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Bisque and Glaze-Firing in the Programmable L&L Electrics

A Few Things to Remember Before Starting Your Kiln:

- Make sure you have signed up for a kiln, and that you are loading the one you signed up for.
- Always preheat/candle with the lid/door propped open as described below. If you can't be here to close it at the end of the preheat period, find someone else who can do it for you.
- Leave the top spy hole open during all firings.
- Turn on vent hood whenever you start an electric firing. The switch is on the wall next to Big Blue.
- When loading the kiln, make sure shelves are not close to or touching the thermocouple tubes. Any contact will cause inaccurate thermocouple readings and the kiln may not reach temperature.
- Always try to fire a fully-loaded kiln. To fill out your kiln load, take work off of the carts, especially beginning and intermediate work. Find friends to fire with and fill the kilns.
- Always inspect your kiln before loading, especially looking for bisque or glaze chips in element-support channels (vacuum out if you see any), and report any damage or mess.
- Always clean your kiln thoroughly after unloading, including vacuuming any debris from bottom of kiln and from element-support channels.

Anatomy of the L&L "Easy-Fire" Control Panel

- **Power Switch:** toggle switch on the left side of the control box.
- **Status Panel:** next to start/stop button, tells you what you are entering/has been entered, must read IDLE before you can program the kiln. Push start/stop until it blinks IDLE and numbers (the temperature).
- **"Start/Stop" button:** Top left, next to status panel. You will push this to clear the status panel, to start the firing after entering your firing program, and to stop the firing manually if you have any reason to do so.
- **"Slow Bisque" button:** top button on the right.
- **"Slow Glaze" button:** two buttons below the slow bisque
- **"Enter" button:** located at the bottom of the number panel – push after each programming stage.
- **"Preheat" button** - below the "Enter" button.
- **"Review Program" button:** To left of the numbers, under the "vary fire" section.

Propping Open the Kiln Lid/Door During Bisque-Firing

- For the preheat period in the toploader electric kilns, the lid is closed resting on a piece of softbrick (never hardbrick or kiln-shelf shims) placed directly at the front of the lid below the handle, making an opening of at least 2 ½" at the front of the lid. Do not preheat with less of an opening
- For the preheat period in the big L&L frontloader, prop a piece of softbrick to depress the micro-switch lever on the right-hand side of the door opening, and leave the door open six inches.

Entering a Bisque Program

1. If the **Status Panel** does not show "idle" flashing alternately with the current kiln temperature, press **"START/STOP"** button to clear the status panel. You cannot program the kiln unless the **Status Panel** is blinking "idle" and the current kiln temperature.
2. Press **"SLOW BISQUE"** – "S-bc" shows in **Status Panel**.
3. Press **"ENTER."**
4. In the **Number Panel**, key in the cone you wish to fire to. We normally bisque-fire to cone-08.
5. Press **"ENTER."**
6. **"HLD"** (hold) and **"00.00"** will be blinking in the **Status Panel**. Do not enter any hold period for a bisque-firing.
7. Press **"ENTER"**
8. Press **"PREHEAT"** button. **"00.00"** will show in Status Panel.

Entering a Bisque Program, Continued

9. In the **Number Panel**, key in the number of hours you want to preheat/candle to dry out the work. For a bisque-firing, this is no less than 4 hours for very dry, thin work, and no more than 12 hours for damp or thicker work. Example: a readout of **"04.00"** is a preheat of 4 hours, and a readout of **"00.40"** is a preheat of 40 minutes.
10. Press **"ENTER."**
11. **"CPL"** (complete) and the current kiln temperature will blink in the **Status Panel**, indicating that the programming is complete. The firing will not begin until you press the **"START"** button, but first you should review the programming.
12. Press **"REVIEW PROG"** button. The **Status Panel** will cycle through your settings, allowing you to ensure that everything was correctly entered. If you notice something wrong, go back to step #1 and reprogram the firing.
13. If correct, push **"START"** – **Status Panel** should read **"ON."**
14. Listen for the clicking of the relay switches. This means the kiln is beginning the firing process.
15. Return to shut the lid of the kiln before the preheat time runs out.
16. Once the firing is complete, **"CPL"** will be flashing on the **Status Panel**. In a bisque-firing you can raise the lid a bit and set it on a piece of softbrick when the temperature reads below 450°F. You may open the lid completely when the temperature is 250°F or less.
17. Remove work and kiln furniture and shelves except for the bottom layer of shelves. Return the shelves and furniture to their appropriate homes in the shelving units against the wall. Posts are placed by length and the spaces for them are marked. Shelves live in the cabinet with vertical slots. Always put the half-round shelves in the slots with the long straight side facing outwards. Vacuum out any debris from exploded work out of the kiln and especially the element channels.

Entering a Glaze Program

1. Press **"SLOW GLAZE."** **"S-GL"** shows in **Status Panel**.
2. Press **"ENTER."**
3. Enter the target cone using the **Number Panel** – cone-04 for low-fire glaze, cone-6 for midrange.
4. Press **"ENTER."**
5. **"HLD"** and **"00.00"** will blink in the **Status Panel**. This function programs a holding or soaking period at the target temperature. We generally do a hold of 45 minutes to one hour in the glaze firing to smooth out the glazes and eliminate flaws, primarily by eliminating bubbles from the glaze. Example: **"01.00"** is a hold of hour, and **"00.45"** is a hold of 45 minutes. Key in the desired hold period in the **Number Panel**.
6. Press **"ENTER."**
7. Press **"PREHEAT"** button. **"00.00"** shows in **Status Panel**.
8. Key in the desired preheat period in the **Number Panel**. Usually 1 hour (**"01.00"**) is sufficient to dry the glaze. You do not need to have the lid propped up for this preheat. Leave the top spy open throughout the firing.
9. Press **"ENTER."**
10. **"CPL"** and the current kiln temperature will blink in **Status Panel**.
11. Press **"REVIEW PROG"** to cycle through settings in the **Status Panel** and ensure that you have entered the correct steps. If you notice something wrong, go back to step #1 and reprogram the firing.
12. If the programming is correct, press **"START."** The **Status Panel** should read **"ON."**
13. Listen for the clicking of the relay switches, indicating that the kiln is beginning the firing process.
14. Once the firing is complete as indicated by **"CPL"** blinking on the **Status Panel**, you can crack the lid of the kiln when the temperature reads below 450°F. You may open the lid completely when the temperature is 250°F or less.

15. Remove work and kiln furniture and shelves except for the bottom layer of shelves. Return the shelves and furniture to their appropriate homes in the shelving units on the wall. Posts are placed by length and the spaces for them are marked. Shelves live in the cabinet with vertical slots. Always put the half-round shelves in the slots with the long straight side facing outwards. If glaze is stuck to the shelf, clean it off with the grinding stone that lives in the shelving with the posts. If it is a major glaze run, use the hammer and chisel and/or angle grinder, but seek instruction if you have not done this.