

FIELD SERVICE BULLETIN

Subject: Heater Circuit Troubleshooting

1. If oven is not heating, first check temperature control heater, OP1 or OUT light. Light should be on for the oven to heat up. If light is not on, refer to control manual for further troubleshooting.



2. Check high limit safety. The OP1 or OUT light should not be on. If light is on, reset high limit and test oven again.



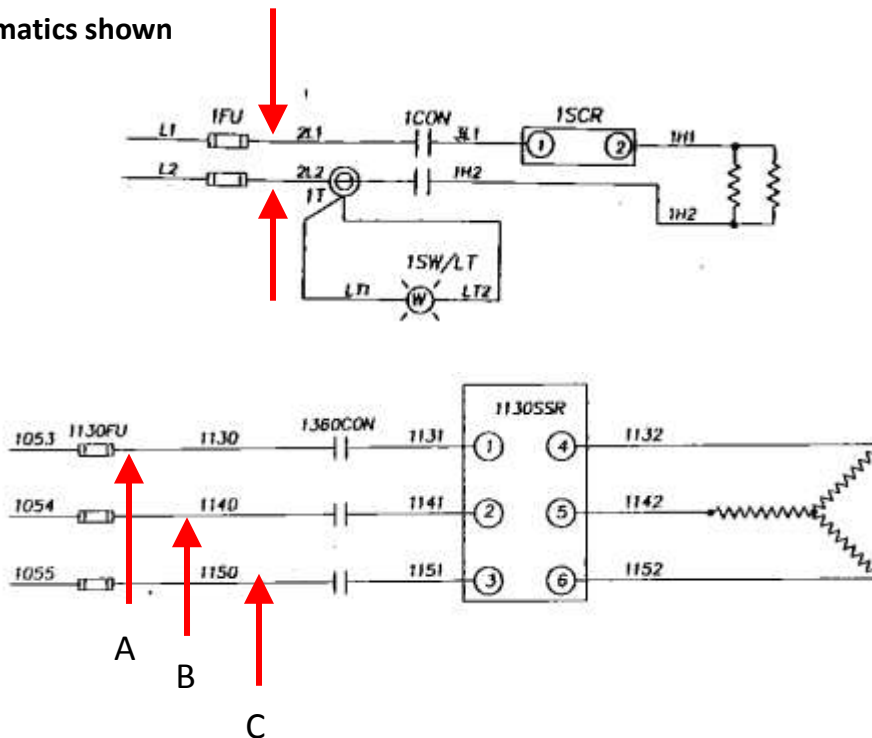
Warning: The following troubleshooting steps must be performed by a qualified electrician or electrical technician that has been trained on electrical safety and personal protection equipment.

Warning: Turning the power switch off on the oven DOES NOT de-energize the control circuit. Remove power from oven to de-energize the circuits.

3. If control and high limit are operating properly, locate the Fuses, Backup contactor, and SSR relay in the control compartment.
4. Verify that the fuses are Ok by removing them and checking for continuity or measure the voltage on the fuses from the contactor side of the fuses – fuse to fuse (should be incoming line voltage).

For 3 phase ovens, you must measure all three combinations (A-B, B-C, C-A).

Typical schematics shown

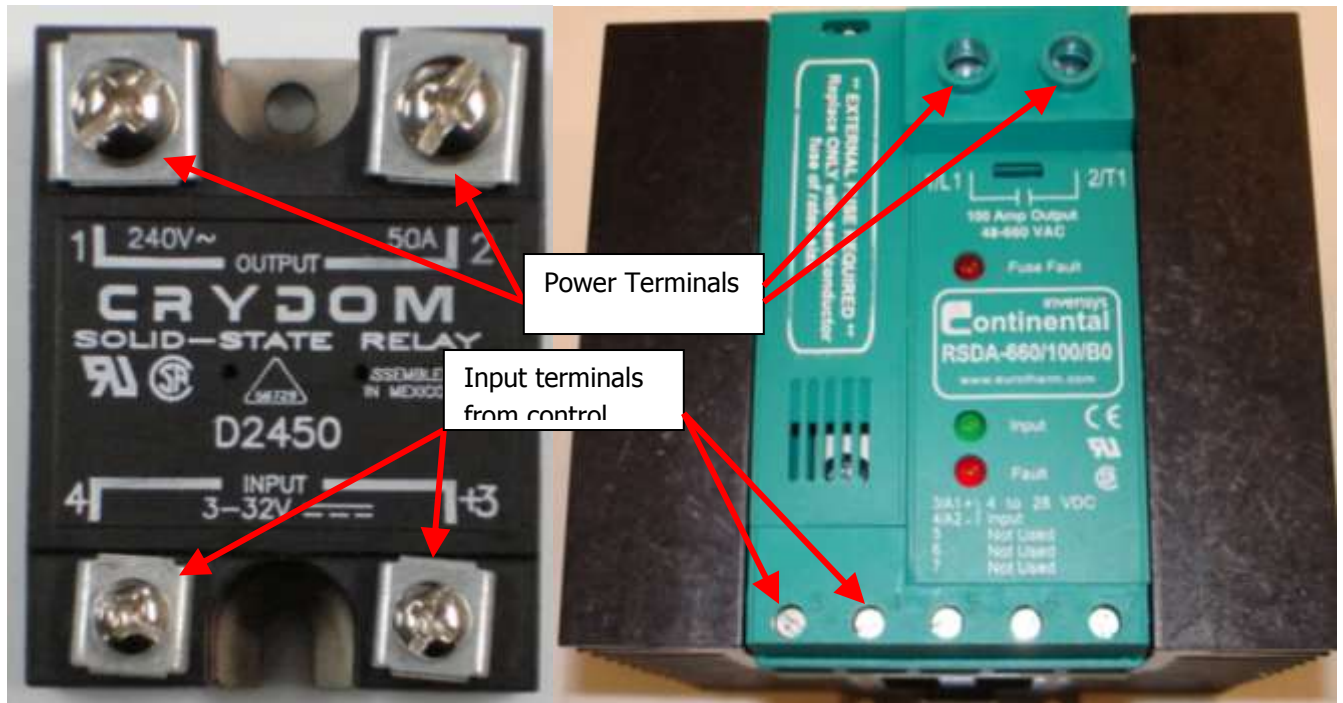


All voltage measurements must be made line to line and not line to ground as line to ground will provide a false reading.

5. If the fuses are good, then verify that the backup contactor is energized and pulled in. If the contactor is not energized, you need to check the safety circuit items such as airflow switches, purge timers, etc.
6. Measure the contactor contacts from the SSR side - terminal to terminal (should be incoming line voltage) For 3 phase ovens, you must measure all three combinations.

7. If there is voltage out of the contactor, then measure the input signal voltage to the SSR relay(s). Voltage should typically be between 8 and 20 volts DC. Check to make sure the polarity is correct. Positive must be on terminal 3. If there is no DC voltage on terminals 3 and 4 check the temperature controller.

Typical SSR Relays shown



8. Measure the AC voltage on the terminals 1 and 2 (1L1 and 2/T1) as this should be zero volts. If there is a partial voltage or line voltage then the SSR needs to be replaced.
9. If the SSR is Ok, check the heater with the power off to the oven. For single phase ovens, if you measure the ohmage and it is infinite or open, then you need to visually look at the heater to determine the problem.
10. For 3 phase ovens, the ohmage for all three combinations should be approximately the same. If they are uneven or open, then you need to visually look at the heater to determine the problem.