

## BUILD YOUR OWN ROASTING UNIT

I've been in the Specialty Coffee Business for nearly 30 years. This is an idea that came from one of you from a message board at [coffeegeek.com](http://coffeegeek.com) which I have experimented with. I think it is great, does a great job and is very easy to use. Many have asked about home roasters and I have tried a few and read up on the others. The one common and most significant problem is the cooling. Commercial roasting machines ALL have a separate cooling pan in which the beans are dumped into to cool QUICKLY. If you do not cool VERY quickly, you BAKE the beans rendering them flat. I know of no home roast machines that have a good cooling system so at least build the cooling system as per below.

### COFFEE ROASTER

#### What you need:

- Convection oven lid. [Sunpentown Super Turbo Oven](#) works well (model #SO-2000). It is a round portable oven, which sits on a glass bowl (look on ebay, there's always a few available). You will only be using the lid.
- [West Bend Stir Crazy](#) popcorn popper (also round). You will only be using the base.
- Nut, Washer and 1" Copper plumbing cap with grooves cut on sides.

Note:

If after reading the instructions below you feel this is too complicated, we have a shortcut. Rather than modify the existing stem you can purchase an improved version of the stem by giving us a call. This new stem has proven itself over the past year and is what we use on all the roasters we sell.

Set aside the top to the Stir Crazy (SC) and the Bottom of the Convection Oven (CO), you will not need these. Remove the plastic nut holding the wire to the SC (in the center) and replace it following the instructions below. Cover the nut and washer with a copper plumbing end cap, with grooves cut to fit over the wire. Place the CO on top of the SC and you have a really great little roaster that roasts up to a pound in about 12 minutes.

1. Remove the four little screws that hold the bottom plate on.
2. remove the plate and pull the motor out
3. there is a little spring in the square hole the motor shaft fits in, remove it and set it with the screws.
4. you will see two little nuts, remove them: a needle nose pliers works well. keep track of the order it all comes apart. nut, then lock washer, then insulated washer.
5. once you have removed them, separate the two main pieces of the machine. There is a little heat sensor that is held to the bottom of the surface which heats up. remove that from the metal clip which holds it to the surface.
6. On the same two threaded screws that you removed the nuts from you will find another insulated washer and another nut. You may need to loosen these nuts to remove the center spindle and Teflon washer.

As an option to steps 7-10 you can contact U-Roast-Em and purchase a replacement shaft which is made from aluminum and will never fail. We sell these shafts for \$21.00 plus shipping. We switched to these shafts after a number of meltdowns using the method below.

7. Once you have that piece removed carefully saw off the threaded part flush with the top of the spindle. At this point I mix up a small batch of JB weld and fill in the gaps in the ribs of the spindle for added strength. Let cure overnight.
8. This is where the technical comes in. A drill press helps a lot. You want to very carefully drill a 13/64 or slightly larger diameter hole down the EXACT center of the spindle where the threaded piece used to be. Drill in about 1/2 inch. Stop when you reach the JB weld.

9. Carefully tap the hole for a 1/4-20 screw. Again, very carefully screw a 1/4 x 2 1/2 bolt into the newly drilled and tapped hole. **THREAD AND LOCK A COUPLE NUTS ONTO THE BOLT PRIOR TO SCREWING IT INTO THE HOLE.** (I like to put a small dab of the JB weld into the threaded hole before inserting the screw)
10. Once the bolt is screwed into the hole, saw the end of the bolt off with a hack saw 1 inch from the flat surface of the spindle.
11. re assemble the popper make sure you replace the thin Teflon washer over the spindle.
12. get a 1 inch copper plumbing cap (the kind you would sweat to a copper pipe)
13. drill a 1/4 inch hole in the EXACT center of the top.
14. cut two grooves wide enough to allow the stirring wire to fit in directly across from each other about 3/16 of an inch long.
15. Place the stir rod in the groove, a flat washer in top of that, a 1/4 inch bolt on top of that, another 1/4 inch bolt part way down the threaded rod to hold the copper cap just off the cooking surface of the stir crazy.
16. put the copper cap over the threaded rod and adjust the nut so the copper cap is JUST off the surface.
17. put a lock washer over the threaded rod on top of the copper cap
18. put the third and final 1/4 inch nut on and tighten to the lock washer and copper cap. NOT so tight you break anything.

### **Here is what I like about the combo:**

The glass on the CO allows you to watch the roast very easily.

The controls on the CO allow you to finely tune the heat and easily change it quickly during the roast.

The fan from the CO blows the chaff out so your finished product is very clean.

The SC keeps the beans moving and heats from the bottom helping to make a steady roast.

As soon as the roast hits it's "perfect point" unplug both pieces, carefully set the CO aside, dump the beans into your cooling pan you have turned on seconds before pulling your roast and stir with a wooden spoon. I prefer this roaster to my professional Jabez Burns Sample roaster (the cooling pan too). This roaster smokes and spews out the chaff so it is best done in the garage or a screen porch. The little shop vacuum will quickly zip up the chaff when it's done driving the cooling pan. For additional information, visit our website: [www.u-roast-em.com](http://www.u-roast-em.com)

### **COOLING PAN**

Cheap, simple and works VERY well. **You need:**

- One of those 5 gallon buckets like at the bakery or Home Depot WITH THE COVER
- A large stainless steel mixing bowl
- Two draw hasps (National Hardware # N208-512 V35) (Bungee cords will also work)
- 1x1 (1 gallon/1 hp) shop vac. I bought one at Wal-Mart for about \$25.00
- A wooden spoon.

Cut the top of the bucket so the steel bowl fits snug on top of the bucket. Drill around one hundred little (1/8" or smaller) holes only in the bottom of the bowl (colander will not work because the holes go up the sides). Cut a little hole 3 – 4 inches from the bottom into the side of the bucket so the vacuum cleaner hose will fit into the bucket SNUGLY. With the steel bowl snugly fastened on the top and the shop vac snugly in the hole you will have a very strong downward draft through the holes in the bottom of the bowl. This makes an excellent cooling pan!