

Taking the Mystery Out of Your Kiln

by Arnold Howard

Imagine that your kiln has stopped working, and you are trying to find out why by looking at the wiring diagram. Note that trying to diagnose your kiln is not something you want to do when you are tired. Get rested. Drink coffee if necessary.

- **First, unplug the kiln or disconnect the power.** Open the switch box or control panel of your kiln by removing the screws that hold it in place. Prop the switch box so you can see inside without having to hold it upright. Lean the box so that none of the wires are strained and pulled taut.

- **If you don't have a wiring diagram, look for it in your kiln instruction packet or go online to the manufacturer's website to print it.** Get comfortable before you begin looking at the wiring diagram. If the kiln is at table height, find a chair. If it's on the floor, sit cross-legged. Do not crouch uncomfortably. Place a work light nearby and have colored pens on hand. Good lighting and being comfortable are essential.

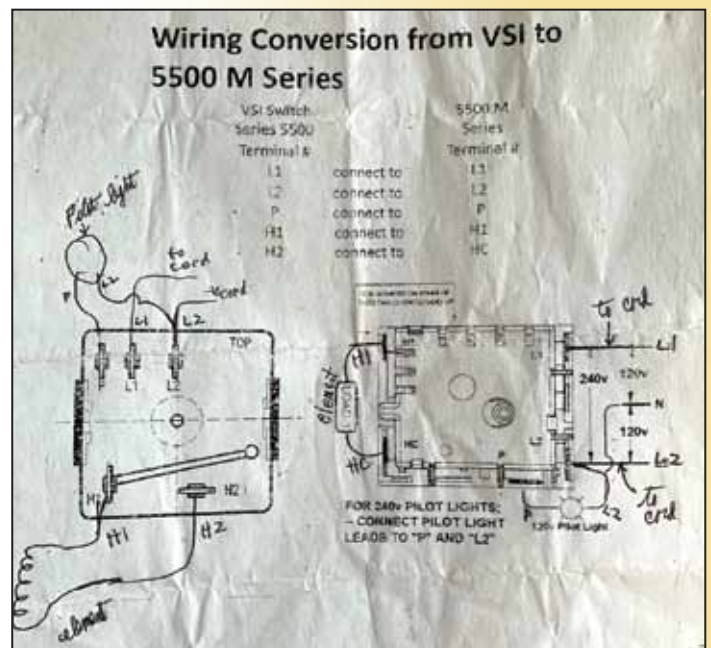
- **Once you are comfortable, take your time looking at the wiring diagram.** Look from the diagram to the wires inside the switch box, then back to the diagram. At first the wires will be confusing, but the longer you look at them, the easier you will see the logic behind them.



In this kiln, banks of roof, door, and wall elements were controlled by a combination of relays and switches. I had to take my time examining one wire at a time on this kiln. Then everything began to make sense.



If you have to reach past lots of wires to replace a part, do not disturb the wires that are in the way. It may help to label parts as shown here.



Write notes on the instruction sheet and draw labels on the parts. In this example, I held switches next to the diagrams on the instruction sheet to compare them. Any time a diagram looks complicated, compare it with an actual part.

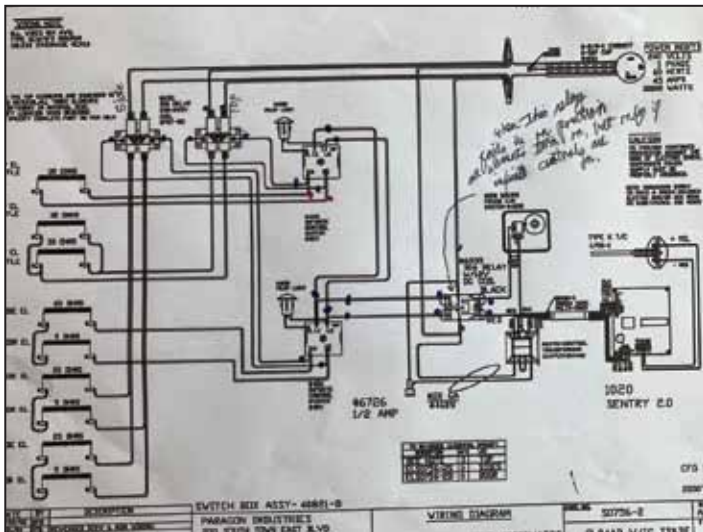
- As you look at the switch box, find the switches, relays, and other parts that are shown in the wiring diagram. One by one, examine a part and check each wire that is connected to it. Make sure the connections are tight at both ends of each wire. One time I just touched a wire, and it fell off a relay from underneath a loose screw.

- Tighten connections, if necessary, crimping new terminals to wires. As you check each wire connected to the part, check the other end of that wire to be sure it is connected properly at both ends. The wiring diagram will show you where the other end of each wire goes.

- After you examine both ends of a wire, find that wire on the wiring diagram. Place a colored dot at each end of the wire on the diagram. After you finish checking the wires on one part, move on to the next part.

- If it's difficult to reach into a switch box to change a part because the wires are in the way, slow down. Imagine you are a surgeon and the wires are delicate and cannot be disturbed. You must take your time.

GPO



Place a colored dot at each of the wires in your wiring diagram after you check the connections. Write notes on the diagram as I have done here.

Since 1977 when Arnold Howard began working at Paragon Industries, he has seen kiln controls evolve from switches to touch screen displays. He helped test the early glass kilns and wrote Paragon instruction manuals, newsletters, and advertisements.



Arnold has taught kiln classes at trade shows, Bullseye Glass in Portland, Oregon, and in Australia and England. He started Howard Kilns, a repair and kiln sales business, in September 2019. Arnold works on all brands. Feel free to contact him at arnoldhoward@gmail.com or (972) 333-1437.

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