

Troubleshooting Cad Cell and Relay

The equipment for checking cad cell and relay

- **Voltmeter**
- **1,500 ohm resistor**
- **Insulated jumper wires**
- **Ohmmeter**
- **Flashlight**

Troubleshooting a Cad Cell

1. While the burner is operating, disconnect the cad cell leads at the primary control. The burner should stop in less than 90 seconds. If it does not, either the cad cell or the leads are defective and should be replaced.

2. After the burner shuts off. Allow two minutes to pass and measure the resistance across the cad cell leads with an ohmmeter. The reading should be more than 1000,000 ohms. If the reading is lower, light is leaking into the sensing area and the problem should be corrected.

3. Turn the switch off. Jumper across FF terminals on the relay and turn switch on. The burner should not start; if it does the primary control should be replaced.

4. With the burner operating, place the leads of an ohmmeter across the cad cell leads and record the resistance. It should not exceed 1,600 ohms; if it does the cad cell is either dirty or defective

Troubleshooting a Relay if the burner starts and then locks out

- 1. Check for line voltage at the black and white wires. Turn off switch***
- 2. Disconnect one thermostat lead from T-T and place jumper across T-T terminals***
- 3. Disconnect the cad cell leads from F-F terminals. Connect one lead from a 1,500 ohm resistor to one of the F-F terminals. This simulates a cad cell sensing light***
- 4. Turn on the switch and quickly touch the other end of the resistor to the remaining F-F terminal***
- 5. If the primary locks out with the resistor across F-F terminals, the primary is defective. If it does not lock out with the resistor in place, the primary is functioning***