

Kiln Corner

How to Keep Your Kiln Alive

by Arnold Howard

When you replace parts such as relays, check the other components of the kiln while the switch box is open. Look for damaged terminals and wires. Take the time to do preventive maintenance when you replace parts.

Loose Terminals Destroy New Relays

This week, after I worked on kilns in Midland and Dallas, a university maintenance supervisor in Dallas phoned me as I was driving toward San Antonio. "Could you stop by and look at a kiln?" she asked. "It needs a new controller, because it keeps getting error messages." Since I was still in Dallas, I headed toward her school. When I arrived, the art teacher said, "That kiln hasn't worked in years." She showed me two relays that had just been replaced. Even with new relays, the kiln last fired only to 1100°F/593°C. I opened the switch box, and another new relay had already failed. The wires attached to the relays were marked with colored tape from previous repairs. All the push-on terminals pulled off easily. Loose terminals destroy new relays, so I replaced the wires and terminals. The old ones were many years old. I also replaced the terminals on the power strip. You can tighten loose push-on terminals with pliers, but that is often only a temporary repair. Loose terminals have usually lost their spring tension.

Don't use wires and terminals from auto or hardware stores. Spend the extra money on parts from your kiln manufacturer. Factories have spent a lot of time researching the best materials for the high heat of kilns. Take advantage of that knowledge.

Check Thermocouple Screws

Whenever you open the switch box of the kiln for any reason, gently tug on the thermocouple wires at the oval connection block to be sure they are tight. In this photo, one of the wires came out because it was broken under the mounting screw. Check to be sure the four screws in the thermocouple mounting block are tight. Usually, unless they are factory-installed, thermocouple screws are loose. This can cause erratic temperature errors.

Other Components to Check

Replace rusted screws. Take one with you to a hardware store so you can match it. Keep extras on hand. Visually check the condition of the cord set and the wall receptacle. If the plug pulls out easily, have an electrician replace the receptacle.

Check the lid spring assembly. Replace severely rusted springs and damaged lid hardware. One time while I was at a high school, a kiln lid came crashing down because the stainless steel support that goes over the lid was bent.

When you have the switch box open, visually check the element connectors. Push element pins back into place if necessary. Remove glass from kiln walls, floor, and element grooves. Glass and debris in the grooves can ruin elements.

Two days after I worked on the university kiln, the teacher texted, "Hi Arnold, my grad student says the kiln is cooling, no error code. Great!" I will stay in touch with her to be sure the kiln is still firing. I am determined to show that a 20-year-old kiln can still be reliable.

GPQ



Loose relay wires.



Broken thermocouple wire.

Arnold owns Howard Kilns, LLC, a kiln repair and sales business. He travels between Dallas and San Antonio, working on all brands of electric kilns. While Arnold worked at Paragon Industries, he saw glass kilns evolve from manual switches to digital touch screens, and he wrote the Paragon kiln instruction manuals. arnoldhoward@gmail.com / 972-333-1437



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