

Char-Griller Smokin' Pro Modifications

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Right out of the box, the Char-Griller Smokin' Pro has a few design deficiencies that need to be addressed, and are fairly easy to remedy. It is much easier to do these modifications as you assemble your new smoker, but these are completely doable on an already assembled unit. Unfortunately, you'll have to deal with the "nasties" if you are modifying a seasoned smoker.

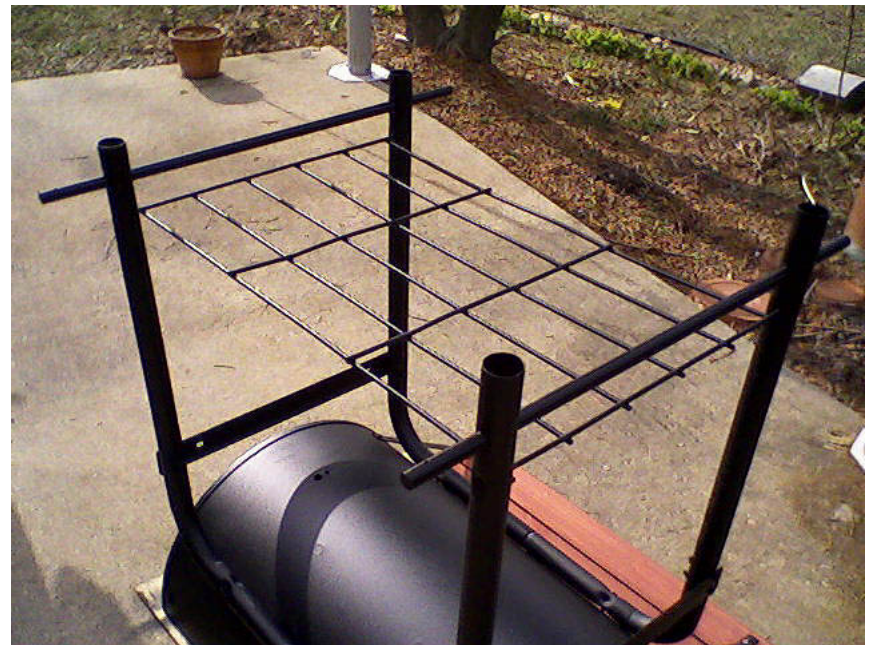
The following information will help you cure some of the weaknesses and transform your smoker into a mighty smokin' machine. If you know the difference between a screwdriver and a hammer, you can do these modifications. Just take your time, relax and have fun!

Mod 1 – Wheels and Axles

As you can see in the above photo, I have added another axle and bigger wheels. The original design provided two cheap, smaller diameter, plastic wheels that made moving the smoker rather difficult, especially on the grass. These air-filled tires are ten inches in diameter and make moving the smoker a breeze.

I found these wheels at Harbor Freight. They will fit a 5/8 inch diameter axle, which can be made from 5/8 inch diameter steel rod, found at your local home improvement center or hardware store. Of course, this means you'll have to enlarge the existing holes in the legs, and add two more holes to accept the added axle. I highly recommend using a #4 step drill to get the proper hole diameter. Drill the new holes $\frac{1}{4}$ inch from the end of the tubing.

Cut the two rods approximately 26 1/2 inches long, then drill a 9/64 inch hole about 3/4 inch from each end. Paint the axles, let them dry and install as shown in the following pictures.



Mod 1 – Wheels and Axles (cont.)

Next, install a 5/8 inch flat washer on the axle at each corner, and then install the wheels. You can use clips or cotter pins to hold the wheels on the axles. If you use clips, make sure they do not hit the valve stem as the wheel rotates. The clips I used were a bit too long, so I bent them over as shown in the photo.



Mod 2 – Digital Thermometer Probe Grommet

This modification allows you to insert multiple probes into the cooking chamber, instead of having them pinched between the body and the lid lips. This is actually a watertight connector for NM/SE cable, and can be found in the electrical isle of your local home improvement center.

You will need to drill a 13/16 inch hole in the front of the chamber, about 3 inches down vertically from the front lip and centered horizontally. This will place it slightly below the shelf.



Mod 2 – Digital Thermometer Probe Grommet (cont.)

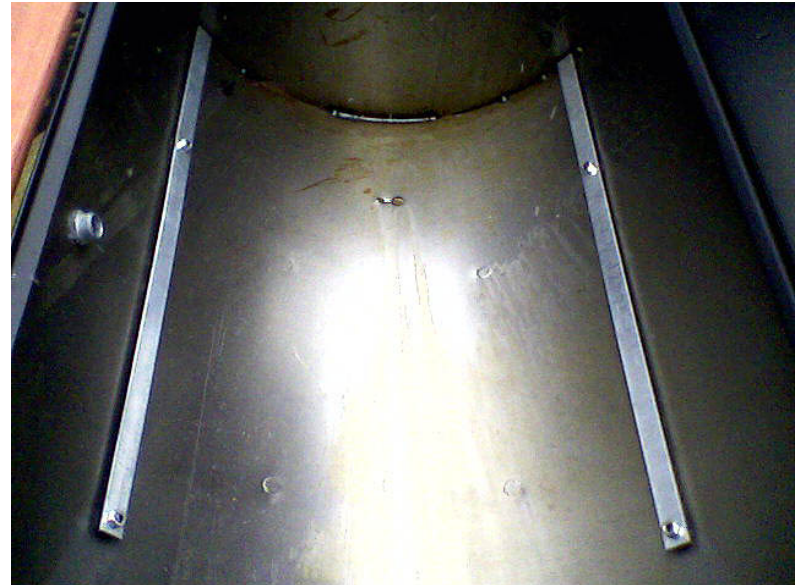


You will notice there is a rubber grommet with an oval cutout. The probes fit nicely through the hole and there is plenty of room for multiple cables. I have had as many as five cables installed at once, and there was room for more. As far as smoke or heat loss, it is small enough that it doesn't make a difference.

Mod 3 – Baffle and Tuning Plates

I am sure that anyone who has cooked with a horizontal side fire box (SFB) smoker has probably noticed that the fire box side of the cooking chamber is always hotter than the opposite end. Trying to get even temperatures from end to end in the chamber is somewhat of a challenge without doing some modifications to the smoker. With the installation of a baffle and some tuning plates, you will be able to stabilize the temperatures across the grates.

First, you'll need to install two rails for the tuning plates. They can be made from 3/4 inch wide x 1/8 inch thick flat steel stock. Cut two pieces 22 1/2 inches long, then drill two 1/4 inch diameter holes, one 2 1/8 inches from one end, then another 15 inches from the center of the previous hole. These holes should line up with the bolts that hold the leg assembly to the bottom of the chamber. Place them on the bolts (on top of the existing nuts) and bolt them in place using 4 1/4-20 hex nuts.



Mod 3 – Baffle and Tuning Plates (cont.)

Now for the baffle. You'll need some sheet metal, a 12 inch length of piano hinge and a piece of cardboard. I made a pattern with the cardboard. Cut the cardboard in the approximate shape you need (slightly bigger), then trim to fit snugly against the sides and end of the chamber. The upper edge of the baffle should fit flat across the end of the chamber, just above the SFB's uppermost mounting nut. The lower edge of the baffle should extend below the top edge of the tuning plate rails by about an 1/8 inch, but clearing the ends of the rail so the baffle can be swung upward.

Once you have the cardboard trimmed, lay it on a piece of sheet metal and trace the pattern onto the sheet metal surface. I used a piece of scrap (approx.) 1/16 inch thick sheet metal I had laying around from a previous project. Cut the metal using tin snips, aviation shears, or a die grinder/cutter.

Fit it in place and trim it to fit snug, then mount the piano hinge at the upper edge of the baffle. I used pop rivets, but nuts and bolts can also be used if so desired. To mount it to the chamber, use two 10-24 screws and nuts, one at each end of the hinge.



Mod 3 – Baffle and Tuning Plates (cont.)

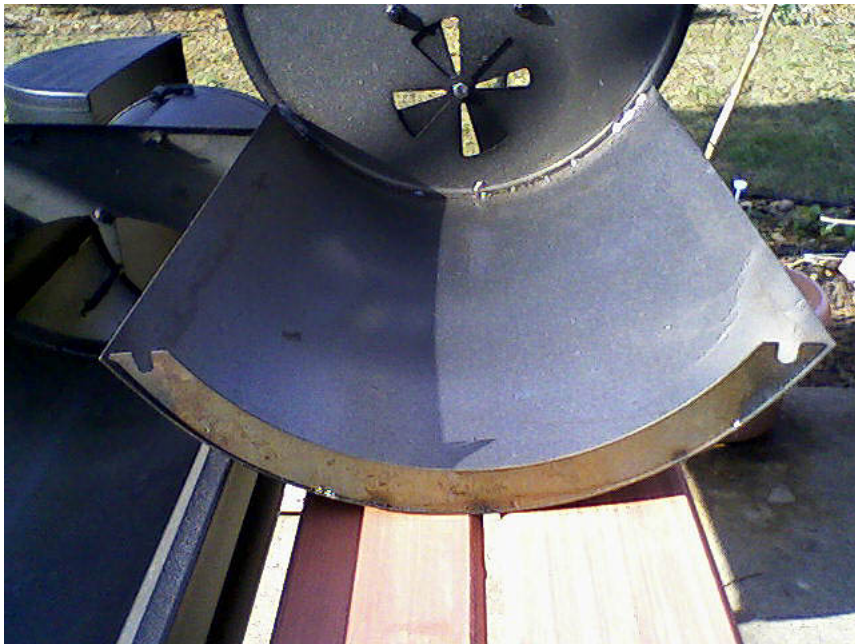
Now that the baffle and rails are in place, it is time for the tuning plates. The plates should be long enough to span across the rails and not fall when moved around. Do some experimenting as far as the widths are concerned. I cut two 6 inch wide plates, one 7 1/2 inch wide plate, and one 4 1/2 inch wide plate. The object here is to “tune” your smoker temperatures from end to end by moving the plates around, changing gaps and widths until temps are stable across the grates. This will take some time to get it where you want it, but it is worth it in the end. The picture below shows three of the four plates in place. For photo purposes, from left to right, the order is 7 1/2 inch, 6 inch and 4 1/2 inch.



Mod 4 – Side Fire Box Grate Upgrade

The stock fire grate that comes with this unit is less than substantial. After three or four uses, it was warped and twisted beyond usefulness. I was cruising through the BBQ department at my local home improvement center and ran across a suitable replacement... and it is adjustable! It is Char Broil's 17" chrome adjustable grate. The grate is very heavy and should hold up for many smokes. I did this mod to my other Char-Griller at least a year ago and it is still going strong.

To install it, remove the ash drawer and spread the new grate apart so it rests on the pan and just below the damper bolt. Mark the lip where the grate rails rest, then cut two slots in the inside lip as shown below. Make the slots deep enough to let the grate sit fairly level.



Mod 5 – Chimney Extension

The stock design of the chimney allows the heat and smoke to whisk by the meat and escape too rapidly. This modification extends the chimney down to grate level where it should be.

You'll need a length of 3 inch flexible aluminum dryer vent tubing and a round clamp that fits it, available from your local home improvement store. Also, a nut, flat washer and a wing nut of some size; I used ¼-20's because that's what I had in the bin.

Slip one end of the tubing over the inside flange of the chimney, slip the clamp over it and tighten it until good and snug. Extend the tubing down toward the front of the lid to the lip. Form the tubing tightly against the side, following the contour of the lid down to the lip and trim it off. Tuck the edge of the tubing above the lip. Drill a hole in the side of the lid and through the side of the tubing to fit your chosen hardware, toward the bottom of the lid and approximately centered in the side of the tubing. Run the bolt through the lid and tubing, add the flat washer, then secure with the wing nut.



Mod 6 – Dual Temperature Gauges

This will help you monitor the temperatures at grate level on both ends of the smoking chamber. These come in handy when you are adjusting the placement of your tuning plates. I picked up these 3 inch gauges, which can be recalibrated, on eBay. I have also seen them available at many BBQ suppliers online, so they shouldn't be hard to find.

First, calibrate them using the boiling water method. Once they are adjusted, drill two 13/16 inch holes in the lid; 3 inches up from the bottom edge of the lid and 4 inches over from both sides. Install them from the front, install the nut and tighten.



And there you have it. There are a few more modifications I will do to this unit, which will be installing a seal between the lid and chamber, removing the OEM thermometer and plugging the hole, and removing the crappy wood handles and replacing them with the spring type handles.

Stay tuned!