

## On-Site Repair Guide for Warmup DWS Model Heaters

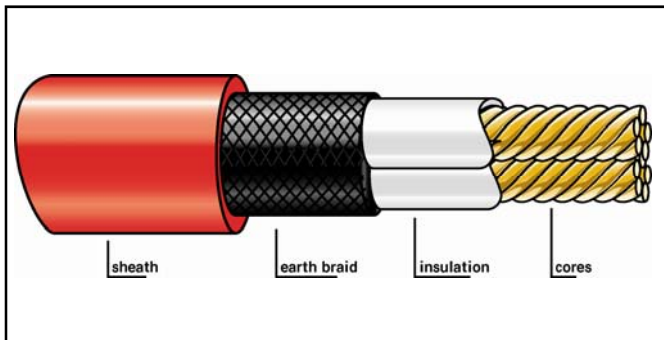
**Warranty Disclaimer:** This guide and the repair kit included have been provided by Warmup plc to aid in the repair of a Warmup DWS system damaged on-site. Warmup cannot warranty the repair or guarantee the proper function of the heating system following a repair. Warmup recommends that all repair work be carried out by a qualified electrician and conform with current IEE Wiring Regulations. For any further assistance, please contact Warmup on 0845 345 2288.

**CAUTION:** Before commencing with the repair, ensure that the heating system has been completely disconnected from the power source.

### Tools & Items Required for Repair

1. One Warmup Repair Kit consisting of:
  - 2 large pieces of heat shrink (black tube)
  - 12 small pieces of heat shrink (black tube)
  - 12 butt crimps
  - 1 length of red "bridge" wire
1. Side cutters
2. Wire Strippers
3. Heat gun
4. Crimping tool
5. Razor blade or sharp Stanley knife
6. Multimeter

### HEATING WIRE CONSTRUCTION



### TESTING OF THE HEATER DURING & AFTER REPAIR

Test the wire resistance (approximate values);

- DWS300 (blue wire) should read 176 ohms
- DWS400 (clear wire) should read 132 ohms
- DWS600 (grey wire) should read 88 ohms
- DWS800 (red wire) should read 66 ohms

Do not tile if the heater does not pass all the above tests. There may be a problem with new joint or additional wire breaks. Contact Warmup on 0845 345 2288 for further assistance.

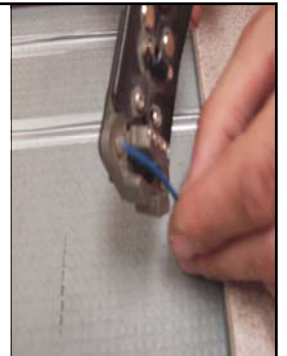
**1**

Use side cutters to remove any damaged heating wire.



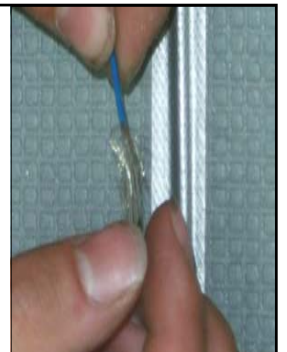
**2**

Use the wire strippers or Stanley knife to carefully remove approximately 50 mm of the outer sheath to expose the earth braid on both ends of the wire cut.



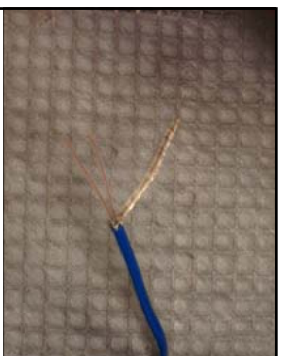
**3**

Unravel the earth braid on both ends of the wire.



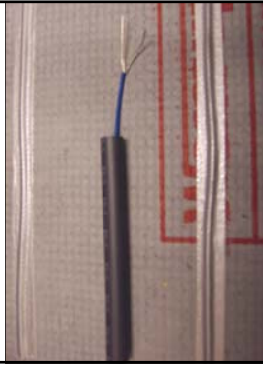
**4**

Twist the earth braid.



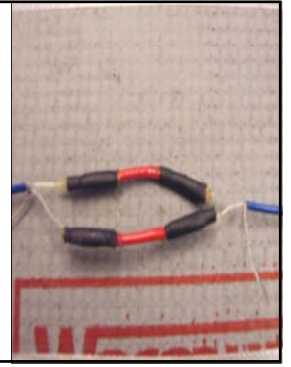
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Slide one piece of the large black heat shrink over one end of the wire.



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Slide the pieces of small heat shrink over the butt crimps so that any bare metal is covered. Shrink the heat shrink using a heat gun.



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On both ends of the cut wire, use the wire strippers or Stanley knife to very carefully strip off approximately 7 mm of the insulation covering the both the heater cores.

**It is critical not to damage the heating wire core.**



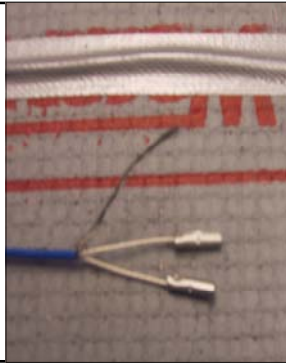
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Attach a butt crimp to either end of the earth braid using a crimping tool.



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Attach a butt crimp to either end of the heater cores using a crimping tool.



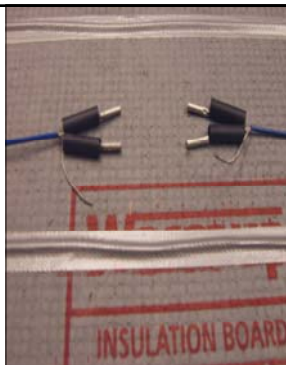
12

Slide one small piece of heat shrink over both sections of exposed earth braid. Cut a section of the "bridge" wire provided to a length suitable to replace the wire removed from the heating element. Strip 10 mm from either end of this wire into the butt crimps located on the ends of the earth braid and crimp using the crimping tool.



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Slide one piece of the small heat shrink over each end of the heating elements up to the earth braid.



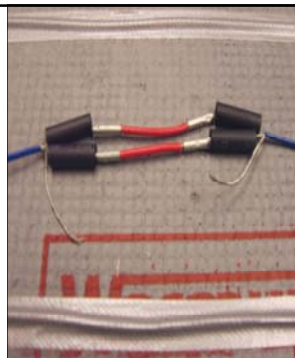
13

Slide the pieces of small heat shrink over the butt crimps so that the entire crimp is covered. Shrink the heat shrink using a heat gun.



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Cut a section of the "bridge" wire provided to a length suitable to replace the wire removed from the heating elements. Strip 10 mm from either end of this wire and fit these ends into the butt crimps located on the ends of the core wire and crimp using the crimping tool. Test the resistance of the heater



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Slide the large pieces of heat shrink over the small heat shrink and apply the heat gun. Allow the new joints to cool, test resistance of the heater and then tile as normal.

