

## Building a Wood Burner with Graeme Priddle Scribed by: Becki Walker

You will need:

- 1 – Manual Battery Charger (NAPA has a nice one for about \$52)
- 1 – Light Dimmer Switch – 600 watt single pole (Lutron model at Home Depot)
- Terminal Strips from Radio Shack – part # 274-679 and part # 274-677 (each strip will produce 6 units)
- 1/2" or 5/8" plastic electrical conduit – 6" long
- Small block of wood to fit within the conduit – 3" long and 1/4" thick
- 14 gauge Copper Wire – 2 - 2" pieces for each unit
- Nichrome wire – 18 & 20 gauge for brands (available by the roll from McMaster Carr) or tubes with 3-6" pieces from supply vendor (Packard, Craft Supply)

### NOTE:

**Once you've opened the charger up, you've probably lost the warranty. Try the charger for its intended purpose before you start removing or cutting anything. At least you can get another charger at this point to make your burner with if your original unit doesn't work.**

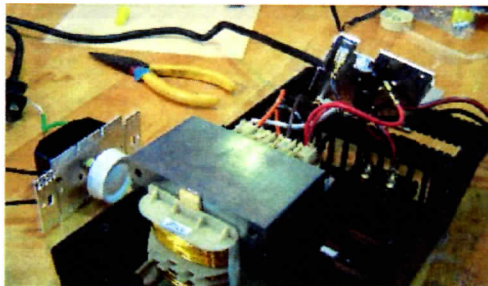
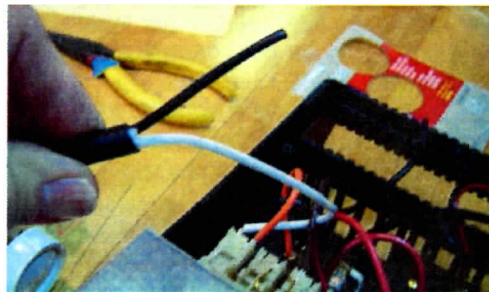
Instructions:



1. Remove the back from the battery charger. Make sure to leave the screws in the screw holes on the back.
2. Undo the terminal strip wire and cut off the terminals, leaving at least 3 feet of wire. This is the length that you will hold while burning and less length creates more power. However, make sure you don't cut off too much or you won't have enough length to work with.

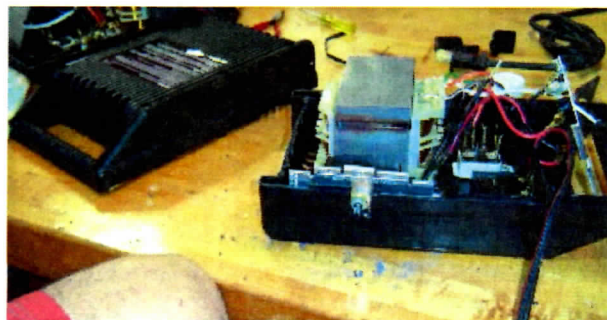
3. Open the dimmer switch and remove the green grounding wire.

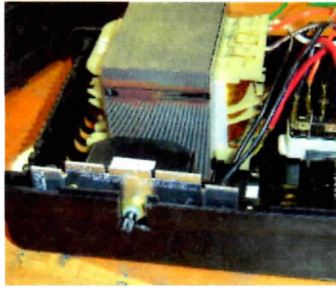
4. Locate the power cord in the charger and cut the black wire about 2" from the power cord junction. Leave the white wire alone.



5. Lift the metal bracket out of the way on the side of the charger casing.

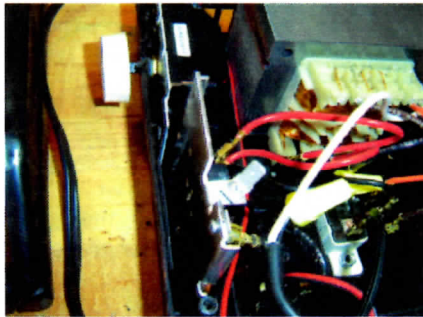
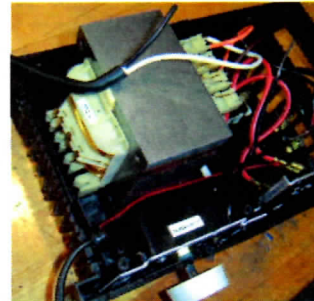
6. Saw down between the screw gusset and charger casing to create a slot for the dimmer switch metal bracket to fit in.





7. Pop the knob off the dimmer switch and insert it into the slot you just created. Measure the casing for the dimmer switch control stub and cut out a section in the casing to accommodate the dimmer control stub. Make sure that the dimmer switch wires face toward the handle of the charger casing.

8. Tie a knot in the terminal wires so that the wire can't be pulled from the rear of the machine.



9. Place the terminal wire back in the slot in the rear with the knot to the inside.

10. Gently strip the black power cord wire about 1".

11. Pull the black center wire (between the brown and orange wires) from the bottom connector – the original other end of the power cord.

12. Run the wires from the dimmer switch to the power cord and attach a wire screw for both ends of the black power cord that were cut and stripped.

13. Take black plug in wire from the front (handle) center section and move to the black center section. This will keep the machine from tripping out as you use the machine for a length of time.

14. Place the power cord around the right side screw spindle holes and through the rear of the machine into the slot it originally came out of.

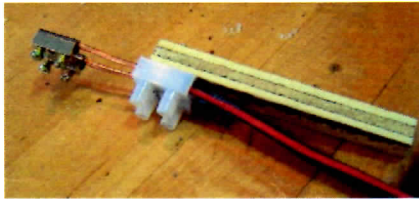
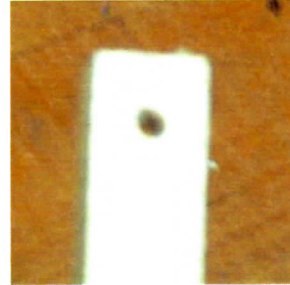


Here's your finished burner unit:



## Building your Burner Tool:

Place your 1/2" electrical conduit over the terminal wire from the burner.  
Drill a small hole in the end of the small block of wood.



Attach 1 4-part terminal block part # 274-679 by the bolt & nut to the end of the wood.  
Place the copper wires in the first hole of the terminal block and tighten the terminal screw.

Remove the metal connectors individually from the plastic casing for part #274-677.

Attach these connectors to the other end of the copper wire. Tighten the terminal screw so that the copper wire goes to the back of the center hole of the connector.

Place plastic conduit over the terminal wire.



Split the terminal wire at the end and strip the wire.  
Attach the wire ends on the lower end of the 4-part terminal block.  
Gently push the plastic electrical conduit over the wooden block and up to the connector. As this handle will get hot while you're working, consider placing foam and/or tape over the conduit to create your grip. If you prefer, you can create a wooden handle of an appropriate size to replace the plastic conduit.

## Creating your Brands:

Using 18 or 20 gauge wire, create entry length of wire to attach to burner tool. Carefully wrap or shape the wire to create your brand pattern. Create another length of wire for the opposite attachment in the burner tool. Have fun creating different and unique patterns!

### Graeme's Hints:

Always use the charger at 6 volt. This creates a finer control for the burner. If this doesn't create enough energy, then try turning it to 12 volt.

Create your brands with a 45 or 60 degree angle for easier use.

After the brand has been heated the first time, reshape as necessary to refine your design.

Use a wire brush and clean your brand after each application to the wood to create a crisp design each time.