPITER INPUT / OUTPUT CABLES

- 3.2 DIN Type Connector: Disconnect the existing DIN connector from the component. Then connect the new cable DIN connector to the component.
- 3.3 Pig Tail (Loose Wires): Remove the wire cover from the component, if so equipped. Note the cable loose wire connections (colors, numbers, etc.) to the component wire terminals. Disconnect the wires from the component. Then connect the new cable wires to the component wire terminals using the following wire chart. Be sure to wrap any unused wire ends with electrical tape so they do not short out. Re-install the wire cover on the component, if so equipped.

OLD CABLE COLOR CODE	NEW CABLE NUMBER CODE
1 - BN (Brown) . . . . .	W-1 (White)
2 - WH (White) . . . . .	W-2 (White)
3 - BU (Blue) . . . . .	W-3 (White)
4 - BK (Black) . . . . .	W-4 (White)
5 - GY (Gray) . . . . .	W-5 (White)

### CHECKING JUPITER INPUT / OUTPUT CABLES OPERATION

- 1. Start the machine engine. Boot-up the Jupiter Control System. Pressurize the air and hydraulic systems.
- 2. Operate the machine to check and verify that the machine function of the new Jupiter Input / Output Cable is operating properly.

### JUPITER INPUT / OUTPUT CABLES IDENTIFICATION - See Figures 1 and 2

- 1. Each Jupiter Input / Output Cable has an identification label (1) on both ends of the cable listing the HTT part number and date of manufacture.

FIGURE 1  
EXISTING GRAY AND YELLOW  
INPUT / OUTPUT CABLES

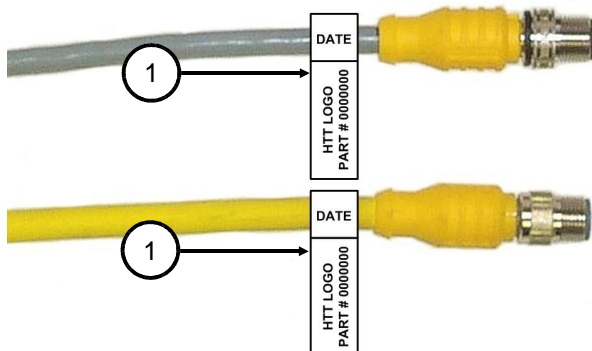
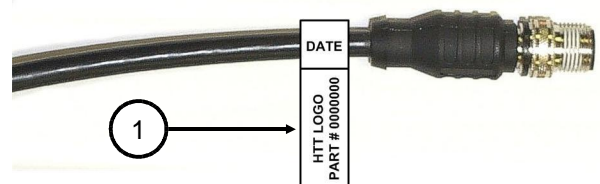


FIGURE 2  
NEW BLACK  
INPUT / OUTPUT CABLES



**JUPITER INPUT / OUTPUT CABLES CROSS-REFERENCE CHART**

	new HTT number	old HTT 5 cond	old HTT 4 cond
<b>Male / Female M12, 18AWGx5 Halogen Free Shielded</b>			
0.3 meter or 1 foot. . . . .	3403955		
0.5 meter or 1.6 feet . . . . .	2013714		2006468
1 meter or 3.3 feet. . . . .	3401324	416158	415263
2 meter or 6.6 feet. . . . .	3401325	415266	414261
3 meter or 9.9 feet. . . . .	3401326	414280	415264
4 meter or 13.1 feet. . . . .	3401336		414262
5 meter or 16.4 feet. . . . .	3401327	414281	
6 meter or 19.7 feet. . . . .	3401337		414263
7 meter or 23.0 feet. . . . .	3401328	414282	
8 meter or 26.3 feet. . . . .	3401338		
10 meter or 16.4 feet. . . . .	3401329	415904	415905
<b>Male M12 w/ Pig Tail, 18AWGx5 Halogen Free Shielded</b>			
3 meter or 9.9 feet. . . . .	3401330	414256	
5 meter or 16.4 feet. . . . .	3401331	414257	
10 meter or 16.4 feet. . . . .	3401332	414258	
<b>Male M12 w/ Pig Tail 18AWGx4 Halogen Free Shielded</b>			
4 meter or 13.1 feet. . . . .	3401339	414264	
8 meter or 26.3 feet. . . . .	3401340	414265	
<b>Female M12 w/ Pig Tail, 18AWGx5 Halogen Free Shielded</b>			
7 meter or 23.0 feet. . . . .	3405078		
10 meter or 16.4 feet. . . . .		200753	
<b>Male M12 w/"A" type (Hyd) DIN 18AWGx3 Halogen Free / Grey Connector Transzorb</b>			
1 meter or 3.3 feet. . . . .	3401341	415265	
2 meter or 6.6 feet. . . . .	3401342	414266	
3 meter or 9.9 feet. . . . .	3401343	414267	
5 meter or 16.4 feet. . . . .	3401344	414268	
7 meter or 23.0 feet. . . . .	3401345		
10 meter or 16.4 feet. . . . .	3401346	415902	

**JUPITER INPUT / OUTPUT CABLES CROSS-REFERENCE CHART**

	new HTT number	old HTT 5 cond	old HTT 4 cond
<b>Male M12 w/"A" type (Hyd) DIN 18AWGx3 Halogen Free / Yellow Connector Diode</b>			
1 meter or 3.3 feet . . . . .	2009870	3402463	
2 meter or 6.6 feet . . . . .	3402075	3402464	
3 meter or 9.9 feet . . . . .	2009871	3402465	
5 meter or 16.4 feet . . . . .	2009872	3402466	
7 meter or 23.0 feet . . . . .	2009873	3403948	
10 meter or 16.4 feet . . . . .	2009874		
<b>Male M12 w/"A" type (Hyd) DIN 18AWGx3 Halogen Free / Black Connector No Suppression</b>			
1 meter or 3.3 feet . . . . .	2009875		
2 meter or 6.6 feet . . . . .	2009876		
3 meter or 9.9 feet . . . . .	2009877		
5 meter or 16.4 feet . . . . .	2009878		
7 meter or 23.0 feet . . . . .	2009879		
10 meter or 16.4 feet . . . . .	2009880		
<b>Male M12 w/"I" type (Air) DIN 18AWGx3 Halogen Free / Yellow Connector Diode</b>			
1 meter or 3.3 feet . . . . .	3406228		
2 meter or 6.6 feet . . . . .	3406229	414269	
3 meter or 9.9 feet . . . . .	3406230	414270	
5 meter or 16.4 feet . . . . .	3406231	414271	
7 meter or 23.0 feet . . . . .	3406232		
10 meter or 16.4 feet . . . . .	4012187	415903	
<b>Male STR / Female 90° M12, 18AWGx5 Halogen Free Shielded</b>			
0.5 meter or 1.6 feet . . . . .	2013712		
1 meter or 3.3 feet . . . . .	2013713		
2 meter or 6.6 feet . . . . .	2013710		

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