

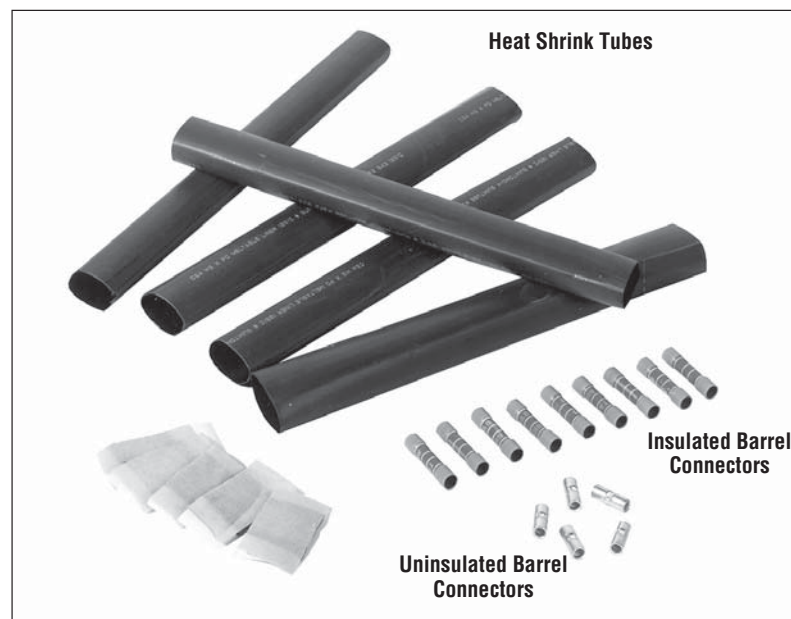
# Chromalox®

## Installation Instructions

### SERVICE REFERENCE

|                                      |             |
|--------------------------------------|-------------|
| DIVISION 4                           | SECTION RT  |
| SALES REFERENCE (Supersedes PJ445-7) | PJ445-8     |
| 161-511934-001                       |             |
| DATE                                 | MARCH, 2004 |

## RT-RST Splice & Tee Kit for Self-Regulating Rapid-Trace Heating Cable



#### RT-RST Splice and Tee Kit Parts:

5 - 8" Long Heat Shrink Tubes  
5 - 1/2" Lengths of Sealant Tape

10 - Insulated Barrel Connectors  
5 - Uninsulated Barrel Connectors

### GENERAL

#### ⚠ WARNING

**ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing heating cable and accessories. A qualified person must perform installation and service of heating cable and accessories. Heating cable must be effectively grounded in accordance with the National Electrical Code. Failure to comply can result in personal injury or property damage.**

The RT-RST Kit is used to make straight and tee splices for base, braided (-C) and overcoated (-CR & -CT) cables in ordinary locations. Consult factory for installation of braided cable in hazardous locations. Check the kit label to insure you have the proper

kit for the cable you are installing. This kit contains enough parts to make five (5) splices. Materials required include: sharp utility knife, standard electrical cutters, propane torch or heat gun, needle nose pliers, Thomas & Betts crimping tool WT-145C and fiberglass tape (Chromalox FT-1 or equal).

Electrical connections must be in accordance with the National Electrical or local codes by a qualified person. Ground fault protection is required. Verify with the codes whether personnel protection, GFCI or equipment protection, EPD is required.

## INSTALLATION

**NOTE:** These instructions are for Self-Regulating heating cables in ordinary locations. Consult factory for installation of braided cable in hazardous locations. Not all instructions are for all cables. Each step has a heading in boldface stating what type of cable that instruction is for.

### 1. FOR OVERCOATED CABLE (-CR & -CT):

Score the outer jacket 1-1/2 inches from the end of each cable. Remove the jacket to expose the braid. See Figure 1.



Figure 1

### 2. FOR BRAIDED (-C) AND OVERCOATED CABLE (-CR & -CT):

Unravel 1-1/2 inches of braid, then pigtail the strands together. For straight splices, arrange the pigtails on top of both cables. For tee splices, arrange the pigtails on the correspond-

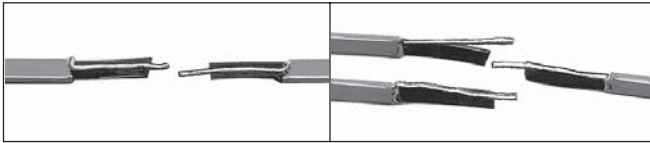


Figure 2a

Figure 2b

ing sides of all three cables. See Figure 2A and 2B.

### 3. FOR ALL CABLE:

Using standard electrical cutters, cut a 3/4 inch long notch out of each cable between the conductor wires. Bare a 3/8 inch length of each conductor by stripping off the outside insula-



Figure 3

tion and the inner black core material. See Figure 3.

### 4. FOR TEE SPLICES ONLY:

Tape two of the heating cables together using the fiberglass tape 3 inches from the end of the conductors. Twist the corresponding conductors of each cable together. See Figure 4.

## ⚠ WARNING

**ELECTRIC SHOCK HAZARD. Do not cross connect two conductors from two heating cables together nor connect two conductors of one heat cable together as either will cause a short circuit. Failure to comply can result in personal injury or property damage.**

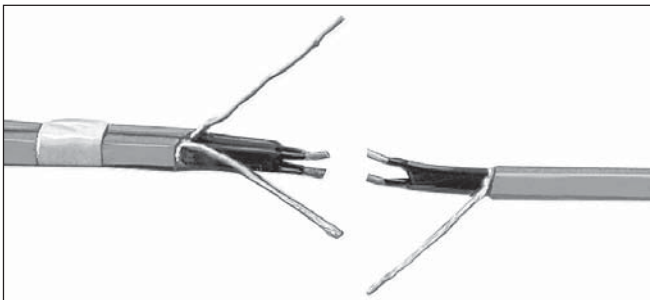


Figure 4

### 5. FOR ALL CABLE:

Slide an insulated barrel connector over the bare portion of each conductor of one of the cables (or paired cable). Crimp the connector onto the bare portion of the conductors using the T & B crimping tool. See Figure 5.

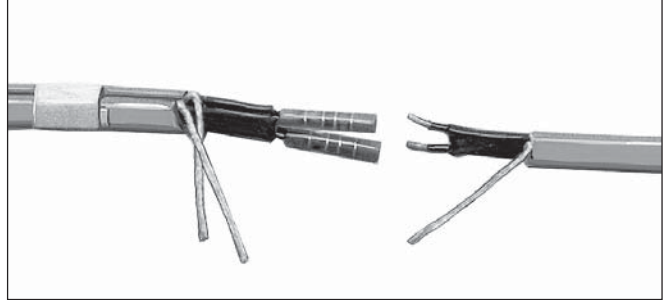


Figure 5

### 6. FOR BRAIDED (-C) AND OVERCOATED CABLE (-CR & -CT):

Position the metal braided pigtail (or twisted pigtails for the tee splice) on top of and between the two insulated barrel connectors. Cut the pigtail so that it just reaches the midpoint of the insulated barrel connectors. See Figure 6.

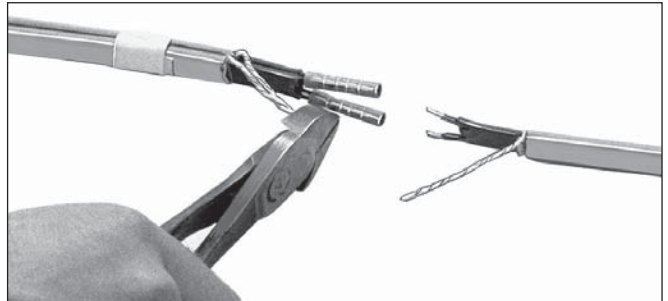


Figure 6

### 7. FOR BRAIDED (-C) AND OVERCOATED CABLE (-CR & -CT):

Slide one end of an uninsulated barrel connector over the end of the pigtail. Crimp using a standard crimping tool for uninsulated barrel connectors. See Figure 7.



Figure 7

### 8. FOR ALL CABLE:

(For braided cables (-C only), first push the braids back 10" on the cable with the barrel connectors attached). Carefully slide a length of heat shrink tubing over the cable(s) with the barrel connectors past the connection area, but **DO NOT SHRINK THE TUBE**. See Figure 8.

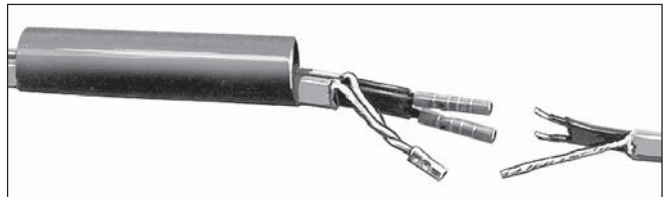


Figure 8

## INSTALLATION

### 9. FOR ALL CABLE:

Insert the bared ends of the conductors of the other cable into the uncrimped ends of the insulated barrel connectors. Crimp the insulated barrel connectors onto the bare portions of the conductors using the T & B crimping tool No. WT-145C. See Figure 9.

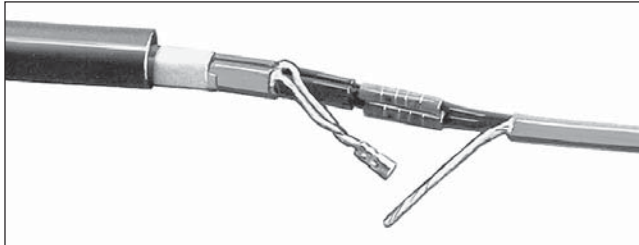


Figure 9

### 10. FOR BRAIDED (-C) AND OVERCOATED CABLE (-CR & -CT):

- A. Wrap the cutting area of the crimped insulated barrel connectors with the fiberglass tape.
- B. Fold the other metal braid pigtail over 1/4" and insert into the open end of the uninsulated barrel connector. Crimp using the standard crimping tool for uninsulated barrel connectors. See Figure 10.

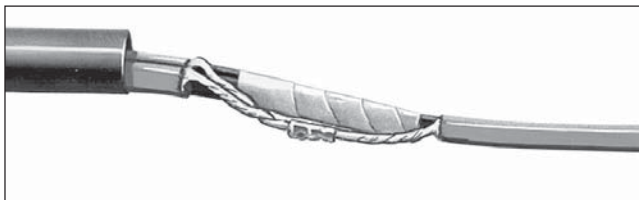


Figure 10

### 11. FOR TEE SPLICES ONLY:

Insert a piece of sealant tape lengthwise between the paired cables and force the cables together. See Figure 11.

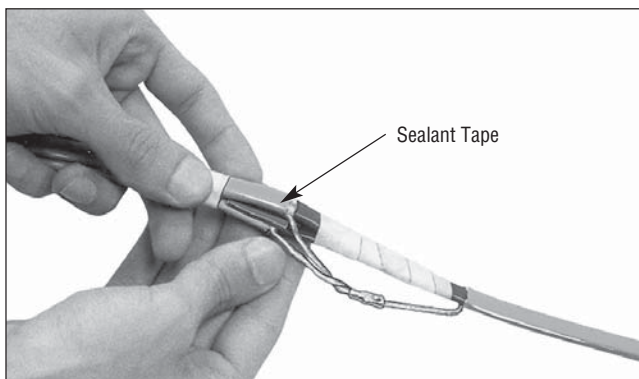


Figure 11

### 12. FOR ALL CABLE:

Slide the length of heat shrink tubing over the splice so that the barrel connectors are centered in the tubing. See Figure 12.



Figure 12

### 13. FOR ALL CABLE:

Using a propane torch or heat gun, apply heat evenly until the tube shrinks around the cable and the adhesive liner melts. Pinch both ends of the tube for 30 seconds or until cool. Both ends should remain visibly sealed when cool. If not, gently reheat and pinch again. See Figure 13.

## ⚠ WARNING

**FIRE/EXPLOSION HAZARD. In hazardous location environments (Div. 2) verify that the area is not hazardous before utilizing heat gun on heat shrink tubing. Do not overheat tube or cable. Keep the heat source moving at all times.**

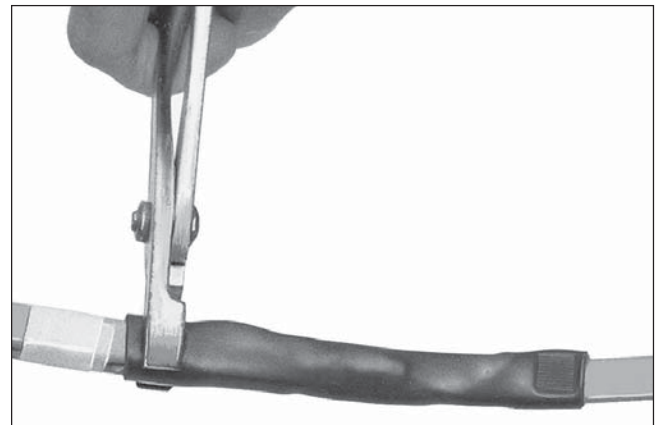


Figure 13

### 14. FOR BRAIDED CABLE (-C):

Extend the braids over the heat shrink connection. Insert the bare metal braided pigtail into the open end of the uninsulated barrel connector. Crimp using a standard crimping tool for uninsulated barrel connectors. See Figure 14.

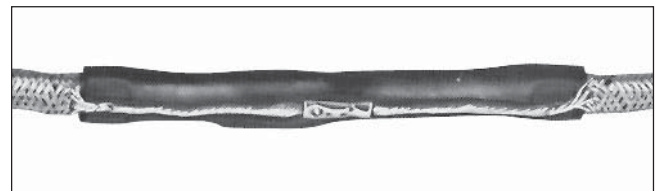


Figure 14

### 15. FOR ALL CABLE:

Secure all cables to the pipe(s). See Figure 15.



Figure 15

**Limited Warranty:**

Please refer to the Chromalox limited warranty applicable to this product at <http://www.chromalox.com/customer-service/policies/termsofsale.aspx>.

**Chromalox<sup>®</sup>**  
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