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SERVICE BULLETIN

MAINTENANCE OF WAY EQUIPMENT

DATE: 11 - 2025 **BULLETIN NO:** SBUS000135-25

TITLE: Water Tank Heater Circuit update procedure for the RGH10C2 Rail Grinders described below.

RATING:

- ☐ **DIRECTIVE** (Action Is Required)
- ☐ **ALERT** (Potential Problem)
- ☐ **INFORMATION** (Action Is Optional)
- ☒ **PRODUCT IMPROVEMENT** (Enhance Product)

PRODUCT SERIES / MODEL: RGH10C2 Rail Grinders

SERIAL NO's: See Chart Below

Known Affected Machine Models and Serial Numbers

Model	Serial Number	Model	Serial Number	Model	Serial Number
RGH10C2-28	257748	RGH10C2-40	153645	RGH10C2-46	258016
RGH10C2-29	257749	RGH10C2-41	153646	RGH10C2-47	258017
RGH10C2-32	257762	RGH10C2-42	258020	RGH10C2-48	258018
RGH10C2-33	257763	RGH10C2-43	258021	RGH10C2-49	258044
RGH10C2-38	153635	RGH10C2-44	257993	RGH10C2-50	258042
RGH10C2-39	153636	RGH10C2-45	257994	RGH10C2-51	258043

SUMMARY: Certain RGH10C2 rail grinders have experienced issues with water tank heater circuits not operating as intended. The Current Sensing Relay in the water heater circuit energizes when current is absent ("energize on low"). However, the circuit was originally designed to function so that the relay energizes when current exceeds a defined threshold ("energize on high"). This mismatch prevents proper heater activation under expected conditions.

The circuit design was inherited from the RGH10C1 grinder series, which operates on 120 VAC and utilizes a high-current-energized relay. In contrast, the RGH10C2 grinders are configured for 240 VAC and require simple rewiring of the current sensing controller in order for the heating circuit to operate properly.

Field units may vary: some machines have already had the wiring corrected, enabling Heater 1 to activate when ambient temperatures fall below 45°F (7.2°C).

OPERATIONAL IMPACT:

Performing the rewiring procedure outlined for the Current Sensing Relays will restore proper operation of the water tank heaters. This correction ensures

reliable heater activation, preventing spray system water from freezing in low ambient temperatures.

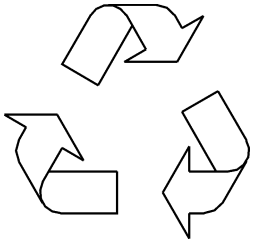
ACTION: Access the AC Junction Enclosure on the rail grinder and locate the two Current Sensing Relays inside. On one Current Sensing Relay, note the wire running to the NO or the NC terminal. If it is connected to the NO terminal, disconnect it and reconnect it to the NC terminal. If it is connected to the NC terminal, disconnect it and reconnect it to the NO terminal. Repeat for the other Current Sensing Relay in the enclosure.

CONTACT: Harsco Rail Service Department
Please contact Kelly Gardner - kgardner@harsco.com

SAFETY INFORMATION

- **Follow applicable railroad lockout - tagout procedures to disable energy sources when performing maintenance, making adjustments or repairs to the vehicle or equipment. Failure to heed this warning could result in severe bodily injury.**
- **Refer to energy control procedure to remove all energy sources from machine before performing maintenance or making adjustments or repairs to machine. Failure to comply could result in severe bodily injury.**

Waste Disposal



Dispose of waste properly. Improper disposal of waste can threaten the environment. The operation and maintenance of Harsco Rail equipment may involve the use and disposal of such items as hydraulic fluid, engine oil, coolant, filters, batteries, grinding debris, etc.

Use leak proof containers when draining fluids. Do not pour waste onto the ground, down a drain, or into any water source. Inquire on the proper way to recycle or dispose of waste according to applicable Federal, State and/or Local regulations.

Before Performing Maintenance

1. Make sure the machine is in a safe location for the maintenance being performed.
2. Make sure the maintenance personnel are qualified to perform the maintenance procedures.
3. Apply hand brakes. Chock machine wheels, if required. Make sure unintended movement of the machine cannot occur.
4. Make sure grinding heads and grinding carriages are raised and locked in the stowed position.
5. Stop the engine and turn the master disconnect switch off.
6. Depressurize the air and hydraulic systems.

Existing Water Heater Circuit on a RGH10C2 Electrical Schematic - See Figure 1

The electrical schematic shown in Figure 1 represents the water tank heater circuit configuration for the RGH10C2-46 rail grinder. This circuit is representative of all affected C2-series rail grinders and is applicable when performing the rewiring procedure.

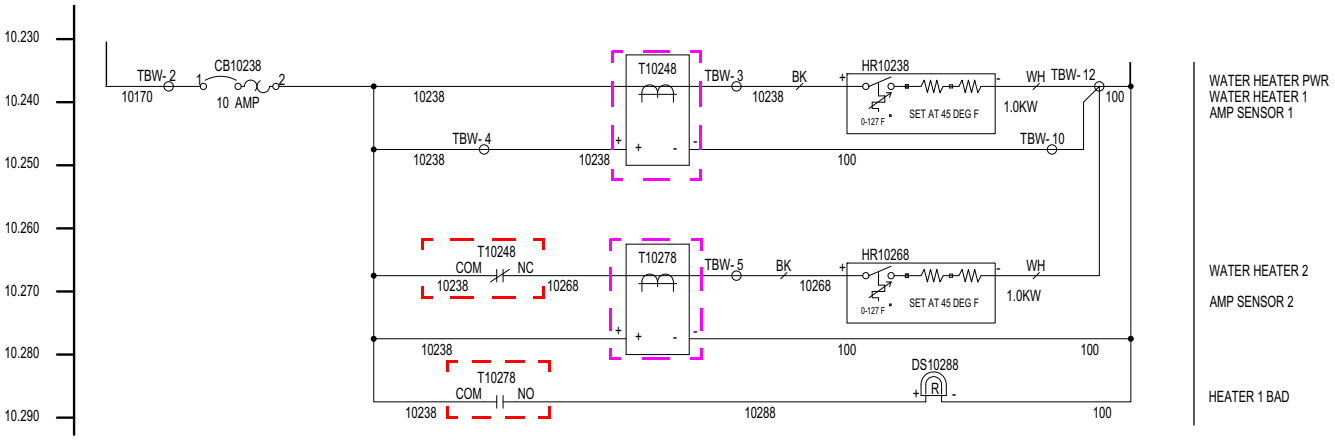
Note: The example shown in Figure 1 is sourced from the following document:

5018898 – Electrical Schematic (Sheet 10) (Note: Sheet number and exact schematic location may vary depending on the specific rail grinder model. Location of Current Sensing Relay symbols on the schematic will always be the same with one above the other.) Please refer to the Operator's Manual provided with your model rail grinder for detailed information.

Please also see 5026703 – Enclosure, AC Junction in the Parts Manual provided with your model rail grinder for detailed information.

For example, on this machine, the power wire labeled #10238—which supplies Water Heater 1 (HR10238) - is routed through the sensing loop of Current Sensing Relay T10248. Similarly, the power wire labeled #10268—which supplies Water Heater 2 (HR10268) - is routed through the sensing loop of Current Sensing Relay T10278.

FIGURE 1
EXISTING HEATER CIRCUIT - PRE MODIFICATION



The logic is the same for all the C2 240 VAC machines and the same wiring modifications described in the Rewiring Procedure below can be carried out on each machine. The current relay labels and wire numbers may vary on the schematics (as compared to Figures 1 and 4) depending on the sheet number and run number. The relative position of the components in the electrical schematic is the same on each machine.

The Current Sensing Relays are clearly labeled within the AC Junction Enclosure and correspond to the device labels shown in the electrical schematic found in the Operator's Manual. While the layout, size, and location of the AC Junction Enclosure may vary slightly between machines, the relays can be readily identified by their physical appearance (See Figures 2 and 3).

Refer to the electrical schematic in the Operator's Manual and AC junction box wiring diagram in the Parts Manual for specific details. Each relay uses 0.250-inch spade terminals, which allow for quick and easy switching between adjacent terminal positions during rewiring.

Rewiring Procedure - See Figures 3 and 4

This is a simple modification - there are only two wires to move - with no additional parts required. The wire number markers are not affected.

1. **Access the AC Junction Enclosure:**
   Locate the AC Junction Enclosure on the rail grinder and remove the cover to expose the internal components.

2. **Inspect the Current Sensing Relays:**
   Identify the two Current Sensing Relays mounted inside the enclosure. Ensure the component label matches the label shown in Figure 3. Focus first on the leftmost relay.

3. **Verify Terminal Connection:**
   Observe the wire connected to either the Normally Open (NO) or Normally Closed (NC) terminal:

   - If the wire is connected to the NO terminal, disconnect it and reconnect it to the NC terminal directly below.
   - If the wire is connected to the NC terminal, disconnect it and reconnect it to the NO terminal directly above.

4. **Repeat for Second Relay:**
   Apply the same procedure to the rightmost Current Sensing Relay.

FIGURE 2
CURRENT SENSING RELAYS
(Inside 5026703 – Enclosure, AC Junction - Typical Example)

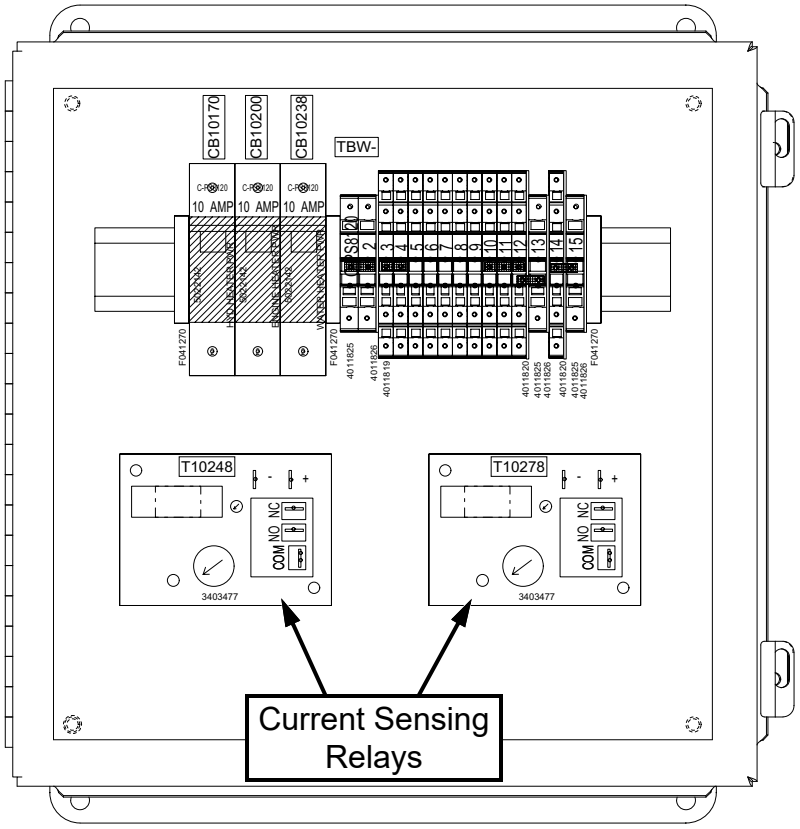
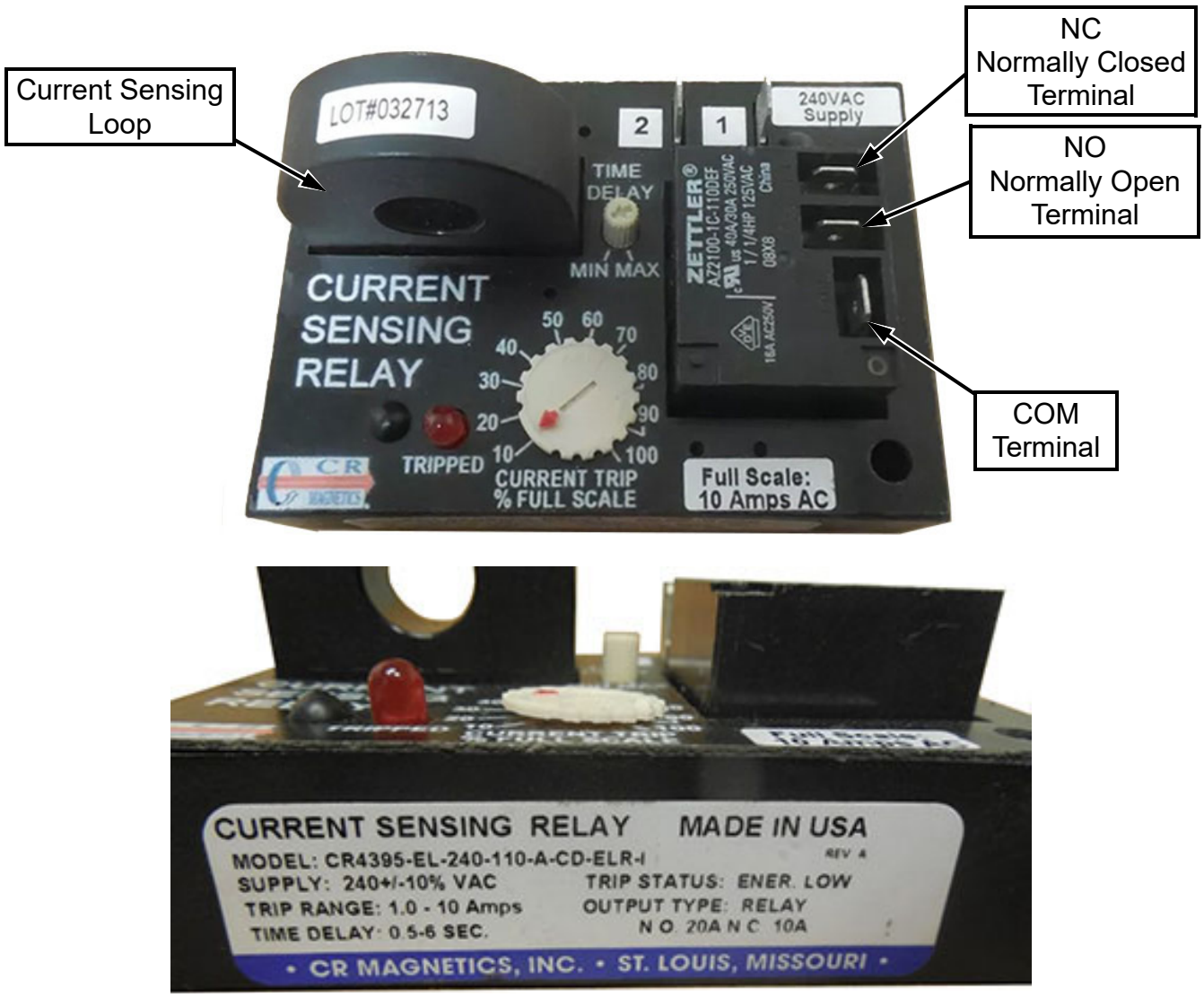
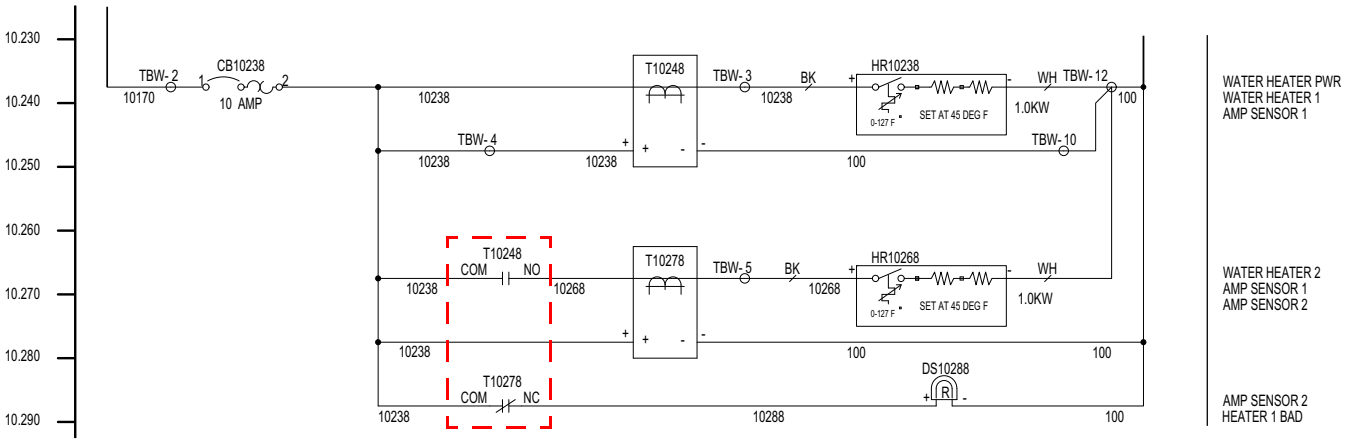


FIGURE 3
CURRENT SENSING RELAY and COMPONENT LABEL
(Harsco Rail #3403477)



5. **Update the Electrical Schematic:**
In the operator's manual - locate and update the Electrical Schematic to match the symbols and terminals as shown in Figure 4.

FIGURE 4
EXISTING HEATER CIRCUIT - POST MODIFICATION
(Compare to Figure 1)



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