DISCLAIMER: These plans are for informational purposes only. I cannot guarantee that they will all work. Feel free to change them in any way if you think it will work better, but no matter what, by building or trying to build any of these projects, I am not responsible for any injury to anyone or damage to anything. Some of these projects may be harmful so use extreme caution with everything.

PAINTBALL CANNON

Materials:

- 3" Thick wall PVC pipe approx. 10" long
- 2 3" straight PVC couplings
- 1 3"x 1 1/2" reducer
- 1 3" threaded endcap
- 1 3" threaded endcap adapter
- Approx. 4ft of 1 1/2" thick wall PVC pipe for barrel
- PVC cement

Tools:

- Hacksaw
- Drill
- File

Directions:

First make sure all pieces are clean for gluing. Take one of the 3" couplings and apply PVC cement all around one of the inside ends and insert the 3" threaded endcap adapter. Let dry. With the other coupling, glue the 3"x1 1/2" adapter. Let dry. Cut a section of the 3" PVC long enough to insert between the coupling assemblies with about 2 inches showing between the two. Screw endcap into the endcap adapter. Drill a small hole in the pipe showing between the couplings. Drill a small hole in the center of the endcap. The expansion/combustion chamber is complete. Apply PVC cement to the inside of the 1 1/2" adapter. Insert the section of 1 1/2" pipe to be used for your barrel. I recommend at least 40inches. Take a gas grill igniter and tape the two wires together about 10' long. Insert through the hole in endcap, with the button to the outside. On the other end strip 1/4" off the ends of both wires and form a gap between the two wires so that when you push the button a spark jumps between the 2 wires. Pull excess slack out so that the wires do not touch the sides of the chamber.

THE CANNON IS COMPLETE!

TO FIRE THE CANNON

ALWAYS USE EXTREME CARE!!! YOU ARE SOLELY RESPONSIBLE FOR USE OF YOUR PROJECT!!! Remove the endcap and place a semi-tight wad of newspaper in the end of barrel nearest chamber. Pour an amount of paintballs into barrel. Place another semi tight wad of newspaper into the barrel so paintballs won't roll out. Squirt a small amount of hairspray or WD-40 into the hole in the side of chamber. Start with small amounts not to remove the oxygen from chamber, or it wont fire. DO NOT HOLD IN HANDS WHEN FIRING UNLESS YOU HAVE TESTED AND FEEL COMFORTABLE WITH THE CONSTRUCTION. Then all you have to do is press the button and.....BOOM!!!

TO CONVERT TO CO2 SYSTEM-- cut the barrel 2 " above the expansion chamber. Attach a 1 1/2" high quality ball valve. Re-attach barrel to other end of ball valve. THIS IS THE TRIGGER SO MAKE IT FEEL COMFORTABLE. Remove the endcap and use reducer bushings from 3" to 3/8". Use a 3/8" "T" fitting and install a pressure gauge on the T. next install a 3/8" cutoff valve or a tank valve before attaching CO2 tank adapter. TO FIRE-- close trigger valve. SLOWLY pressurize the expansion chamber NEVER HIGHER THAN PRESSURE RATING OF THE PVC YOU USED. START WITH LOW PRESSURES FIRST!!! Get the feel of it and note pressures before going up, and always SAFETY FIRST!!! YOU USE THIS INFORMATION AT YOUR OWN RISK.

Barrel Plug

Description

This turned out to be a really fun project. It was very inexpensive, easy to build, and very simple. It's a ported barrel plug made from a 5/8" dowel rod and some o-rings.

Materials

- 5/8 inch dowel rod
- 2 #35 o-rings
- 16 gauge wire (small amount but not necessary) or an o-ring significantly thicker than a #35
- Screw-eye

Tools

- Dremel
- Drill
- 1/4 inch drill bit (as well as some smaller ones)
- Sandpaper

Directions:

Start with a 3-inch section of the dowel rod. Drill a small pilot hole and screw in the screw eye.

Using a 1/4-inch drill bit, Drill two perpendicular holes through the sides of the dowel 1-inch from the end where the screw eye is attached.

Then drill up from the opposite side of the dowel to form a channel to the ports.

This is the touchy part of the project. Using a knife, chisel, dremel, saw, or some other cutting tool, etch three grooves in the dowel 1/4", 1 1/4", and 1 3/4" from the end opposite the screw eye.

Don't etch them too deep, but make sure there deep enough to hold the o-rings in place.

Make a ring with the wire and wrap it tightly around the slit next to the ports or use an o-ring the same diameter as a #35 but much thicker.

Slide the o-rings in place.

Now all that is left is to do a little touch up with some sandpaper. Make sure there are no burrs or splinters.

Notes

Have a bunch of drill bits handy. When you are drilling take your time and start with a small bit and work your way up making the whole larger.

Take your time etching the slots for the retaining wire and o-rings. You can cut away too much wood and ruin it. But if you are cautious, you can always cut away more wood.

The retaining wire keeps the plug from sliding down into the barrel.

The #35 o-rings in my project don't hold the barrel plug tight in the barrel. Using a thicker o-ring will accomplish that.

The screw-eye is for tying on a string to hang the plug around your neck or attach to your gun so that you don't lose it.

Paintball Grenades

Materials:

- Paintballs (or the solution that's in them)
- A pot (if your using paintballs)
- A rubber tube (something like the squadbuster)
- A ball bearing a little bigger than the diameter of the tube
- A pin
- Some string
- A syringe

Directions:

First take the syringe and fill it, either using the paint from the paintballs by heating them in the pot, or just by making your own. Take the tube and seal off one end, by melting it together. Then fold the tube in half and tie the string tightly around it, so that it holds each part of the tube together, just like the squadbuster kind, and insert the ball bearing into the other side, you can dip the unsealed end of the tube in very hot water, to expand it, so the ball bearing will go in nice and snug, poke the pin through the tube, right next to the ball bearing, so that it holds it in place. Dip the end of the syringe in water, inject it into the tube, and insert the paint. When it is all the way full, it will pressurize the grenade just enough, so that when it is struck against something hard, it will spray all over the enemy. To use it, pull the

pin out of the grenade, and simply throw at something hard, i.e. a tree, a rock, etc.

No-Fog Spray

Description:

Goggles and eyeglasses have a horrible habit of fogging up. Especially after you've saturated the foam with sweat. Even thermal goggles fog up too under hot, humid conditions. I recommend that everyone build a fan to defog their goggles. But that costs about $25 and there are a lot of cheapskates out there in paintball land. So try this, home made no-fog spray.

Materials:

- Spray bottle
- Baby Shampoo (tear free stuff like Johnson's)
- Water

Directions

Mix a solution of water and shampoo. I recommend anywhere from **5:1** to **10:1** (water: shampoo) in the spray bottle. You can experiment with different strengths of the solution for best results.

Spray the solution on your goggles or eyeglasses and wipe off any excess.

I provide no guarantee of success. Success is up to you. This no-fog spray is used by SCUBA divers around the world, but even under extreme conditions (high heat and humidity) even this will fail. So don't count on it as being a fix-all solution because there is none when it comes to keeping goggles fog-free. Except using a combination, fan, spray, and thermal lenses. Even then you still run into the occasional foggy lens.

PAINTBALL SILENCER

Materials:

- approx. 17" of thin wall 3/4" PVC pipe
- approx. 12" of thin wall 1 1/4" PVC pipe
- 2- 1 1/4" straight couplings
- 2- 1 1/4"x 3/4" reducer
- PVC cement
- a round file
- sandpaper
- a drill and 3/16" drill bit
- a 3/4" coupling or 1"x 3/4" reducer depending on barrel type of you gun (you may want to get an extra)
- some steel wool or insulation

Directions:

These instructions are for a fairly large silencer, but you can trim length to suit your tastes. I have found this large silencer to be the quietest I have ever seen. First apply PVC cement to the inside diameter to one side of both 1 1/4" couplings. Tap the 1 1/4" reducers into the glued side of couplings. Take the round file and sandpaper and ream out the reducers so that the 3/4" pipe will go ALL THE WAY THROUGH THEM, BUT FIT TIGHT. Take your time and check size often to make it tight. Glue the 12" 1-1/4" pipe into ONE of the couplings, leave the other side un-glued. That part is now complete.

We'll refer to that as the "cover". Measure own approx. 2" from end of 3/4" pipe and 6" from the other end, and start drilling holes all through the middle of the marks. Take your time and make holes clean. Run sandpaper down the inside to clear any burrs. Glue the other reducer/coupling assembly to the 2" side of the barrel, leaving 1" extending out of the reducer. Here is where you have to determine what size coupling to fit your gun. The 3/4" straight coupling can be sanded to fit 13/16" barrels, or use a 1"x 3/4" reducer to attach gun to silencer. You may have to "custom fit" your silencer to the barrel you have. Just make sure that a paintball can slide through silencer easily. Wrap the now vented barrel with steel wool and slide into the cover assembly with end of the barrel through the opening.

The 2 pieces should fit together nicely in the couplings and allow you to take cover off for cleaning and changing steel wool. Do not pack steel wool too tight, because you want some air space inside for absorbing sound and expanding air.

Smoke Bombs

Materials:

- Sugar
- Saltpeter (usually found in a Large Drug Store)

Directions:

Ok, take 4 parts sugar and 6 parts saltpeter and put them in a pot. Heat them over a LOW flame, stirring constantly, until it is liquid. Pour it into a container, add a fuse, and let it harden.

You can put it into a paper cup, and just light the cup, or you could pour it into a mold.

Take some sturdy string and dip it in wax. You now have a fuse suitable for a smoke bomb.

WARNING: If you put the contents in a paper cup, the cup will burn also, so don't put the smoke bomb in an area with dry grass or anything else that will burn.

Super Squeegee

Description:

The Super Squeegee is a barrel cleaner that you would use between games that

thoroughly cleans your paintgun barrel.

Materials:

- 2 inch PVC pipe.
- 2, 2 inch PVC end caps
- 7/16 inch dowel rod.
- 1, 2 inch wood screw
- Yarn
- 2 screws with wing nuts (optional)
- Twine (optional)
- PVC cement
- Silicon caulk

Tools (may need more, may need less):

- Screwdriver
- Drill and small bits
- Tape measure/ruler

Directions:

Cut 2 inch PVC to a length of 13 inches.

Cut dowel rod to 12 inches

Drill a 2-inch deel hole in one end of the dowel rod.

Drill 2 holes through the side of the opposite end of the dowel rod 1 inch apart.

Drill a hole in the top of both PVC caps.

Take some yarn and wrap it around the dowel rod between the holes in drilled in the side of the dowel rod. Then run 1 -2 loops of yarn around the wrapped yarn perpendicular to the direction the wraps run through the holes.

Using the wood screw, attach the dowel rod to PVC end cap. Then seal it with the caulk inside.

Cement the PVC cap to the 12-inch PVC section.

Drill a hole 1½ inches from the open end of the PVC section and fasten a screw and wing nut in that place. Also put a screw and wing nut on the other PVC cap.

Tie a loop in each end of a piece of twine and slip the loops under the wing nuts and tighten. Seal the inside of the PVC cap and PVC pipe section with caulk.

Instruction For Use:

Fill the SuperSqueegee with water that has a little dish detergent in it. After games remove the barrel of your gun and use the dowel rod inside to clean it. The PVC cap with the wing nut is for closing the squeegee to keep the

water inside.

After you clean your barrel, run a commercial squeegee, paper towel or Kleenex through it to dry the water out. I know this seems like a waste of time, but it completely cleans your barrel of paint including any ports or suppressor.

ProLite/Carbine Full Automatic Mod

WARNING: Doing this modification could damage you bolt, valve, and gas chamber if done incorrectly or overly used. This upgrade is not recommended.

Materials:

- Nail or similar round object (diameter of a receiver roll pin)
- something to cut the nail

Directions:

Cut the nail point and head off. You must make it 1/4". Unscrew the left side of the lower receiver. Make sure to leave all the roll pins in the right half of the receiver along with the screws, springs, trigger, and sear. Cock the gun carefully. (make sure nothing flies out) Notice the small gap between the sear and receiver roll pin that it swivels on. Put the modified nail there. It should fit snuggly but not restrict the movement of the sear. Keep the gun cocked. Replace the left half of the receiver and screw it into place. You can now dry fire the gun. See how the sear constantly engages the trigger? This is what allows it to be full auto. Connect your CO2 and hold down the trigger for an amazing display of firepower. You would probably want to get a motorized hopper to keep up with the rate of fire. I noticed that a VL-200 jams up and the gun shoots air. I don't believe that this is because of the quick cycle rate of the gun (stock prolite is 300 rpm) but rather from the fact that most hoppers jam up often if not jiggled. you probably would want to limit your rate of fire to three or four shot bursts, as I've found it chops up balls if you don't have a constant feed of paint.

Warning. The tippmann may fire faster than you think. An agitated hopper may not be able to keep up with the amount of firing coming from the prolite/carbine. I must say this is the problem they had with the tippmann F/A. You will have full auto, but may chop a lot of balls.

PLEASE READ: it is not recommend to make any semi auto marker into an automatic. It can damage your internals of your marker and replacing the parts may be expensive. The best thing to do if you want to shoot faster is to reduce the trigger pull. This way you can launch more in a shorter period of time.

How to Make The Spyder Full Auto

Warning: The Spyder is not made to go full auto. If you do this you will probably chop balls and you may risk damaging the valve.

Directions:

This is probably the best method that I have seen so far. What you will want to do first is remove the trigger frame. Once the frame has been removed figure out how the trigger works. You will notice that the sear can be pushed forward. When the sear is in the forward position it is engaged with the trigger and when you decrease the pressure on the sear it is disengaged with the trigger. The idea behind this is to keep the sear constantly engaged with the trigger. That way the sear cannot go back to its original position and reengage the striker making you pull the trigger again. Once you understand how the trigger and sear work remove the pin that holds the sear in place. When the sear is removed you will notice the hole that the pin goes through has room for about 2 pins. What you want to do now is place a piece of metal in the front part of that hole. However make sure that the metal pin will still fit. Now reattach the sear to the frame making sure that the sear will still move up and down when the trigger is pulled, only this time the sear should stay down for as long as you have the trigger pulled. This should render the gun full auto, one word of advice you will probably not want to shoot long strings of paint because the valve will need time to recharge.

PLEASE READ: it is not recommend to make any semi auto marker into an automatic. It can damage your internals of your marker and replacing the parts may be expensive. The best thing to do if you want to shoot faster is to reduce the trigger pull. This way you can launch more in a shorter period of time.

DISCLAIMER: These plans are for informational purposes only. I cannot guarantee that they will all work. Feel free to change them in any way if you think it will work better, but no matter what, by building or trying to build any of these projects, I am not responsible for any injury to anyone or damage to anything. Some of these projects may be harmful so use extreme caution with everything.

Mask fan

Directions:

Get a 486 cpu fan (or a Pentium - these are usually heavy though).

Make sure it is plastic only. Get a 9volt battery. Get a 9volt

battery cap/attachment that has two wires still connected to it. Get

a small switch - plunger,lever whatever... (old lamp switches which

are a part of the cord are perfect for this - small!) If you have a

surplus electronics store around you, the most expensive thing you

will have to buy is the battery.

There are two wires that come out of the fan: red and black (most

likely) You will attach these to the two connection on one side of the switch. The leads from the battery cap you will attach to the two connections on the other side of the switch. To see which wire goes where experiment by leaving the wires on right side and trading the wires on the left side of the switch. Just hold them there at first.

Find someone with a soldering iron - perhaps your dad, your shop teacher, the guy at the surplus electronics store, someone in a computer or hardware store, Tv/radio repair man Etc... Now that you know where the wires go you can solder them in place. Make sure that the length of the wire is enough to reach both the battery and the fan in their proper places on your mask.

This really works well with masks that have visors because the fan has protection - so JTs are ideal.

My friend placed the battery in the loop of the elastic band just by his right ear on his Spectra. The fan he mounted directly on the top where the Crosswind would go. He found that the screws that came with the cpu fan he got were pretty much the same size as the holes on top of the lens.

Unfortunately the screws came loose after a day of play. Other possible ways of mounting (these are guesses) are:

Hot melt glue - could break off in the end, but just might work.

Tie the fan down with wire.

Bigger screws, but there would be a problem with the holes in the cpu fan.

This worked wonders for my friend. He turned it on when he needed it. It performed just like the Crosswind, quiet and quick.