

DIY EZ Build PVC Pipe Heater Bender

Introduction

I like working with PVC pipe but I don't like using elbo's and tee's, they're just plain ugly in the finished product. I thought, wouldn't be easier if I could just bend the pipe instead of all the cutting and gluing? I searched online and found that PVC heaters can cost \$500 - \$1000 or more, so off to YouTube I went. There's all kinds of ideas out there including, using a heat gun, hot sand, boiling water, but those ideas were just too tedious, especially when using larger pipe sizes. The idea I eventually came up with was so simple that I now use it all the time for all kinds of PVC pipe projects. I've come up with several more ideas since I built this first one but more on those later.

The legal stuff:

Use safety precautions when working with PVC. PVC is perfectly safe when used in it's solid form but it's best to work with it outdoors when heating for bending as it will give off noxious gases that can be hazardous to your health.

The completed project(s) are to be used at your own risk; I assume no liability for injury or damage arising from the use of these ideas, suggested tool use, or operation of the completed project.

DIY EZ Build PVC Pipe Heater Bender #1

In this first project you need to find a pizza oven like the one pictured below. I had previously found mine at a garage sale and it was just sitting on the shelf waiting to be put to use in one of the many projects I come up with. You can find them on eBay, Craigslist, or in many of the discount stores. I've seen them at Menards and Walmart for around \$50 and compared to a commercial PVC heater that's dirt cheap!



Next you need to remove the front door and handle from the pizza rack, usually held on by a single nut and bolt. The rack will remain in the unit as support for the pvc pipe. Now you need

to make an opening in the back of the unit, this can be any size you choose, I simply used the front door as my template and cut the opening the same size enabling me to heat up several sticks of pvc at a time. You need to be careful when cutting the rear opening so that you don't nick the heating coils on the top of the unit. Also, depending on how you make your cut, be careful not to get any metal shavings caught in the heating coils causing a short. If you've done yours the same way as I did, the unit should look like pictured below:



Now all you need to do is set your ovens timer for the appropriate amount of time determined by the size of PVC your bending, (this is something you'll have to experiment with because each oven heats up differently), slide your stick of pipe into the oven to the area you want to bend, wait for it to get pliable then remove and bend to the desired shape. Keep in mind that you need to hold the desired shape until the pipe cools otherwise it will try to return to its original form. I had initially thought of replacing the timer with an on/off switch but decided to leave the timer so I wouldn't have to worry about shutting the unit off while I was busy bending pipe.

DIY EZ Build PVC Pipe Heater Bender #2 (Next Page)

This next project is a great improvement on the standard heat gun and might be a little cheaper to complete than the pizza oven, depending on whether or not you have a heat gun in your tool box. If not, you can get them at your local home store reasonably priced, usually \$25 and up. Mine is a cheapie 1000 watt unit and works great when used as described below.

First off you need to gather up the following items which can be purchased at your local home store:

1: Three Inch Dryer Duct Tee



2: Three Inch Dryer Duct Cap

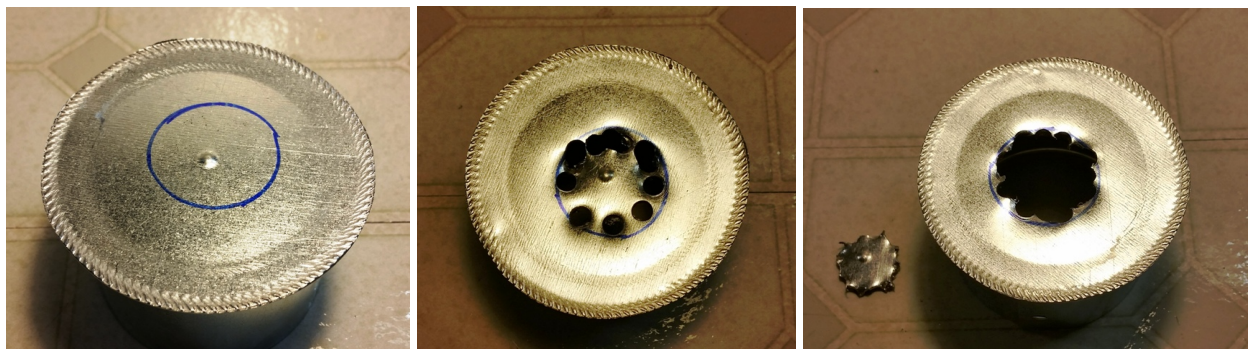
*note: the cap I have pictured here is a “non-crimped” as that’s all that was available at my home store at the time. Try to find one with a “crimped” end as seen on the left opening in the Tee above. If not available you can go around the edge of the cap with a pair of needle nose pliers to form it so it fits inside the bottom opening.



3: Heat Gun



Now you want to measure the nozzle of your heat gun so you'll know what size hole to make in the pipe cap. For those of you who don't have access to a hole saw you can trace the outline of the nozzle on the cap and drill several holes, which is what I will do here. Once you have drilled your holes you can cut out the remainder with wire cutters as shown below then, bend the edges in to smooth it out.



Put it all together and you'll end up with the unit pictured below. Keep in mind it takes a bit longer than the pizza oven project to heat up the pipe, but all-in-all it's really not too bad.

Another thing to note is that the sheet metal piping gets pretty hot so BE CAREFULL! One way to mitigate that issue would be to wrap it in fire resistant insulation, which would probably help the process overall by keeping more heat inside the sheet metal.

You also may want to add a couple of extensions at each end to increase the heat area for larger bends.



Now all you need to do is insert your PVC pipe and turn on the heat gun. Again, keep in mind that you need to hold the desired shape until the pipe cools otherwise it will try to return to its original form.



Other options:

After building the two units above I got to thinking about portability, after all they need electricity to operate, which is great for working on projects where you have power. But I wanted something that didn't need power, just in case. That's when it hit me, what about a gas grill? Right outside my back door sat the family grill, though still not what you might consider portable, you could throw it in the back of the pickup if necessary, and it did work great when I tried it out. But still the portability thing bugged me. That's when I dug out the camping grill (shown below) which happens to be gas as well, after hacking a couple of openings at each end it worked perfectly, and satisfied my desire for portability. Why did I need portability so badly? Well, I do a little plumbing on the side and a pvc heater is a very handy tool to have, but a very expensive one for the part time handy man!



A few quick tips on bending:

I've found the pipe will heat up quicker if you turn it a quarter turn every 15 seconds or so, also keep in mind that PVC pipe will kink just like metal pipe if you try to bend it too sharp or in too small of a radius without support.

I keep all kinds of different forms for bending hanging on my shop walls. One of the best things I've found is bicycle wheels with the spokes removed. I have a bunch of them, from the little kiddie wheels up through 26 inch adult bicycle wheels that I mount to my workbench using sheet rock screws.

I also took a 4x8 sheet of pegboard, cut it in half, and then glued the two pieces together to create a double thick 4x4 sheet (make sure to line up the holes). I then cut wooden dowels that fit in the holes into short 6" pieces that I push in the holes to create templates of different shapes to bend around. I've used my pvc heater to create all kinds of things from little kiddie chairs for my grandkids, to trellises for my wife's flower gardens, to garden arbors for friends and family. Use your imagination or search Google for "pvc pipe projects" or "pvc pipe plans" and have fun!