

NELSON™ HEAT TRACING SYSTEMS

ALT-BCL STANDARD POWER CONNECTION KIT

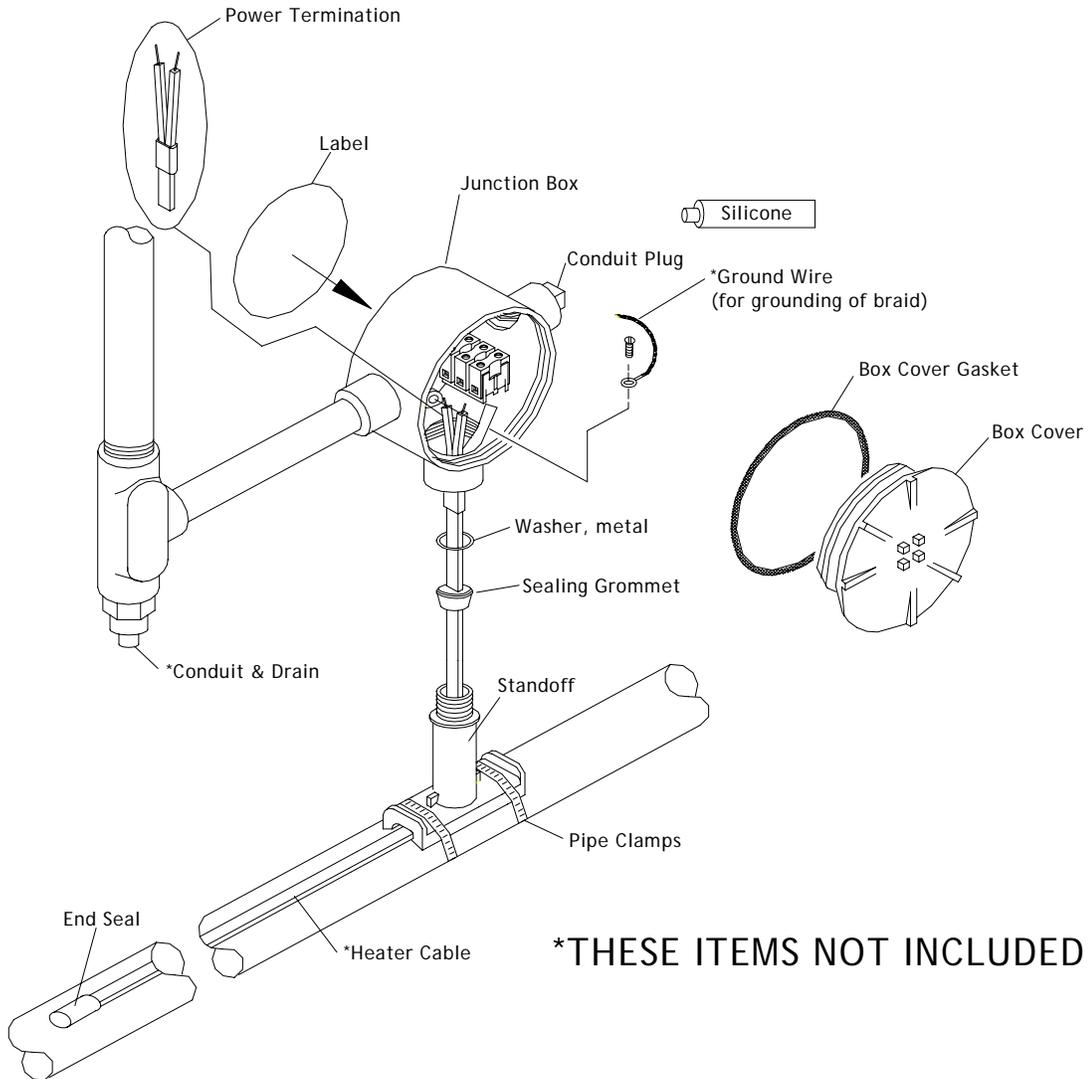
INSTALLATION INSTRUCTIONS

DESCRIPTION

The ALT-BCL Standard Power Connection Kit is constructed of cast aluminum for use with Nelson Heat Tracing Systems' LLT heater cables.

KIT CONTENTS

1 Junction Box	1 Power Termination
1 Label	1 Washer
1 Terminal Block	1 Ground Screw
1 Conduit Plug	1 End Seal
1 Sealing Grommet	2 Tubes of Silicone
1 Stand-off	2 Pipe Clamps



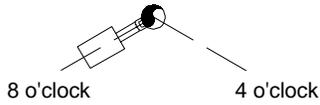
***THESE ITEMS NOT INCLUDED IN KIT.**

WARNINGS:

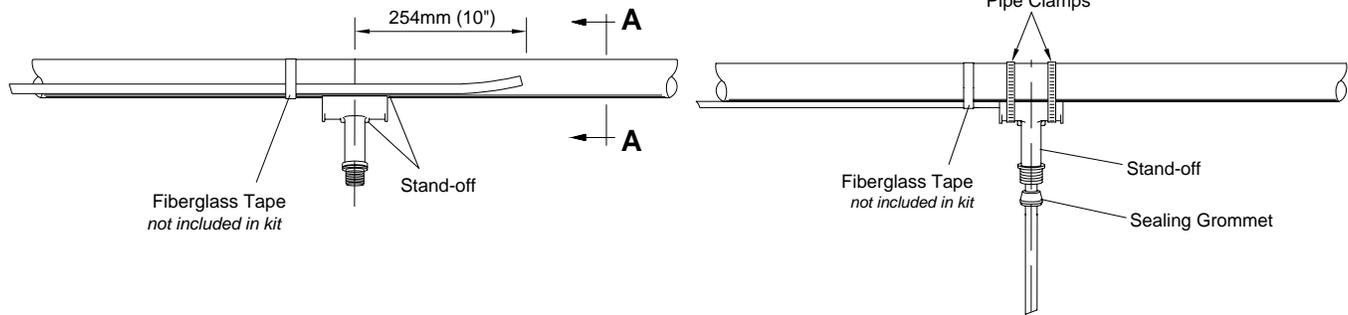
- Article 427 of the National Electric Code requires that all heaters shall have metal coverings and be provided with branch circuit ground-fault protection.
- If nuisance tripping of ground fault breakers occurs due to condensation in the junction box, electrical connections should be moisture proofed by use of a coating or sealant.

STAND-OFF POSITIONING

Section View A A
(recommend installing at the
4 or 8 o'clock positions.)



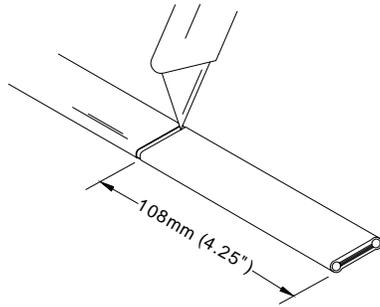
⚠ WARNING:
Do not place pipe clamps
over the heater cable.



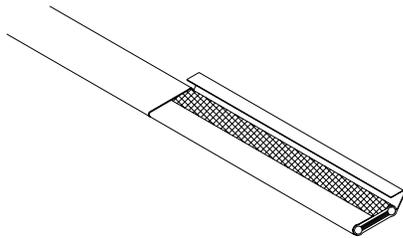
- 1 Mark pipe where stand-off will be mounted. See drawing above.
- 2 Push heater cable through bottom opening of stand-off.
- 3 Place stand-off on pipe and fasten with pipe clamps included.
- 4 Slide the sealing grommet over the heater cable and position inside stand-off opening:
- 5 Apply silicone around the heater cable on top of the sealing grommet and fill any voids in sealing grommet.
- 6 Prepare heater cable for power termination:
See sheet 3.
- 7 Terminate heater cable, see sheet 5.

OVERJACKET STRIPPING PROCEDURES

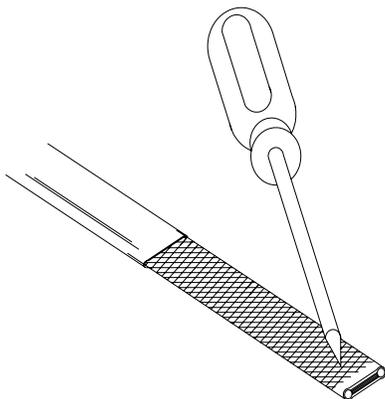
⚠ WARNING:
DO NOT CUT BRAID



- 1 Lightly cut around heater overjacket 127mm (5") from the end. Bend cable to break the overjacket.
- 2 Lightly cut overjacket up the center between first cut mark and the cable end. Bend cable to break

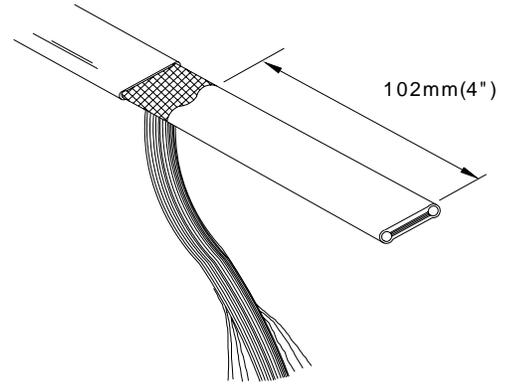


- 3 Remove overjacket from heater cable.



- 4 Using an awl or other sharp pointed device, unravel the braid from the cable. Even though most of the

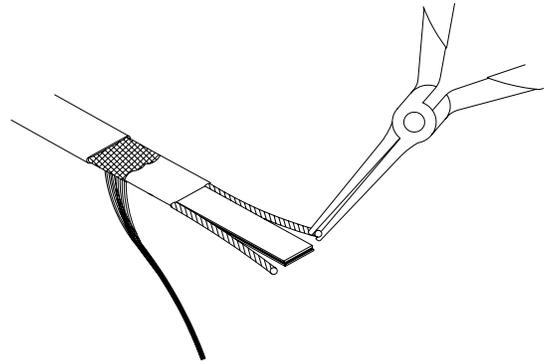
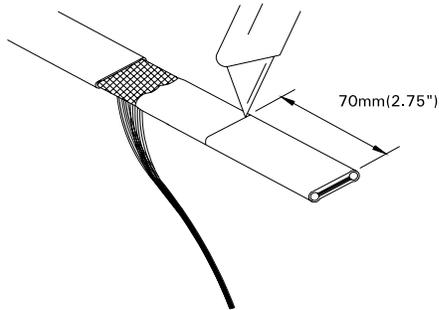
outer jacket will be removed in a subsequent operation do not puncture it with the awl.



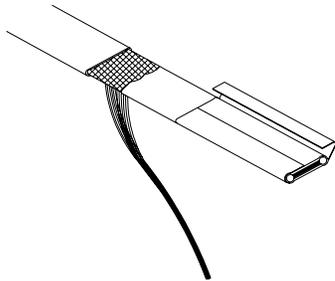
- 5 After the braid has been unraveled so that it looks similar to the illustration above pull it tight and twist the loose wires together.
- 6 Proceed to "Outer Jacket Stripping Procedures", sheet 4.

OUTER JACKET STRIPPING PROCEDURES

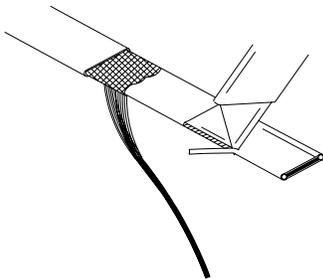
- ❶ Lightly cut around heater outer jacket 102mm (4") from the end. Bend cable to break outer jacket.



- ❷ Lightly cut the outer jacket up the center between the first cut mark & the cable end. Bend cable to break outer jacket.



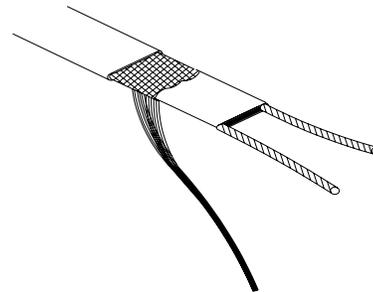
- ❸ Remove jacket from the heater cable.



- ❹ Shave core material from the outside of each bus wire.

- ❺ Starting at the end, pull each bus wire away from the core material. Do not disturb the "lay" of the wire stranding. Failure to comply will prevent installation of the power termination boot.

- ❻ Remove exposed core material.



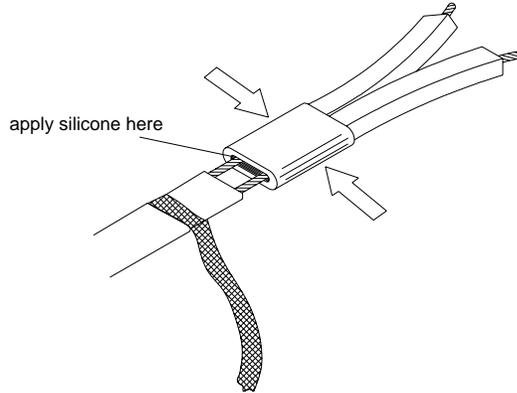
- ❼ Proceed to "Power Termination Procedures", sheet 5.

⚠ WARNING:
DO NOT CUT BUS WIRES

POWER TERMINATION

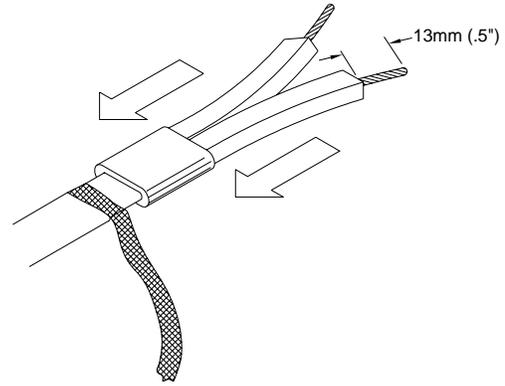
⚠ WARNING:

- Bus wires must not touch or cross while inserting into power termination.
- Only power terminations / end seals specifically approved for the vendor's style and type of heater cable must be used.



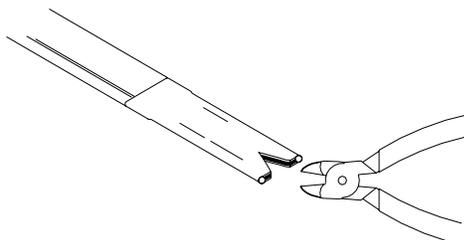
- 1 Before installing the boot, slightly cock the end of each wire away from the other and apply a small amount of silicone to the open end of the boot.
- 2 Insert bus wires into power termination (boot).

- 3 Squeeze power termination opening and fill with silicone.

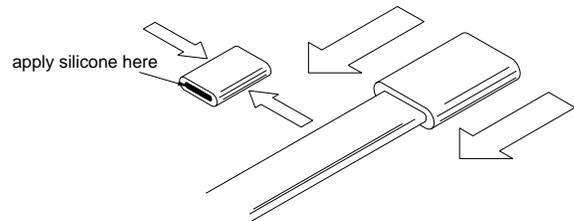


- 4 Push power termination to overlap jacket.
- 5 The silicone will set up in about 30 minutes with a complete cure after 24 hours.
- 6 Proceed to "Power Connection" on sheet 8.

END SEAL



- 1 Remove 13mm (0.5") of overjacket exposing the braid, then remove the 13mm (0.5") of exposed braid.
- 2 Make a 5mm (0.2") cut at the end of the heater cable, as shown above.

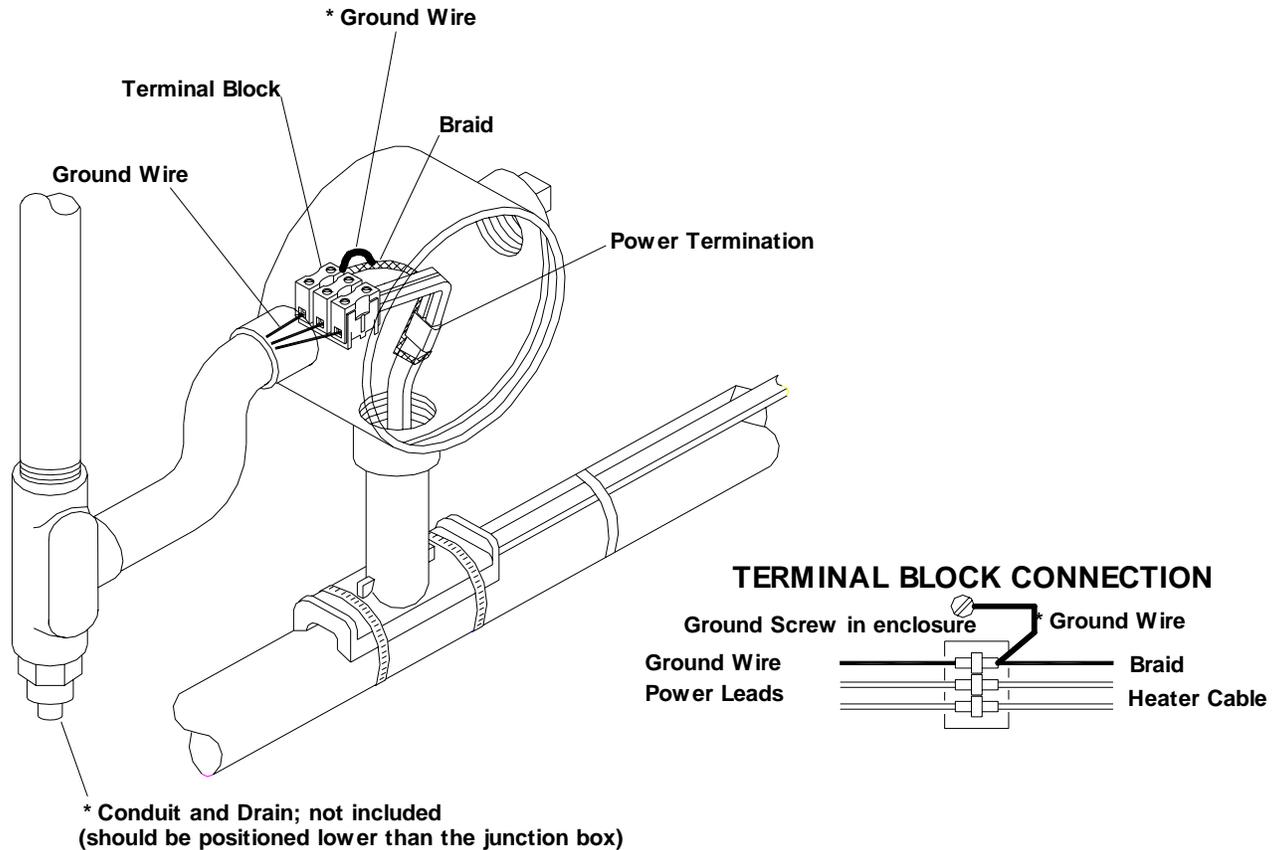


- 3 Squeeze end seal and fill with silicone.
- 4 Push end seal over the heater cable. The end seal should overlap the overjacket.
- 5 The silicone will set up in about 30 minutes with a complete cure after 24 hours.
- 6 Proceed to "Power Connection" on sheet 8

⚠ WARNING:

- Do not megger or hi-pot until silicone is completely secured.
- Braid must be kept away from bus wires or shorting will occur.

POWER CONNECTION



- 1 Slide washer over heater cable and position at the sealing grommet.
- 2 Secure junction box onto stand-off until tightly fitted. **DO NOT OVER TIGHTEN.**
- 3 Connect the power wiring and heater cable to terminal block.
- 4 Connect ground wire to terminal block inside junction box using the ground screw. *See diagram on sheet 1.*
- 5 Connect ground wire and braid to terminal block. *See diagram above.*
- 6 Apply silicone at point braid leaves the overjacket.
- 7 Push all wires, cable and terminal block inside junction box.
- 8 Install box cover gasket and box cover onto junction box.
- 9 Apply label to the smooth side of junction; fill-in the Voltage, Catalog No. & Wattage blocks on the label with the actual field installed data.

Nelson Heat Tracing Systems products are supplied with a limited warranty. Complete Terms and Conditions may be found on Nelson's website at www.nelsonheaters.com.