Kilns

- Troubleshooting
- Expected performance

Troubleshooting

Disclaimer

Do not perform troubleshooting without approval from the Board.

Manuals

Bartlett V6-CF Manual.pdf (Jill - Blue kiln)

Common symptoms for troubleshooting

- Firing duration is weirdly high
- Pieces are being fired inconsistently (some are over-fired, others under-fired, within the same firing)

If you think something is going wrong in the kiln, check the relays first!

Relays

1. Disconnect power from the kiln
2. Note the wiring (take photos)
3. Remove the relays individually, testing them on the bench power supply
    1. 3 terminals will receive power
    2. Connectivity when power is supplied should be present through the remaining sets of terminals
    3. Verify the relay pinouts to be sure on which terminals are used
4. Ensure all spade connections are tightly coupled. It should require fairly significant effort to disconnect the relays. Tighten with pliers as needed.

After replacing needed relays:

1. Run a test fire
2. At approximately 100 degrees Celsius, do a paper/heat test on each element to confirm operation

Kiln elements

1. Verify that the thermocouples look okay, not damaged, and no pieces or shelves are too close (this could cause a false positive).

2. Disconnect power from the kiln
3. Open the front control panel
4. Note the wiring (take photos)
5. Remove the screw terminal connectors which attach to the elements
6. Using a multimeter, record the resistance of all 6 elements
7. If any of the 6 elements are more than 10% out of spec, replace all elements (values are recorded below)

Replacing elements:

1. TODO

After replacing the elements:

1. Run a test fire
2. At approximately 100 degrees Celsius, do a paper/heat test on each element to confirm operation

Jill (blue coneart) expected resistance values

Element	Nominal	In spec range
1 (top)	14.2 Ohms	12.78 - 15.62 Ohms
2	17.9 Ohms	16.11 - 19.69 Ohms
3	17.9 Ohms	16.11 - 19.69 Ohms
4	17.9 Ohms	16.11 - 19.69 Ohms
5	17.9 Ohms	16.11 - 19.69 Ohms
6 (bottom)	14.2 Ohms	12.78 - 15.62 Ohms

Expected performance

This page is a work in progress.

Each of the kilns has an "expected" runtime and temperature behaviour. These characteristics are recorded below. If the real world values start to drift from these expected values, perform Troubleshooting.

Jill (blue coneart)

TODO

Jack (red skutt)

TODO