



2D/3D Conversion Instructions



Congratulations! You will soon have the most-accurate, PID-controlled smoker available! This guide will take you, step-by-step, through the conversion process.

Tools needed:

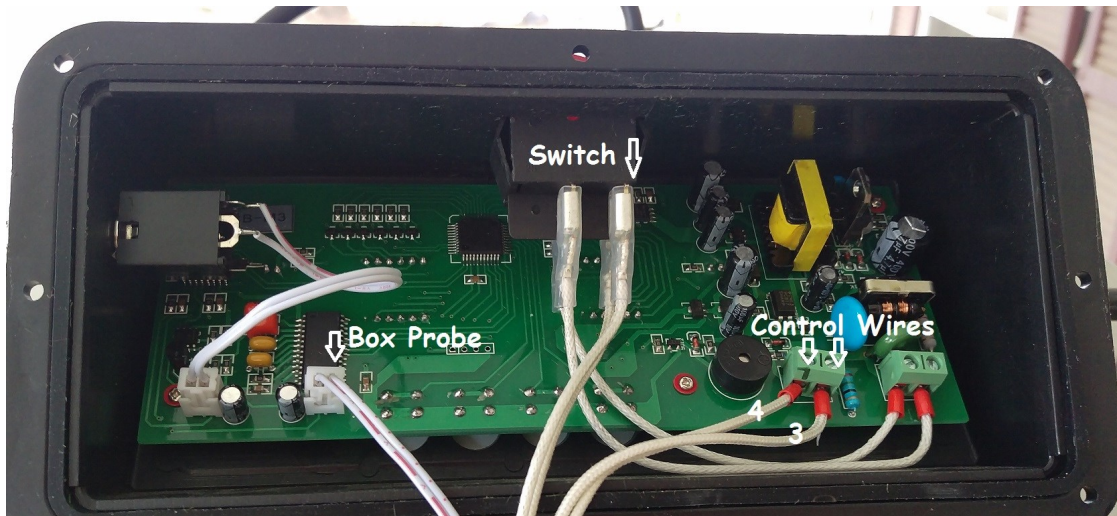
- 1. Phillips screwdriver**
- 2. Flat screwdriver**
- 3. Vinyl/latex gloves**
- 4. Power drill with 3/16" and 5/16" bits**
- 5. Dremel (or similar) rotary tool, with metal cutting discs**
- 6. Ruler, pencil and blank paper**
- 7. Scissors**

Before beginning, read all of the instructions, and familiarize yourself with each component in the kit. Once you understand how the parts work together, the actual project will go smoothly. While not overly-complicated, it is very important that you hook up the wires correctly! Improper installation can fry your controller, or worse, start a fire! Please pay close attention to the wiring locations, and *double-check* the locations, before applying power.

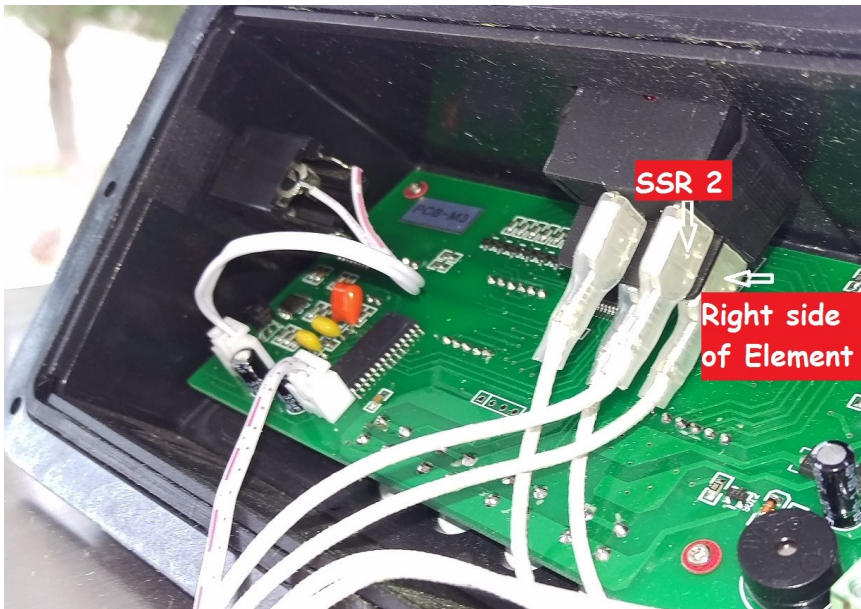


Screws:

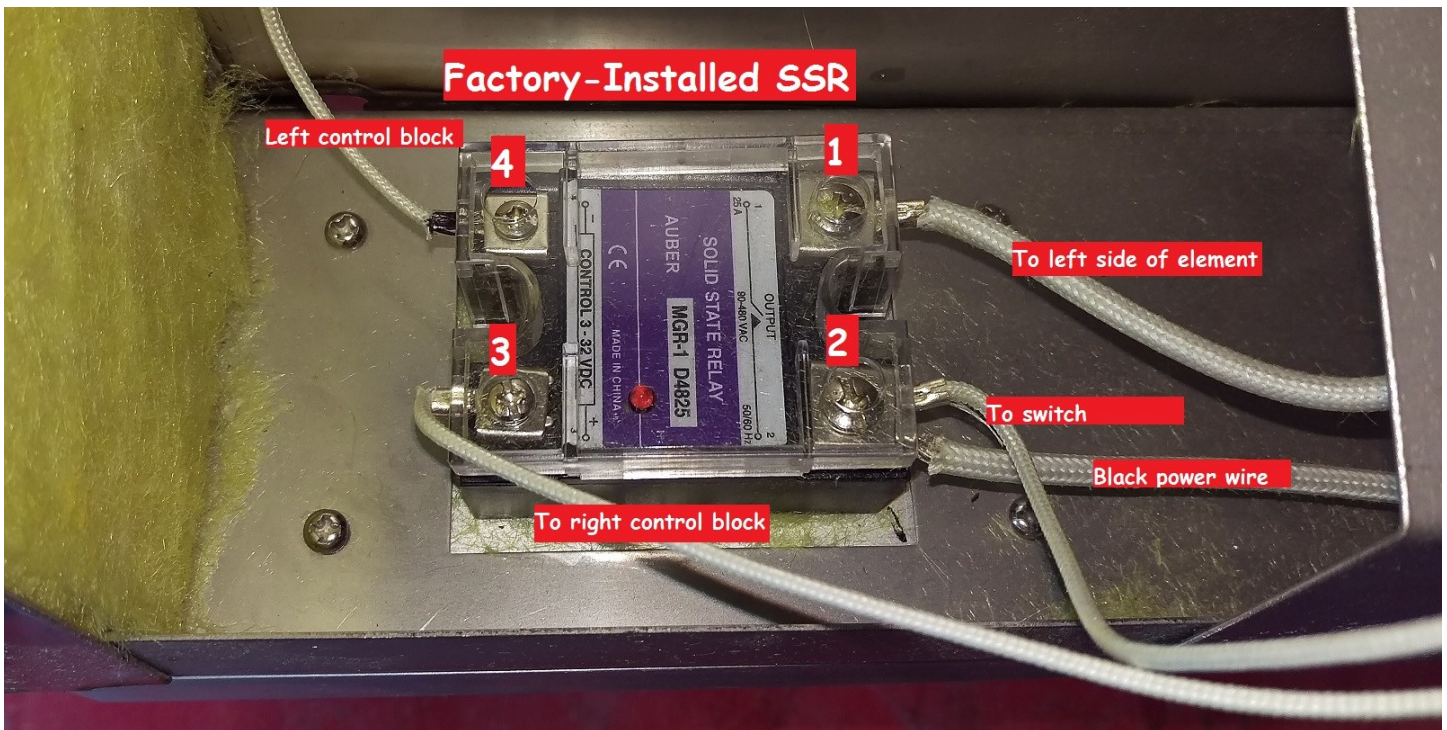
- 7 M3-.50 x 8 (for the controller)
- 4 M4-.70 x 8 (for SSR)



The two switch wires go to the element and SSR (terminal 2). One wire has a closed connector, and one has an open connector; the closed end goes to the element, and the open (U-shaped) wire goes to terminal 2 of the SSR. The 2 smaller control wires (lower right side of picture) go to SSR terminals 3 and 4. Terminal 2 of the SSR will have a power wire, from the switch, and the black power cord wire attached.



Here's another shot of the 2 power switch wires. It's possible your kit has the open & closed-end wires reversed, from what you see here; it doesn't matter, as it's a switch. Just be sure to connect the open end to the SSR, and the closed end to the element.



This is a factory-installed SSR. You can see the terminals are numbered 1-4.

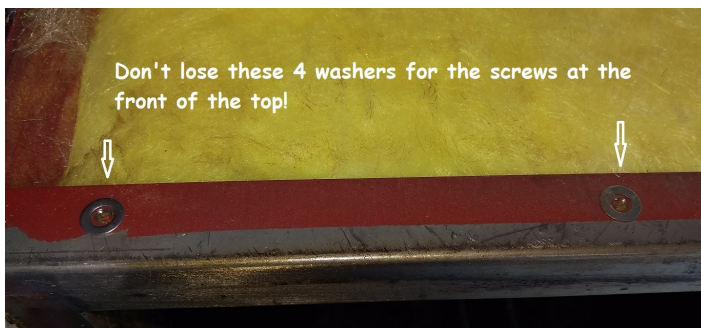
If you have the technical skills to complete this project, you should have the skill required to remove the back panel and top panel of the smoker. If not, you should probably seek assistance from a friend with mechanical skills.

Using a Phillips head screwdriver, remove the back panel, and the screws from the top of the smoker. When you remove the 4 screws, at the front of the top (above the door), be careful not to lose the 4 flat washers beneath the top. When you lift the top off, the new top will go back in the same manner.

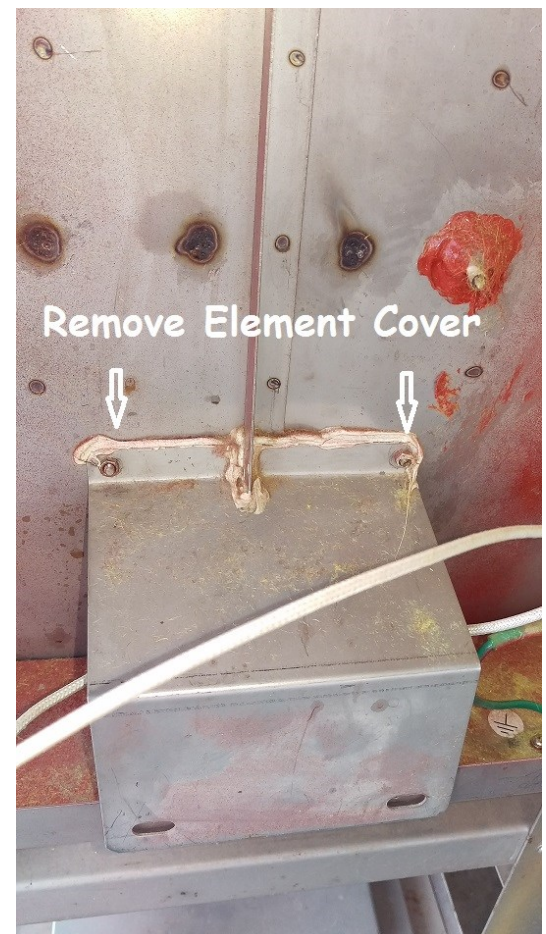
Disconnect the wires leading to the stock controller. Remove the 2 screws holding the element cover, and remove it. Disconnect both power leads to the element.

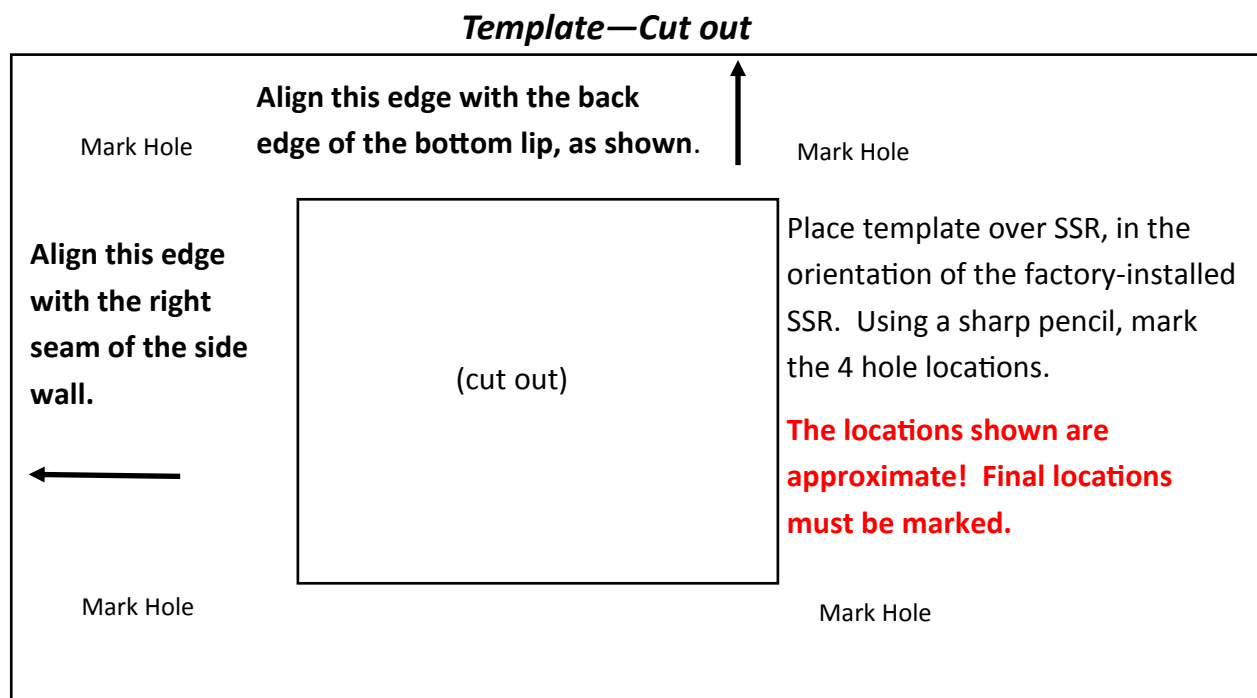
You will be removing ALL stock wiring, so don't worry about it. Just disconnect everything and remove it.

Wear gloves when removing the fiberglass insulation. There are 3 layers; remove each one, and keep them in order for reinstallation.



Using a flat screwdriver, pry out the lock on the cord grommet, and push it up from the bottom. Disconnect the 3 wires and remove the power cord.

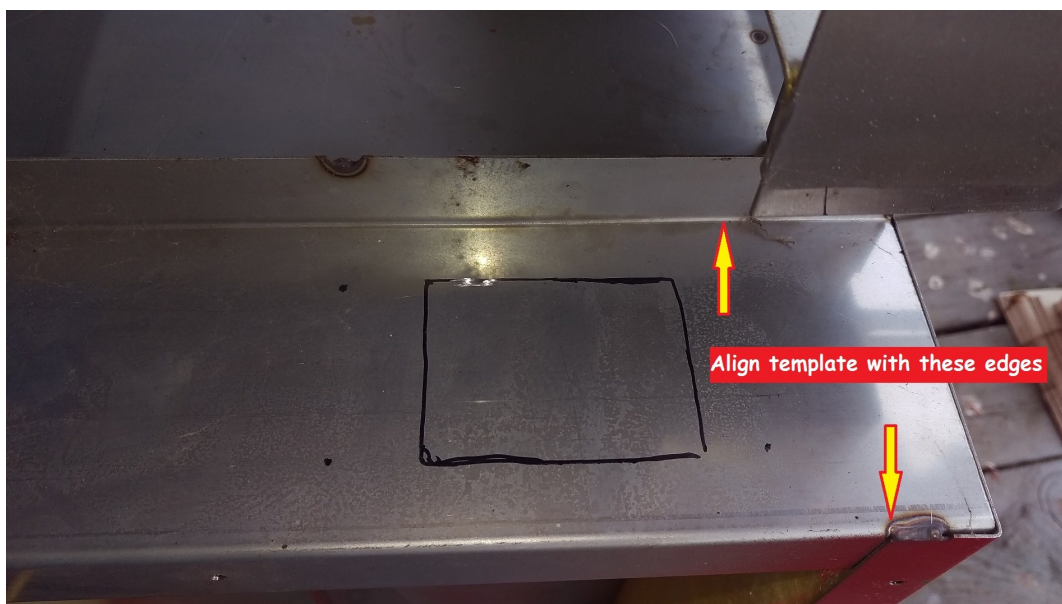




Cutting the hole for the SSR:

You will need to cut out the paper template, above. Because the SSRs are mounted to the heat sink individually, they could vary slightly. **Due to this, only cut out the outside dimensions of the template, and the rectangle hole for the SSR. You will need to mark the screw hole locations yourself.**

Remove everything from inside the smoker, and turn it upside down. As you are looking at the back of the smoker, you will align your template with the seam of the right sidewall, as shown. Trace the hole patterns with a permanent marker, and remove template. **If your smoker is mounted on a cart, we recommend removing it so you can cut the rectangular hole for the SSR, and be able to drill the 4 mounting holes.**



Cut the rectangular hole for the SSR using a rotary tool (Dremel) and a metal cutting wheel. Then, using a backer (hammer), center punch the 4 mounting holes. Use a little cutting oil (gun oil works fine), drill the 4 mounting holes with a 3/16" bit. Do as good as you can, cutting the hole, but it doesn't have to be perfect. The hole is oversized for the SSR, so there's a little wiggle room.



Here it is, from the top.



Time to do some wiring! Let's hook this bad boy up! (The hard part's done.)

Start by installing the new power cord. Insert it into the bottom hole, and secure it with the clamp, reverse order of removal of the old cord. Attach the green ground wire to the frame, the white wire to the right side of the heating element, and the black wire to terminal 2 of the SSR (remember to insert the switch wire to the #2 terminal at the same time).

With the power cord in place, lay the controller on top of the smoker, upside down, and feed the wires through the hole. Attach the 2 control wires to the #3 & 4 terminals, as shown in the above pictures.

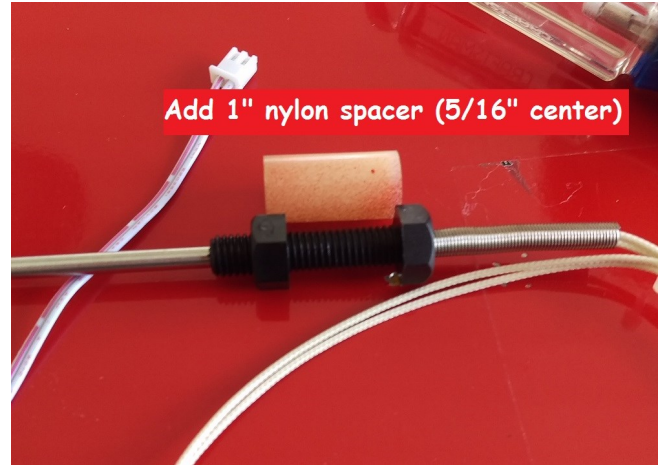
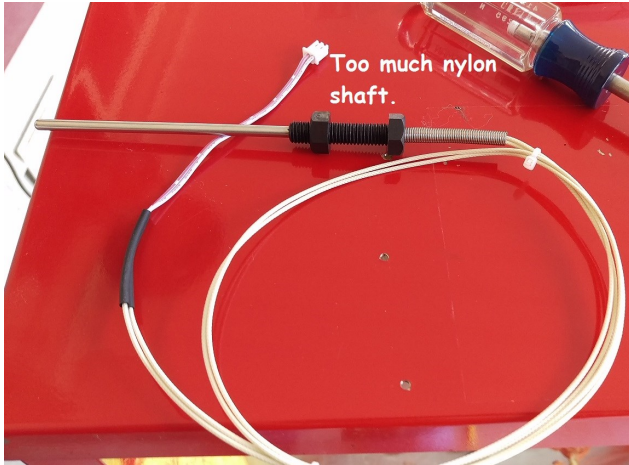
Attach the short lead, from terminal 1 of the SSR, to the left side of the heating element.

Next, we will install the wall-mounted probe (box temp).



We will mount the probe 1 to 1 1/4" below the inside top of the smoker, just right of the back support brace.

Drill first with a 3/16" bit, then complete the hole with a 5/16 bit.



The probe is designed to go through thicker walls, so the nylon shaft is really too long. By adding a 1" nylon spacer (with a 5/16" inside diameter), you ensure only the metal probe protrudes from the inside of the smoker.

Remove the nut, place the spacer over the threads, and insert the probe into the back wall of the smoker. Secure with the nut from the inside of the smoker. Run the wire up through the top hole, and plug into the port on the left side of the controller (looking at the bottom, from the back of the smoker).

You are now ready to attach the controller to the top. Make sure the surface is clean, align the controller with the holes, and attach using the provided screws (the small ones).

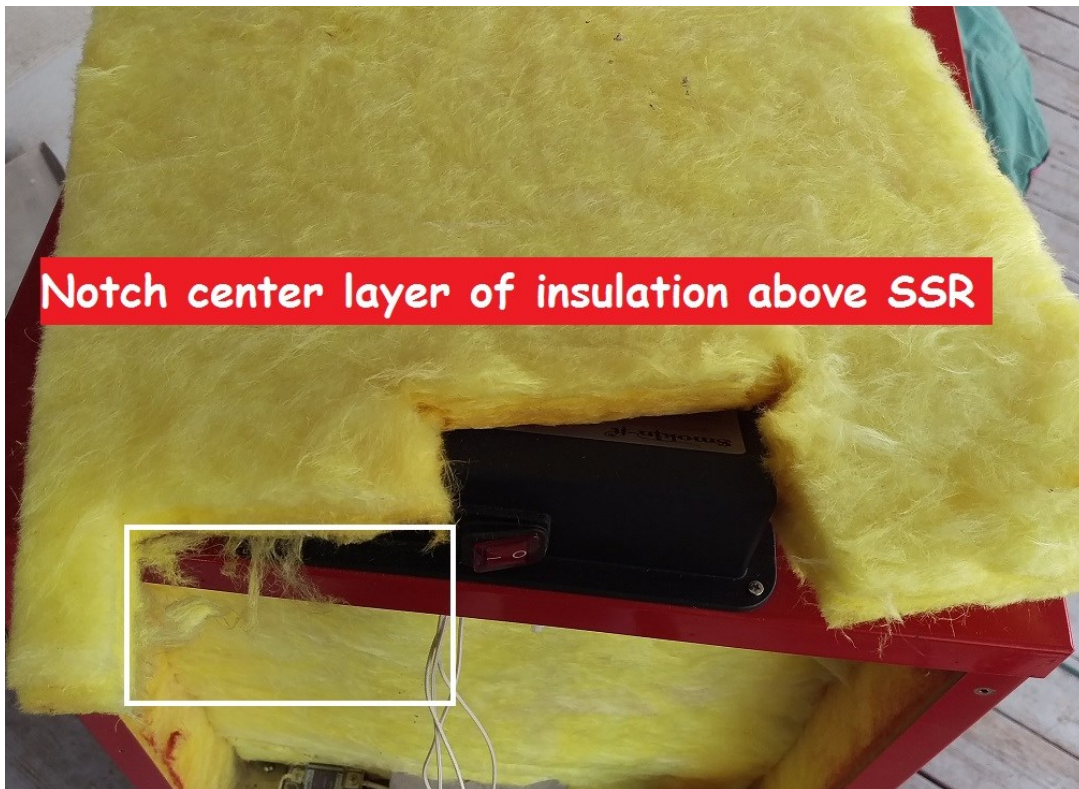
You are done wiring your new "D" model smoker! Before reinstalling the insulation and back, DOUBLE-CHECK the connections, and make sure everything is tight!

Before putting the insulation back, after checking all connections, **reattach the element cover panel**, using the screws & nuts you took out.

Reinstall the insulation and back panel.

Cut a slit in the first layer of insulation, even with the wall probe. This will allow the spring (protecting the cord) to exit the back of the probe without being bent. Do the same for the second layer of insulation, as well as cutting the bottom left out, to make room for the SSR.

Make sure all of the wires are between the 2nd and 3rd layers, and install the third layer. Attach the back panel.



When you have the back panel attached, plug the smoker in, and power it on (using the switch on the back of the controller). If nothing pops, and the controller reads the box temp in the left window, you're done!

Continue to the programming instructions you received with this kit.

Congratulations, and Job Well-Done!