NTE
ELECTRONICS, INC.

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When replacing thermal cut-offs, the following precautions should be observed.

1. **Proper identification of part to be replaced.** It is very important to determine the correct cut-off temperature from any information available. The original device may be marked with a part number, a cut-off temperature in Celsius or Fahrenheit, three resistor-type color bands (starting at seal end, bands represent opening temperature in degrees C) or any combination of these three markings.

   Frequently the last three digits of the part number are the same as the cut-off temperature in either Fahrenheit or Celsius. The table below lists Celsius to Fahrenheit temperature conversions for your reference. When replacing a thermal cut-off with a trip temperature less than 120°C, the replacement should have a trip temperature within 4°C of the original device. If the original device has a trip temperature greater than 120°C, the replacement should be within 8°C of the original device.

**°C to °F TEMPERATURE EQUIVALENTS**

| °C | °F | °C | °F | °C | °F | °C | °F |
|---|---|---|---|---|---|---|---|
| 60 | 140 | 95 | 203 | 140 | 284 | 210 | 410 |
| 65 | 149 | 100 | 212 | 150 | 302 | 220 | 428 |
| 70 | 158 | 105 | 221 | 160 | 320 | 230 | 446 |
| 75 | 167 | 110 | 230 | 170 | 338 | 240 | 464 |
| 80 | 176 | 115 | 239 | 180 | 356 | 250 | 482 |
| 85 | 185 | 120 | 248 | 190 | 374 | | |
| 90 | 194 | 130 | 266 | 200 | 392 | | |

**NOTE: A THERMAL CUT-OFF CAN FAIL IF ONE OR MORE OF THE FOLLOWING PRECAUTIONS ARE NOT TAKEN.**

1. Cracked or broken end seal due to improper lead bending.
2. Compression of the end seal lead during installation that could reestablish continuity with the case after tripping.
3. Damaged case caused by clamping during the replacement operation.
4. Improper soldering which can partially melt the thermal pellet and reduce the expected life of the thermal cut-off.

## 2. REPLACEMENT TECHNIQUES

The replacement thermal cut-off should have the same lead positioning as the original part to maintain proper heat flow characteristics.

To protect the epoxy seal, the leads must be straight for at least 1/8" at both ends of the case. With that one restriction you can recreate virtually any lead configuration you need. If necessary, support the leads near the seal with a hand tool such as pliers or a bending fixture.

Thermal cut-off leads can be soldered using a heat sink between the device body and the point of connection as shown below.

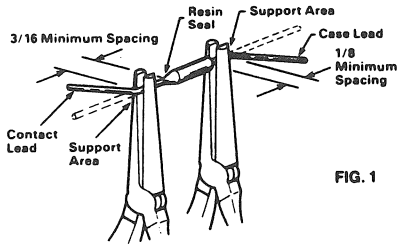


FIG. 1

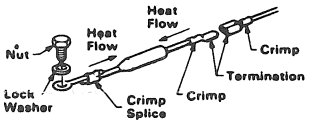


FIG. 2

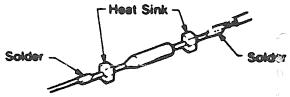


FIG. 3