

## Cobra

This was one of my guardian ideas that I just never got around to doing till now. I decided it would be a good idea to share the process and a few things learned along the way.

We'll start with a bit of background, several years BC (before caching) I wanted to give my children something handmade and different for their birthdays. Didgeridoos came to mind because I had bought one at a big Boy Scout event that was made of PVC pipe and I figured 'I can do that!' Firing up my grill and heating up some tube, I made my first one with twists and kinks in it like the one I had bought, to create the back pressure that was needed to efficiently play a didge. Doing more research over the internet I found various techniques to sculpt the PVC pipe, creating knots and bumps and bell ends and came up with some realistic looking "hollow tree branches." With Vic adding the painted details, we had some unique instruments and when we donated two to a charity auction, they brought in a combined total over 250 dollars. Not bad for a 25 dollar tool investment and less than 4 dollars worth of material.



### How to make a cache critter from PVC pipe

First you'll need a heat source, my first didges were made using charcoal in a hibachi grill, but a heat gun used to soften and remove paint is a much more efficient source. The material is the 1 ½ diameter thin wall PVC that you can buy in some hardware stores for around 5 dollars per 12 foot tube. You do not want to use the schedule 40, thicker walled pipe as it is much more difficult to work with. Cut off about a 3 foot section with a handsaw and smooth the cut end. Measure the circumference of the pipe and mark ½ that distance on a piece of paper folded lengthwise.

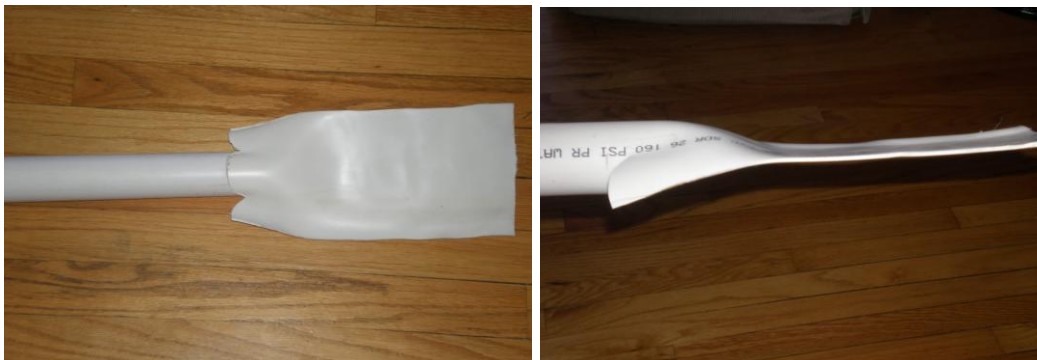


That distance will be the widest you can make your template. You'll notice there are 2 different templates in the photos, after making the first cobra I decided to tweak the pattern a bit for a more realistic look. I made the pattern for the hood, head and fangs a total of about 8 inches, the length of the

paper I used. The hood was full width and the base was equal to half the circumference.



Using a coping saw make a "smile" cut to about half the depth of the pipe, keeping it as even on both sides as possible and make a pencil line to the end of the tube centered on the smile like this (-----). In the photo's you'll see the first trial without the smile cut and the second with it. The cut will allow you to flatten the tube much better and gave a smoother flow to the transition from body to hood. Use the heat gun or other heat source to soften the PVC and use a razor knife to carefully split the tube along this line. Spread open the tube, we used the end of a baseball bat to get it started, and flatten it as much as possible. By using leather gloved hands and pushing onto a smooth surface as the heat is applied you can get it pretty flat.



**A word of caution** here, as we were doing this part my son, Jens, had braced the tube against his upper thigh, after a few moments he said "Dad, Stop!" and ran through the door to grab a handful of snow to cool himself off. **Super hot air travels down the tube quickly, so be careful where you put the other end. Heat guns can generate 1000 degrees f. Keep your hair covered and away from the heat, as hair can quickly catch fire at those temps. One last warning, unless it is turning brown or melting, PVC does not 'look' hot but can burn you badly; always use leather gloves when shaping it.**

After the flattened end has cooled you can trace your template onto the PVC. Cut out with a coping saw or scroll saw with very fine blades. Clean and smooth your edges with a file, sandpaper or a sanding drum.



Now to form the PVC, you'll need to gather some tools to use. We used a large metal serving spoon and a crescent wrench. Jens held the gun as I moved the center of the hood area back and forth in front of it, when the pvc was soft enough I pressed the handle of the crescent wrench into the back side creating a squarish ,raised central 'body' for the cobra. As I held the tube and wrench, Jens grabbed some snow to 'set' the PVC and cool it off to retain the shape. The next steps were to fold over the head and pinch the sides of it together and give the fangs a nice curve, trying to keep everything symmetrical and as realistically shaped as possible. Each time I was happy with a shape we cooled it with snow, but ice cubes will work well too. Using the spoon, we repeated the heating and pressing/stretching process to shape the hood.



Now to give the cobra's body a nice S curve, in a section between your gloved hands, heat until it is warm enough then give it a slight bend. Do this in several spots, the PVC stretches and will flatten some when bending this way. Be careful not to overheat the tube or bend too much as that will burn or tear a hole on the pipe, and if you let it straighten out before it is set a wrinkle may form. If any of those occur, don't worry, it can be fixed but it takes a bit of effort. It was just such a tear on our first attempt that leads me to come up with the next step. The actual cache container for this will be a preform marked 'antivenin' that would use a wire hook to hang on the inside of the body. The hole in the prototype cobra was almost at the same depth the preform would sit at and I thought of pushing a piece of the waste PVC into the hole to create a shelf for the preform to sit on, eliminating the need for wire. I could then use an epoxy putty to fill the hole the same way that I have repaired holes on didges I've made. This putty comes in a plastic tube and has a layer of green hardener surrounding the grey putty. Cut off what you need, mix and knead the hardener into the putty till you have a uniform color, then

apply directly to the PVC and feather the edges as much as you can. Enough of the putty will go through the tear to help lock it in place when it sets and if you can reach it inside you can smooth it down as well. Working quickly, you can use wet fingers to help smooth it down and after it has set it can be worked with a file and sanded to blend it into the PVC surface. Another layer can be applied if necessary too.



Go back over all of your cut edges with a fine sandpaper to smooth them out and go over the surface with fine steel wool to prepare it for painting.

We decided on a more abstract look rather than trying for a photo quality cobra representation, in the hopes it would blend a bit better with vegetation. After painting, we give several coats of a matte finish clear coat to protect the paint job without making it too shiny.

And here is the finished Cobra Cache!



I haven't addressed how the cobra will be mounted because I haven't checked with my reviewer yet to see if pushing the tail end into the ground would go against the guidelines no digging rule, or if I would need to make a base for it to sit on.

If you would like to make your own cobra or other PVC sculpture, practice and get a feel for the different techniques and limits, the material is certainly inexpensive enough.