



<http://www.howtohaunt.com/PVC1.htm>

## PVC Armature Figures



These little monsters are relatively cheap to build and construction is easy as pie. Even the most mechanically declined and inexperienced haunter (like me:) can whip one of these out in less than an hour.

The main point to keep in mind is to plan ahead. By planning properly you can save yourself the aggravation of running back and forth to stores to get tools and supplies. Also, make sure you measure twice and cut once so your monster's nickname doesn't become Eileen.

Before beginning this project, let me outline the safety precautions you should follow. PVC pipe cement should only be used in a well ventilated area. While cutting the PVC pipe, you should wear safety glasses or goggles. Safety glasses are cheap and easily available at your local hardware store, there is no reason to gamble on losing your sight.

This how-to is provided as-is and I can not be held responsible for any injuries you may incur while attempting this project.

The first part of planning is deciding what size you want your creation to be. This is important because if you make an adult sized figure and then put a kid sized costume on it, it might not work out too well. For my creatures, I decided to use my son, Edward, as a model. The main reasons being that he is pretty tall for a kid, and I wanted to use a kid's costume in order to keep the costs low. Here is our model:

Obtained from  
Omarshauntedtrail.com



Using our model as the basis I came up with the following measurements after a few weeks:

- Legs:25"
- Upper Arms:6"
- Spine:19"
- Neck:5"
- Lower Arms:1"
- Shoulders:6"
- Hips:5.5"
- Hand Pipe:5"

Obviously if you are using an adult costume, you'll need to adjust these measurements.

Because I live in Nebraska and it seems to always be excessively windy here, I decided to use Schedule 40 1" PVC pipe. Schedule 40 is a thicker walled pipe and is therefore stronger. It is a little more expensive than the standard style, but not noticeably so. I also decided to glue all my fittings instead of dry fitting them.

If you live in a less windy area you may be able to dry fit everything which would allow you to change poses, break the figure down for storage, etc.



Here we have the first shot of our needed supplies.

The basic breakdown for my figures was:

- Styrofoam wig head
- Latex monster gloves
- Child size costume
- Mask with blacked out eyes or a mask and a set of eyeballs
- Foam fiberfill.



Our second supply shot:

- PVC Pipe Cement (if not dry fitting)
- PVC Pipe cutter or a hacksaw (I recommend the cutter, it's much faster)
- 1-1" T PVC fitting
- 1-1" 4-way PVC fitting
- 4-1" 90 degree PVC fitting
- 2-1" 45 degree or 90 degree PVC fittings (for elbows)

The following supplies are also needed, although not pictured

- Black Sharpie type permanent marker.
- A standard kitchen spoon
- Safety Glasses/Goggles
- 10' section of PVC pipe.
- Tape measure or yardstick.
- Great Stuff or another brand of expanding foam.
- Straight pins with ball type heads.



The first thing you should probably do is prepare your wighead. If your mask has the darkened eyehole like my "Gramps" mask does, you will have to do little to no prep. If your mask has discernible eye holes or holes for ears, nose, etc. you will have to do some prep.



Here we have a smaller version of our earlier supply pic. In it you can see the rather plain wig head.

In order to use this styrofoam head in my mask and make it even slightly believable that a person might be behind the mask, I had to make some modifications.

The results are shown on the right. The modifications consisted of blacking out the areas visible through holes in the

mask, scooping out the eye sockets with the kitchen spoon and adding eyeballs, and removing the nose so the mask would fit right on the head.

I blacked out the visible areas using a standard Sharpie permanent marker. As an aside, the modified wig head almost looks scary enough to be a prop by itself.

After the head is modified and the mask test-fitted, it's time to measure the PVC for your cuts. I made all the measurements first before cutting (it just seemed easier that way).

After the prop is built, no one will actually see these pipes so, while I measured them I wrote the measurements on the pipe itself with the trusty Sharpie. This makes things far less confusing later. Once the measurements are complete, you should start cutting. Again, I made all the cuts at the same time just to get it over with.



Before you start assembling your armature, you should prepare your monster's hands. I don't have any pictures of the process but it is very easy.

Put your straw on your Great Stuff foam nozzle. Carefully spray the foam into the tips of each finger starting on one side and working towards the other.

Once the fingers are filled, fill the palm area of the hand. Once the hand is filled, slowly twist your hand pipes (5" long) into the foam until it's all the way in. put this aside and let the foam do its thing overnight. As the foam expands, it will trap the pipe inside and you can now easily slip the other end of the pipe into an elbow connector.



Once the cutting is complete, you can start to assemble your figure. Here you can see the simple legs (25" long) with 90s added for the hips.



Here you can see the 90s attached to the hip pipes (5.5" long) the hip pipes are then attached to a "T" joint with the spine (19" long) rising from the center.



Here you can see the nearly finished armature, the 4- way connector goes on top of the spine and allows us to attach our shoulder pipes (6" long).

Another set of 90s attaches the upper arms (6" long) which then attach to our elbows (a 45 and a 90 in this case). If you are really on a budget, you can eliminate the elbow joints and go with a straight arm, but you'll probably have to dry fit the arms as its hard to get sleeves over an unmovable arm that length.



Now after that last picture you may be thinking, "Is this guy dressing this prop as a 1980's party girl?" The answer is no. Although the bony armature and shoulder pads do rather remind me of a girl I dated in '86, these pads actually serve a purpose. if you are using a skull for the head you may not need them, otherwise they help fill out the prop and make it look more like a real person.

A big drawback to this form of armature is that it looks 2 dimensional from the side. The pads help mitigate that effect somewhat. The pads are made from ziplock bags filled with Fiberfil and duct taped in place on the frame.



There are some websites that recommend fitting a wooden dowel into your wighead and sliding the dowel into the PVC neck to attach the head.

I took the lazy and inexpensive route and instead cut the neck pipe (5" long) into a sharpened point. by doing so I can carefully twist the wig head from right to left, pushing it downward with each twist.

This results in a good, solid connection for the head and by dry fitting the pipe, the head is still removable.

For a little added strength, you can put a little liquid nails adhesive on the neck before twisting the head on, but I have found that when using robes, it is not necessary. Keep in mind that it's often easier to put the costume on first, then add the head.



Here is our happy creature, finally all put together. As you can see, he isn't the most realistic character.

Aside from the PVC legs sticking out though, it could be a kid under there. In the dark on halloween, they are more than scary enough.



Here is a side shot with the right arm removed for clarity. You can see how the simple addition of the shoulder pads actually makes it look like there is a chest cavity there. This is definitely better than a 2-D pipe monster.

You can also see that my arms are just long enough to hide the Great Stuff expanding foam from inside the hands.

Once the hands and head are in place and the costume has been fully set, I have found that by using straight pins that match the color of the costume (in this case black) you can keep the sleeves from blowing back in the wind and revealing the piping.

This can also be used to keep the hood from blowing off the head. Just stick the pin through the costume and into the foam and it will hold without a problem.



Finally we get to the feet. In my case I put boots (old ones my kids have outgrown) on my figures to add to the "Is that a kid under there?" factor.

I also put long black socks on my figures to make sure that a wind blowing the robe up doesn't expose the pipes on the legs. I then drill a hole through the boots to put a length of steel rebar up into the PVC to hold the figure upright.

You don't necessarily have to do this though. You can simply put the rebar straight into the leg pipes.



As many haunters know, a project like this can sometimes take on a life of its own. Here, my newest creation takes a few moments to relax with a nice game of Gyruss.



The final item I'd like to discuss is storage for these props. They are very durable, light, and can be moved around easily. I remove the hands (which I always dry fit because of their size) and pull their robes up and over their arm.



This is illustrated in the photo above and to the left. I then cover them with a plastic garbage bag as shown on the right to ensure spiders, insects, and other possibly harmful items can't attack the important parts.

I throw the hands in a separate bag, put everything in the basement and voila, they are ready for action next year.

I hope you've enjoyed this tutorial. I know it's a very simple prop but you'll really enjoy the results. The first site I saw PVC figures on was the Spooky House Productions page. A few other examples of projects with PVC used as the armature can be found at Beakman's Halloween page and at Terror Tom's Scarecrow page. An ultimate, fully pose able PVC armature can also be seen at Haunter's Hangout.