

Home Made Paint Grenades

Parts list:

1. 1/4" ID Nylon Tubing, 3" to 4" pieces (Available at most hardware stores)
2. 1ft long by 4" OD SCH40 ***PRESSURE RATED*** PVC tubing. DO NOT use anything other than pressure rated!
3. One 4" to 2" PVC coupler.
4. 3" piece of 2" OD PVC tubing ***PRESSURE RATED***
5. One 4" PVC end cap
6. PVC Purple primer or similar and PVC cement
7. Random pieces of wood or some other material to act as a stand.
8. Standard 100 to 150psi air compressor with regulator.
9. Standard male air compressor coupling
10. Air valve (optional)
11. Manual twist test plug for 2" pvc tubing
12. 90 degree elbow female to male 1/4" threads
13. 3" long steel or brass nipple 1/4" threads
14. Ball valve 1/4" threads male to male
15. Zip ties, Any size should do
16. More than 1ft of 1/2" PVC tubing
17. Drill and a 3/32" drill bit
18. 16awg nails or similar pins



SAFETY ALERT

!!! READ BEFORE CONTINUING !!!

Before continuing, consider that if fooled around with, or misused this can possibly injure yourself, others, and property. Take all caution and do not exceed any ratings listed in this tutorial. Excessive pressure can be hazardous or even fatal.

Team Sawzall, myself, or anybody or anything else affiliated with are not liable for any and all potential damage temporary, permanent, or fatal done to others, yourself, or property because of this tutorial and anything built because of it. You know the risks of not following directions.

Be smart, Be safe.....

Procedure:

1. **Assembling the pressure chamber.**
 - A. Take the 2" OD 3" long PVC pipe and at one end coat the outside about $\frac{3}{4}$ " up with purple PVC Primer.
 - B. Coat the inside of the 2" hole on the 2" to 4" coupler with primer as well. Let it dry for about 15 or so seconds each.
 - C. Apply a thin layer of PVC cement over the primed area on both the pipe and the coupler. Quickly and firmly press the pipe into the coupler and hold it in for about 10 seconds. Keep applying firm pressure so that the pipe is seated all the way at the bottom.
 - D. Coat the end of the 4" PVC pipe and the inside of the 4" diameter hole on the other side of the coupler with primer.
 - E. Apply a thin layer of PVC cement to the pipe and the coupler and again press them firmly together, keeping the pressure for about 10-15 seconds.
 - F. Repeat steps D & E for the 4" end cap.
 - G. This is what you should have in the end:\



- H. Now we will assemble the fill mechanism. There are two options available for doing this. The way I did it, I had a main shutoff valve, some brass pipes, and a pressure gauge (NOTE: THIS IS ALL FOR LOOKS ☺). The really serve no purpose because to turn the air off and drain the tank before taking the cap off, I have to unhook the air compressor hose from the system anyway. THE EASY WAY will be explained in the next step. This is basically what the fill setup looks like when I completed it. Note every threaded connection I made during this build was teflon taped to prevent leaks.:



- I. This is the easiest way of making the fill setup. It is not necessary to have a pressure gauge on the system because most air compressors have a built in regulator and gauge. Basically instead of making an intricate fill setup, you can just take the male air compressor coupling and screw it directly into the side of the PVC pressure chamber as shown below.



- J. Now we will construct the paint fill valve and tubing. This consists of basically a 3" galvanized or brass pipe threaded at both ends with 1/4" threads. Thread one end into the 90 degree elbow using teflon tape to seal. Thread the other end into one side of the ball valve. The other side of the ball valve, screw in the 1/4" pipe barb. This is what it should look like in the end:



- K. Going back to the pressure chamber, we will now drill the air intake and paint fill tube holes. The hole for the air intake will go about 1" down from the lip of the coupler and the paint fill hole will go at the bottom of the endcap. The threads on the 90 degree elbow shown in the picture above are 1/4" NPT. I drilled a hole a bit smaller than and just self threaded it into the PVC. For the air intake, there could be a number of different thread size options based on what you did, so here is about what I think the drill sizes are.

1/8" NPT = .375" or 3/8" hole

1/4" NPT = .5" or 1/2" hole

1/2" NPT = .625 or 5/8" hole

Using these as a guide, (Double check, don't take my word for it cause it could be different, this is what I remember off the top of my head) the threads should make a real snug fit if you self thread them into the hole. *I like to screw it in once to make the threads, then take it out and cover it with teflon tape and screw it back in. So far this has not leaked for me yet.

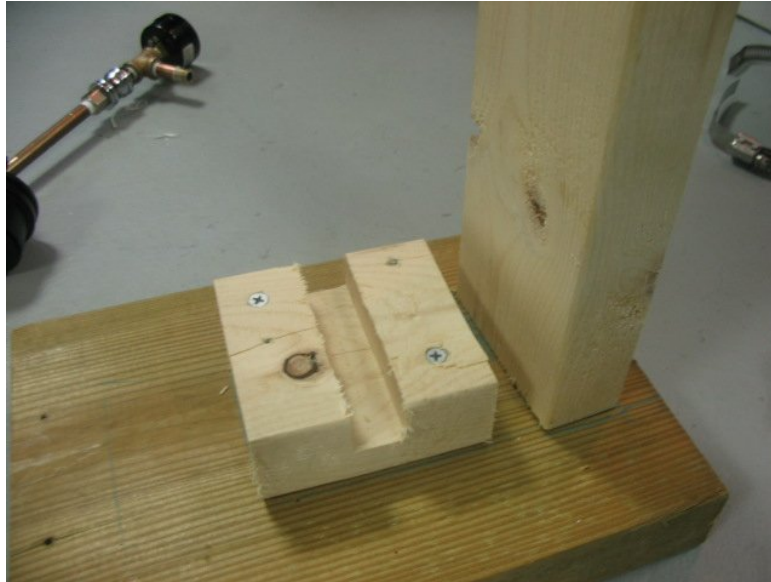
Base with paint fill tube and valve screwed in:



Side with air fill threaded in:



- L. Now I can not tell you what kind of stand to make or what not, due to the fact that based on this some will come up will different methods or designs based on what I've started. This is a basic picture of what I made, its just a bunch of scrap wood lying in the garage with a slot routed into the one 2x4 for the elbow and pipe to sit in:

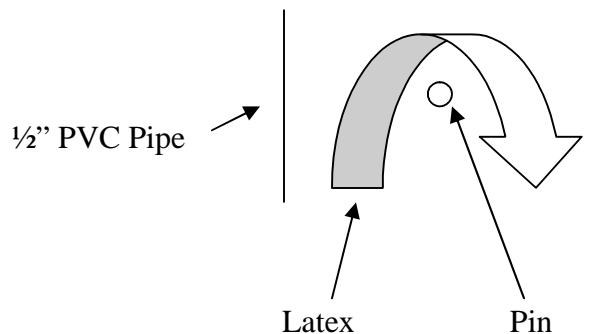


- M. Now we will prepare the actual tubes. It's basically the easiest part of the whole build. Take one of the 3" to 4" sections of latex tubing you cut and fold one end over itself about 1/2". Keeping it folded, wrap a zip tie around the fold and zip it as tight as possible, keeping the fold tightly together.



How to fill a grenade:

- A. Cut .75" sections of the 1/2" PVCbe and drill a hole between 1/4 and 3/8 of the way up through the tube using the 3/32" drill bit.
- B. Fill the pressure chamber with your paint material. I use venom paint mix available at www.rap4.com
- C. Put in the test plug and make sure it is screwed down as tight as possible. Failure to do so will cause the cap to violently burst off.
- D. Pressurize the chamber to around 35 to 40 psi.*don't be an idiot and go higher than 40psi.*
- E. Place one of the tubes on the end of the barbed nozzle and turn the ball valve slowly till the tube starts to inflate and fill with the paint. Fill the grenade leaving about 1" of uninflated tube remaining at the business end.
- F. Fold the tube over and place this inside the section of PVC you cut earlier with the hole lined up so the pin can go between the two halves of the fold. The tubes should be a snug fit over the fold.
- G. Place a pin in one hole and work it through the fold as shown in the vague sketch below:



The grenade is ready for play, pull the pin and give her a toss! Have fun and most of all, safety first.