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Thursday, May 1, 2014

—*RAKO STUDIOS*—

## Water heater thermocouple

**A cold shower means the thermocouple in my water heater had given up the ghost.**



I went to shower one day before work, and there was no hot water. There were showers at work, but I have learned to handle things as they occur. So I called in a personal day. Then I went on Google and Yelp and found a plumber. I called him and he said he could get to the house at 3:00 PM. And like always, I had to be around all afternoon to wait they had a four-hour window. OK, fine, I booked it.

My dad had told me about cleaning the thermocouple capsule to get heaters working. I sanded this one clean, but no change. Since I had until 3:00 PM. I checked Home Depot website and they had a "Universal replacement". Picked it up at the store. The picture time-stamps show I started at 11:49 AM and finished by 1:19 PM. I called the plumber and canceled the appointment.



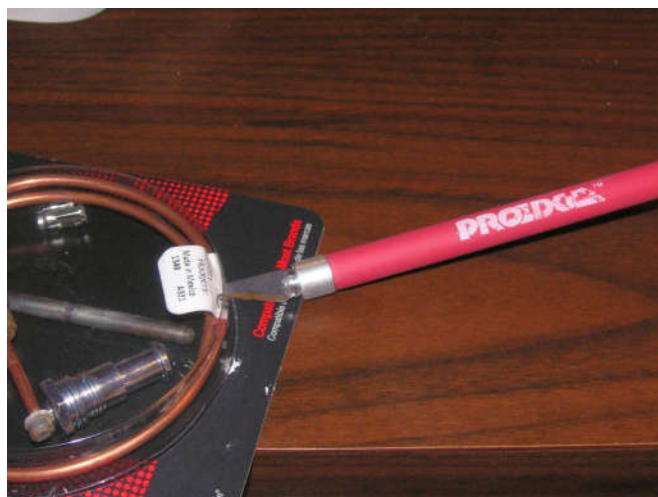
Here is the GE 50-gallon 12-year water heater. Note it has the earthquake strap around it.



Another view of the replacement thermocouple.



The Home Depot kit costs \$12.21. That's a lot less than hundreds the plumber would charge.



Bubble rage to get it out the package. These days I just get an XActo knife and cut it loose.

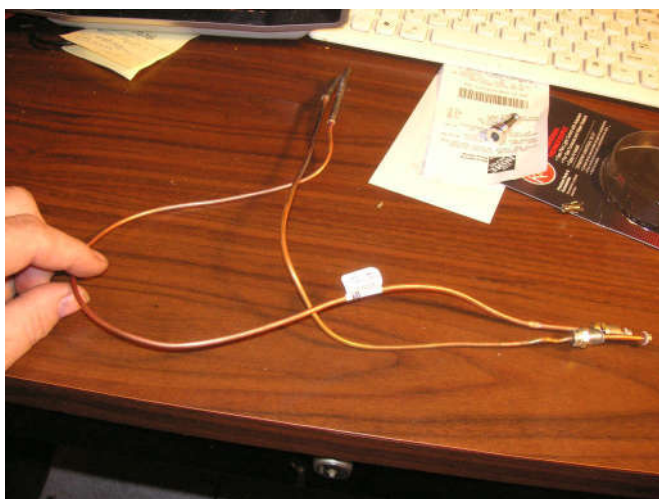


I noted the spring washer on the old unit to keep pressure on the pill. New stuff is cheap.



The old unit did not have a lot of carbon on it. Sanding it clean did not get it working. These must fail a lot if Home Depot has them in stock.





The new one was much longer. I guess that's part of being "universal". It worked fine.



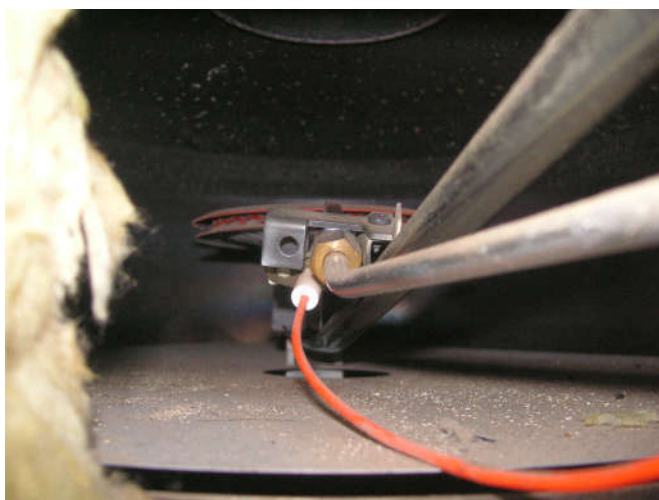
Another view inside the water heater.



The outer cover and inner flame plate removed.



Twist the new unit in a big "S" to allow for the extra length. Don't kink it.



Here is where the capsule goes. If you light the pilot but it goes out when you release the knob, it's probably the thermocouple.



I had a nice flare wrench from working on automobile brake lines. A Crescent wrench will do. Just snug is fine, no need for brute force.



I choke way up on the wrench to make sure I don't strip the fitting. If the valve strips it would be a disaster and I would need a plumber..



Here is the fire plate put in the right way.



Success, the pilot flame stays on, heater lights.



Here is the old thermocouple with the parts not needed.



Put the fire plate back in, note its upside-down in this shot, live and learn. Cancel the plumber.



I removed the sediment by opening the drain valve. Propane torch was to really heat the old thermocouple to see if that would make it work.





Here is the flame plate installed right.



I had to bend the thermocouple a bit tighter to get it to fit the top cover to fit.



The cover plate is on. I took a shower a couple hours later. I brought the old thermocouple to work the next day to prove I was not shirking.