

# EV Product Line Trouble Shooting Steps

## 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 1Ω.
3. With the multimeter still connected, move the thermocouple wire harness. Resistance should still be less then 1Ω. If resistance measures higher then 1Ω 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.

INDICATION, °F	300°F	*600°F	*900°F	*1200°F	1500°F	1800°F
SUPPLIED VOLTAGE, mV	5.14	11.91	18.94	26.03	32.98	39.67
INDICATED TOLERANCE	±45°F	±45°F	±45°F	±45°F	±45°F	±54°F
POINTER DIRECTION	ASCENDING	ASCENDING	ASCENDING	ASCENDING	ASCENDING	ASCENDING

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 mutlimeter 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 82Ω
5. Connect multimeter leads across studs label gray (GY) and white (W).  
Resistance should measure around 75Ω
6. If mutlimeter 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.

	Green(+)/Yellow(-)	Thermocouple Output	Gray(+)/White(-)
	2.5 Volts	Open	0.8 Volts
#	2.0 Volts	300°F	2.2 Volts
#	-.9 Volts	600°F	2.5 Volts

# Connect thermocouple for this measurement.