

Cutlass Hose Handle Homemade



This is a custom design for a basic homemade air gun, using a garden hose handle as a firing valve. This is a slightly more advanced homemade design, though it still works off very basic principles. The only reason it's complicated is the insertion of the 1/2" PVC End caps, which require sanding and balanced, brute force; the use of 1/4"OD Vinyl tubing and the modification of end caps this requires; the irregular bonding of the breech and tank via an external adhesion; and the attachment of the barrel connectors, which you'll have to customize to your particular hose handle model. But given you understand how this is applied, it's still incredibly simple. It still works off the same "Fill, open valve, fire" operation as any basic homemade. Remember, this design is here solely to inspire, not to set a design in stone. One of the advantages of homemade air guns are that they are just that: Homemade. And thus very customizable. So have fun with this design.

Onto construction:

- o 1/2" PVC
- ∘ 1" PVC
- o Garden Hose Handle (Front trigger design preferred)
- 3/4" Male Threaded Adapter
- <u>1/4"OD Vinyl</u> Tubing
- 2 x 1/2" PVC End cap
- 1" PVC Connector
- Plumber's Goop
- Epoxy (optional)
- PVC Glue
- PVC Primer
- 1" PVC End cap
- Tubeless Tire Valve



o 1/2" and 3/16" Drill Bit



Most of the parts are put together and sealed via relatively custom, though simple, techniques. The tubeless tire valve is inserted into the 1" PVC end cap, from the inside, after the center of the end cap has been drilled out with a 1/2" or so (Pending the base diameter of your particular tire valve) bit, and Plumber's Goop has been applied to the base of the tire valve and the freshly drilled hole. This is glued onto the 1" PVC tank with your average PVC prime, PVC glue operation.

The 1/2" PVC end caps are glued in with PVC glue, after the inside of the piece it's going into has been cleaned with PVC primer, and it's outside has been sanded and/or cleaned with primer. The 1/2" end cap can be inserted with brute force, after the inside edges of the piece it's going into have been rounded off with a hobby knife or sandpaper, and its outside edge is rounded with the same tools. But you may prefer to sand the outside of the end cap until it's a relatively easy fit. It's all up to you.

The Vinyl tubing is glued into the end cap/connector system after drilling a hole through the side of it with a 3/16" Drill bit. Apply Plumber's Goop to the outside of the vinyl tubing, and the inside of the fresh hole, and push the tubing in as far as you can. To secure yourself from freak sealing accidents, pull it out a tiny bit after it grounds inside the tube.

To bond the 1" PVC tank and Unknown Breech together, as in the picture, you'll want to just lay them on their sides, and apply some good epoxy, such as Goop Marine Epoxy, in the crack between the two, wait about an hour for it to get tacky, and apply some more to the other side. Instead of Epoxy, you could try Hotglue or PVC glue, though the bond will not be quite as good, as hot glue is rubbery, and PVC glue isn't a very good filler glue.

The 3/4" PVC Adapter can be glued as you screw it in, though some Garden Hose handles, such as the one shown, have a rubber washer at the base of the built-in 3/4" Female Threaded Adapter, allowing you to easily keep a seal without any adhesion. If yours has this feature, count yourself lucky, because you can change the design this gun is used in easily, and even branch off to an exchangeable tank system with a bit of improvision. If not, you'll either have to glue the Male adapter with Plumber's Goop, or possibly buy a rubber washer from your local hardware store.

So, provided everything went well, you now have a pretty little basic homemade, which should be relatively comfortable. If you want to attach a pump, you could forgo the 1" PVC tank, and attach it below the Unknown breech instead, in much the same fashion.



This a simple variation of the above design, which works off a simple system that allows a quick reload of the firing tank by an auxiliary tank. The operation is a bit of a step up from the basic homemade, but it's still incredibly simple, and incredibly easy to emulate in your own designs. In fact, this idea is *not* mine, but was first thought up in the Nerf Internet Community by a man named Lemmypoo. I'm sure they've long had this idea in other air gun circles, but it was a step in the right direction for the painfully elementary systems previously existing, and was a cheap alternative from the use of a commercial regulator to do a similar, though more specific job.

Enough rambling. Basically, you fill the 1" PVC (Auxiliary) tank with a tire pump. When you want to fill the firing tank, open the ball valve, then close it again. Open the valve in the Garden hose handle (Press the trigger) to release the pressure in this firing tank, firing a dart. Close the valve (Depress the trigger) in the handle, and open the ball valve again to equalize pressure between the auxiliary tank and the firing valve again, "refilling" the firing valve. Close again, repeat.

Though regulators have the obvious advantage in this, by not just equalizing the two tanks, but filling one to a lower pressure than the main, allowing more shots at a lower pressure, this simple air regulation design is cheap and still allows multiple shots to one filling. Of course, because the air is equalized, the pressure used to fire the dart will decrease incrementally, but it's better than nothing.



The construction of this homemade is slightly different from that of the Basic Cutlass homemade, but the only new idea used is the "binding." The binding would be a fabric strap, a cord, anything that will slide along PVC, and wrap around both the tank and breech. This is optional, but if the auxiliary tank is attached, via hot glue, epoxy, or PVC glue, to the 1/2" PVC barrel in an Unknown breech, the binding, which is attached to the tank, but not the breech, will allow you to move the tank and the barrel forward as a system, opening the breech. Coupled with a turning motion of your hand, you could open the ball valve and push the barrel forward, refilling the firing tank and loading a new dart in at the same time, then pull the tank back, closing the barrel, and twist the ball valve closed. Essentially, a sort of complicated pump action, but a bit better than operating each separately. Remember, these designs are centrally to inspire, they're not made to set a specific design in stone.

And if anyone calls it the "Zero Homemade," I'll poke you with a hot metal stick.

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