Pyrometer Gauge

Check Thermocouple Output
1. With power off disconnect thermocouple leads from wire harness that goes to amplifier box.
2. Using a multimeter on the resistance setting check thermocouple resistance at the red and yellow wire. Resistance should less then \(1\)\( \Omega \).
3. With the multimeter still connected, move the thermocouple wire harness. Resistance should still be less than \(1\)\( \Omega \). If resistance measures higher then \(1\)\( \Omega \) this could be the problem.
4. Using a multimeter on the millivolt setting check thermocouple output.
5. Make sure the thermocouple is at room temperature
6. This is the output for the thermocouple.

<table>
<thead>
<tr>
<th>INDICATION, °F</th>
<th>300°F</th>
<th>*600°F</th>
<th>*900°F</th>
<th>*1200°F</th>
<th>1500°F</th>
<th>1800°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPPLIED VOLTAGE, mV</td>
<td>5.14</td>
<td>11.91</td>
<td>18.94</td>
<td>26.03</td>
<td>32.98</td>
<td>39.67</td>
</tr>
<tr>
<td>INDICATED TOLERANCE</td>
<td>±45°F</td>
<td>±45°F</td>
<td>±45°F</td>
<td>±45°F</td>
<td>±45°F</td>
<td>±45°F</td>
</tr>
<tr>
<td>POINTER DIRECTION</td>
<td>ASCENDING</td>
<td>ASCENDING</td>
<td>ASCENDING</td>
<td>ASCENDING</td>
<td>ASCENDING</td>
<td>ASCENDING</td>
</tr>
</tbody>
</table>

7. If the thermocouple output is at 1mV or less then start the engine and check to see if the thermocouple output increases.
8. Use the thermocouple output chart to see if the thermocouple output matches the temperature of the manifold or exhaust pipe.
9. If multimeter measures a low output the thermocouple could have a problem.

Check Gauge Resistance
1. With power off disconnect the four wire connector from wire harness that goes to amplifier box.
2. Check wires on studs to make sure wire colors match labels on studs.
   Green (GN) and Yellow (Y) and Gray (GY) and White (W)
3. Using a multimeter on the resistance setting check gauge resistance.
4. Connect multimeter leads across studs label green (GN) and yellow (Y).
   Resistance should measure around \(82\)\( \Omega \)
5. Connect multimeter leads across studs label gray (GY) and white (W).
   Resistance should measure around \(75\)\( \Omega \)
6. If multimeter measures open in either pair the gauge could have a problem.

Check Amplifier Box
1. With power off disconnect thermocouple leads from wire harness that goes to amplifier box.
2. Make sure the four wire connector going to the gauge is connected.
3. Turn power to gauge on.
4. Using a multimeter on the voltage setting check voltage at the gauge.

<table>
<thead>
<tr>
<th>Green(+) / Yellow(-)</th>
<th>Thermocouple Output</th>
<th>Gray(+) / White(-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 Volts</td>
<td>Open</td>
<td>0.8 Volts</td>
</tr>
<tr>
<td>#</td>
<td>2.0 Volts</td>
<td>2.2 Volts</td>
</tr>
<tr>
<td>#</td>
<td>-.9 Volts</td>
<td>2.5 Volts</td>
</tr>
</tbody>
</table>

# Connect thermocouple for this measurement.