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Anti-Fog Goggle Spray

Materials:

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

Directions:

1. 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.
2. Spray the solution on you goggles or eyeglasses and wipe off any excess.

I provide no guarantee of success. Success is up to you. This anti-fog spray is used by SCUBA divers around the world, but under extreme conditions (high heat and humidity) even it 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 foggy lenses occasionally.

ANOTHER WAY TO AVOID GOGGLE FOG-UP:

Take about a 1/2 a thimble full of dishwashing liquid (Dawn, Ivory Liquid, etc.) pour it on the inside of goggles. Then mix a little spit, (I know this sounds silly but bear with me) spread your spit and the dishwashing liquid around the goggles and then using a soft cloth (so as not to scratch the lens) wipe it all out. Do this 2 or 3 times the first time then just twice the week before you play. I swear it really works. However, nothing will totally eliminate mask fog.

Auto-cocker Blocking Pin

I hate it when my cocking block pin breaks. It's always at the worst possible moment when I'm at a field where the pro-shop doesn't carry spare cocker parts. So after seeing someone at my home field come up with a cocking rod pin of their own. Here it is.

Materials:

- Hitch pin.
- Spacer(s) - plastic or rubber (plastic shown).
- Tine pin.



All these parts are available in the hardware/fasteners section of Home Depot and Lowes. I would suggest you take your cocking block into the store to make sure the diameter of tine pin is right and it is long enough so at least one of the holes is visible out the other side of the cocking block when all the parts are assembled.

All the parts should cost less than \$4. (A new cocking block pin can be anywhere from \$10 - \$20)

This is what the assembled pin should look like. I used a white plastic spacer here, but I prefer to use black rubber washers/spacers. You may want to try the same thing.

Also notice that I have it set up so the last hole in the tin pin is where the hitch pin is placed.



Here is what the finished product on the gun looks like. If you look closely you can see the hitch pin on the other side of the block.

Notes:

- You can also use a tine pin that is smaller and doesn't require a spacer. It gives your gun a more streamlined look.
- Hitch pins come in packs of 2 or 3. Keep the others with your gun because they wear, loosen up, and need to be replaced about every 2-3 cases of paint.
- Rubber spacers and washers can be bought in multiple colors and are actually more comfortable when you cock the gun.

Barrel Plug

Description:

This turned out to be a really fun project. It was very inexpensive, easy to do, and very simple. Its 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:

- Black & Decker or Dremel Motor Tool (optional).
- Drill (1/4 or 3/8 works well).
- 1/4 inch drill bit (some smaller ones are also helpful)
- Sandpaper



Instructions:

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 Tool, 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 they're 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 and only take out a little, you can always cut away more wood.
 - The retaining wire keeps the plug from sliding down into the barrel.
 - If 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.
-



Chain Maile Body Armor

Of all the projects you could try, this one could turn out to be the most confusing, tedious, and frustrating of all of them. It is the most difficult for me to describe but I'll give it a shot.

Description:

I was inspired to try this one-day after taking a particularly painful hit between my fingers. I was wearing paintball gloves but it still hurt pretty badly. That evening I was surfing around the web and found an interesting web site describing how to make chain mail like medieval knights wore with their armor. I remember meeting someone whom made, and sold chain mail clothing and accessories. She said all you needed were pliers and some wire so I decided to give it a shot.

Materials:

All materials for making chain mail can be found at your local hardware store or home improvement warehouse such as Lowes, Hechinger or Home Depot.

1. Wire.
2. Dowel rod.
3. 2 good pairs of pliers : needle-nose, and line-mans pliers work well
4. Good, high quality, heavy-duty cutters. Do NOT think you can get away with using diagonal cutters, line-mans pliers, or any cheap WalMart wire cutters. If that's all you have and you don't have the inclination to go purchase a decent pair of cutters, then don't even think of trying this project. The size wire you will be working with is too thick and strong for anything less. I use a set of yellow-handled WISS cutters from Lowes.
5. PATIENCE, PATIENCE, PATIENCE!

Construction:

I can't even begin to effectively describe how to make chain mail. It's easy, and difficult at the same time. But if you need more help on finding out how to make it go to a search engine and look up chain mail

What can you make?

Anything you want! I made a pair of fingerless, palm-less gloves and a neck protector. My current experiment is using a set of JT Flex goggles. I cut the flexible rubber section off the mask and I am replacing it with chain mail (woven in the 6-in-1 Japanese style) that will reach all the way down to my shoulders and chest. Three sides of my neck will be protected. Plus it seems to be better ventilated than plastic.



Pictures:





Ideas:

In addition to gloves, here are some other ideas of things to make out of chain mail.

- Chest protector...this should be especially appreciated by female players.
- "Loin Cloth"...a shield that is worn over your crotch to keep from getting hit in a sensitive area.
- Hood...a hood that fits over your head. Weaving and shaping the links will be important factors in this idea. You wouldn't want your hair to get tangled in it.
- Auto-cocker shroud cover.
- Shin guards...this is actually a request from another player.

PAINTBALL ALL-PURPOSE BOOBY TRAP

CAUTION: BY AGREEING TO THIS DISCLAIMER YOU MUST FULLY UNDERSTAND THE FOLLOWING: **The following device *IS* hazardous to use**, it uses a Black Cat firework to set off and could possibly be fatal or harmful. If you construct this device you agree that anything you do is solely your responsibility. **The construction of this device is not recommended, this information is here for reference ONLY!**

Materials:

Duct tape (can never have enough)

Roll of toilet paper

Crayola powdered children's washable paint mix

Water or vegetable oil

M-80 firecracker (m-60's might work haven't tried though, but don't buy the small stuff like m-2000's)

Model rocket igniter thing that comes in the engine packages

Thirty or more feet of wire, with positive and negative leads

9v battery

Tools:

Scissors, Glue gun

What to Do:

There are three different parts of this project that must be done first to make production run smoothly, I will put them in order of the amount of time needed to do them, so that you don't have to wait on something to dry or mix thoroughly.

The steps are:

I. Make the paint.

II. Making the explosive charge (not as dangerous as it sounds).

III. Making the shell.

I. Making the paint.

Okay, the icky gooey part first... the paint in this device has to be able to be thick and chunky in order for it to have enough viscosity not to leak through the walls of the shell. If done correctly you will have a very nasty looking brew with which you can wreak havoc upon your foes, if done incorrectly your finished product could have unsatisfying results.

Step 1: Take the toilet paper off of the toilet paper roll and don't throw the roll away! You'll use it later...

Step 2: Take the powdered paint and make about a quart of THICK paint by adding water

Step 3: Tear up the toilet paper in to shreds (don't go overboard, just rip it up a bit) then chunk it into the paint. Now stir it all up until you think it is good and ready, about 3 min. should do the trick.

Step 4: Take a strainer of some sort and dip it into the stew you just made, and get all of the toilet paper out. Let the toilet paper hang somewhere drizzling all of the paint out (don't force it out!)

II. Making the explosive charge

This is a very safe and easy way to make an electrically triggered m-80, if done correctly, if done incorrectly you could walk out with a little less digits than when you went in. The main thing to remember here is safety, don't put your work by a fireplace, don't smoke while doing it, and don't go walking around in your socks, shuffling your feet on carpets!! Let's get to it...

Step 1: Take the m-80 and look at it. There should be a plastic cap on either of the ends. Take off the cap that the wick is going into and place it off to the side because you'll need it later.

Step 2: Take your scissors and cut the wick about 1/8" from where it goes into the gray stuff.

Step 3: Take the rocket booster igniter and place it right on top of the cut wick, and I mean RIGHT on top or beside, if this igniter doesn't catch the wick, you've got a dud on your hands when you're finished.

Step 4: Now very carefully move the igniter over to the side of the m-80 on the cardboard at the lip of the m-80 and put a dab of hot glue there, be VERY careful not to let it leak inside!! Let that sit for a minute.

Step 5: Now get that cap you put to the side and place it back on, so that the wires poke out of the top, you might have to cut a notch to let the wires through, if you do, then after you place the cap back on, put some glue in the extra open area so that it is liquid tight. Also make sure that the two wires are not touching anywhere, this could cause a short, and you'd have a dud.

III. Making the shell

This is not too tricky, you'll need some duct tape, scissors and oh yeah...that toilet paper roll you probably threw away.

Step 1: Take the toilet paper roll and smash the roll length ways flat on the table, so that it has two creases in it running length ways. Now un-flatten it and line up the creases so that if you wanted to you could smash them on top of each other. This causes two more creases to be made. Now smash the roll again. You should now have what look like a rectangular prism. If you do, good for you.

Step 2: With your scissors in one hand and your prism in the other proceed to cut about 5/8" down each crease, on either side of the prism. Do it now.

Step 3: Now it's duct tape time!! Fold the cuts of one side of the prism inward on top of each other, preferably in a cross over pattern, the way you would a box when storing it and don't have any tape. Now take some tape and put it on the folds, and put it all over it, especially around the corners. Try not to tape in the middle of the prism, because it deadens the blast and makes the paint fly less far. Take a small, 1/4" or smaller strip of tape and wrap it around the base of the prism, to make the hold tighter on their flaps that have just been taped. Whew, you're almost done...not really.

Step 4: Poke two holes in the middle of the prism, no further apart from each other than 1/4", put it on a crease if you can, but make sure it's in the middle of the prism.

IV. Putting it all together.

The title says it all I guess. Just during the whole process make sure that the wires don't touch and that the paint doesn't leak.

Step 1: Go find your paint/toilet paper, it should be pretty much just some really damp and mushy colored toilet paper by now, if there are still drips coming off of it, then smash some (not all but mostly) of the water out of it. Now separate the toilet paper into halves, take one half and completely tear it up, take the other half and tear it into bigger chunks, now mix it all back together.

Step 2: Take the modified m-80 and put it inside the prism, slip the two wires through the hole, and put some hot glue on either hole, to make it liquid proof, hold it until it dries then let go, the m-80 should not slip out of the holes.

Step 3: Take your gobble Dee goop paint and put it into the prism, let it settle for about a minute so that air bubbles can get out. If you make the paint the right consistency you shouldn't have any problems; if you didn't you will have leakage.

Step 4: Follow the same step as step III-3

Doing this right should result in a little rectangular prism, with silver ends and two wires coming out of it.

V. Detonating your newly made weapon amongst unsuspecting foes. This is really easy, take your double lead wires and put them on the two wires coming out of the prism, just twist them together and make sure you have one leading positive and one leading negative. Now take the prism and place it somewhere where the enemy can't easily see it, but is sure to come by. Now run off trailing the wire to whatever length you cut it at, and lay in wait. When the enemy comes by monitor how fast they're going. Try to figure out when they will be 3-5 ft. away from the prism (note that it takes on average 2-3 seconds for the prism to detonate). Now whip out the 9v and push the two wire leads to either end of the 9v. If you have a made good estimation you will hear a satisfying *pop*, and a round of "what the hells" and "Oh-shits". Now rush in on their flank and sweep and clear.

Again I must tell you that if you build this thing, you are responsible for any actions that the come from this design. I claim no responsibility. These plans are here for just reference.

Book Match Igniter

This is a very hot igniter made from paper book matches for use with a smoke bomb (or other incendiaries).

Material Required:

Paper Book Matches
Adhesive, duct, or friction tape.

Procedure:

1. Remove the staple(s) from the match book(s) and separate the matches from the cover.
2. Fold and tape one row of matched into thirds (fold in thirds and tape).
3. Shape the Matchbook cover into a tube with the striking surface on the inside and tape. Make sure that the folder cover fits tightly around the taped match heads. Leave cover open on one end for insertion of the matches.
4. Push the taped matches into the tube until the bottom ends are exposed about $\frac{3}{4}$ inch.
5. Flatten and fold the open end of the tube so that it laps over about 1 inch and tape in place.

Use with a smoke bomb:

Tape the “match end tab” of the igniter to the top of the smoke bomb and against the imbedded match heads. Place smoke bomb container on the ground, grasp firmly by the side of the container and pull sharply or quickly to ignite the matches.

General Use:

The book match igniter can be used by itself to ignite flammable liquids, fuse cords, and other similar items that require hot ignition.

Caution: Store matches and completed igniters in moisture-proof containers such as plastic zip lock bags until ready for use. Damp or wet paper book matches will not ignite. **Safety first**, this igniter is not a toy; matches burn very hot and can damage persons and property.

Delayed Action Igniter:

You can also use a book of matches with a cigarette or small candle inserted between the rows of matches. A smoldering cigarette, depending on the brand, will give you about 10 minutes delay. A small, birthday cake size, candle will give you about 2 or 3 minutes. You can experiment with the igniter to get a more accurate time delay.

Paint Ball Cannon

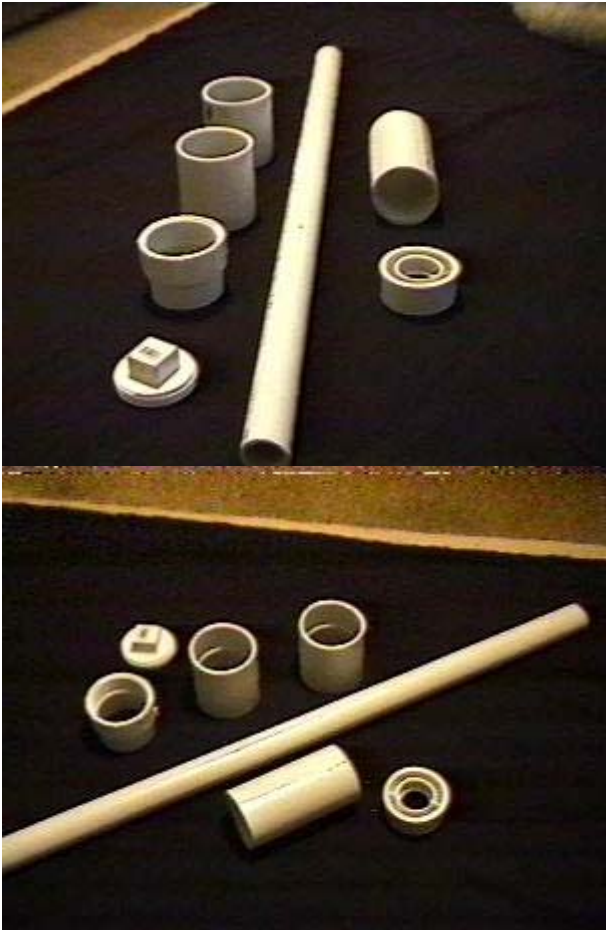
This project is fairly simple and yields an awesome weapon. I like the original (volatile fluid propellant) version best. However, instructions for conversion to CO2 or compressed air are also included.

Materials:

1. One 3-inch Thick wall PVC pipe approx 10" long
2. Two, 3-inch straight PVC couplings.
3. One, 3-inch by 1.5-inch reducer.
4. One, 3-inch threaded end-cap.
5. One, 3-inch threaded end-cap adapter.
6. Approx. 4 feet of 1.5" thick wall PVC pipe for barrel.
7. PVC cement

TOOLS:

1. Hacksaw
2. Drill
3. File



ASSEMBLY INSTRUCTIONS:

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 end-cap adaptor. Let dry. With the other coupling, glue the 3"x1 1/2" adaptor. 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 end-cap into the end-cap adaptor. Drill a small hole in the pipe showing between the couplings. Drill a small hole in the center of the end-cap. The expansion/combustion chamber is complete. Apply PVC cement to the inside of the 1 1/2" adaptor. Insert the section of 1 1/2" pipe to be used for your barrel. I recommend at least 40 inches. Take a gas grill igniter and tape the two wires together about 10' long. Insert through the hole in end-cap, 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 end-cap 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 won't fire. **DO NOT HOLD IN HANDS WHEN FIRING UNLESS YOU HAVE TESTED IT THOROUGHLY AND ARE COMFORTABLE WITH THE CONSTRUCTION.** Then all you have to do is press the button and....BOOM!

CO2 Conversion:

TO CONVERT TO CO2 SYSTEM-- cut the barrel 2 " above the expansion chamber. Attach a 1 1/2" high quality ball valve. Re-attach the barrel to other end of the ball valve. THIS IS THE TRIGGER SO MAKE IT FEEL COMFORTABLE. Remove the end-cap 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 adaptor. TO FIRE, close the 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 increasing them, and always **SAFETY FIRST! YOU USE THIS INFORMATION AT YOUR OWN RISK.**

Ghillie Suits



These are my step-by-step instructions on how I built my first two Ghillie suits:

Suit # 1:

- I first acquired some military camouflage netting from an Army Surplus store.
- I then sewed this netting onto an old BDU shirt dating from my father's service in the Vietnam War.
- I then tied on stripped pieces of olive drab cloth that I tore from other olive drab BDUs.
- I cut the ends of the strips so they would frazzle a little, and they did.
- I quickly learned that this Ghillie suit didn't work properly, so I tore the netting off the shirt and use it as a wonderful spring/summer camouflage net for positional Camouflage.

Suit # 2:

1. I acquired a pair of mechanics coveralls from the army surplus shop. (\$40)
2. I sewed on padding and extra canvas around the knees, and sewed in an internal belt around my waist.
3. I acquired some army hammock netting from a military catalog (Brigade Quartermasters, \$20)
4. I also bought a Camelback "Pakteen" 50 oz. also from Brigade Quartermasters (\$40)
5. I sewed in a pouch on the inside back for the Camelback.
6. I sewed on the netting for my back. I anchored it around the sides and anchored some in the middle for strength. Instead of one giant piece of netting covering my whole body, I am placing the netting in sections that do not span any of my joints. This makes it more flexible and easier to attach.
7. I bought some burlap at a fabric store. I got two tones of dark and light brown, and a tone of darkish green. I got about 4 square yards for \$10.00.
8. I sewed some netting onto my boonies hat and added burlap strips and frazzled them by pulling off the smaller horizontal pieces of burlap. Quick Tip: Try to add the burlap outside because it can get messy, especially while cutting. And shred the burlap outside, this is extremely messy.
9. I put burlap and assorted cloth on legs. Then I did the same to the back and finally the arms. It is important that all these parts look the same in color, or the suit will look funny.

10. Now that I am mainly done (a Ghillie suit is never really done) I am going to field test it. For this, my spotter and I go to a field that is about 200 yards wide, and my spotter sets up a spotting scope and tries to find me on the other side of the field.

This suit turned out much better than the first one. However, it still was a long way from perfect. I am trying a third suit with instructions from <http://www.ghilliesuits.com/>. I believe this site is the best one going for Ghillie suits.

Suit # 3:

Go to <http://www.ghilliesuits.com/> and click on “Make Your Own” and follow the instructions. They also have a superior line of high quality supplies.

GOGGLE CAMOFLAUGE:

Plexiglas goggles are essential safety equipment and we should never go into combat without them. Eyesight is non-replaceable. They do have a reflective surface and can sometimes give away our position in the field. Wouldn't it be cool if we could hide them from our enemies? Why not camouflage them? You would not want to use spray paint because you could not see through the lens. However, if you have some old camouflage clothing you've got camouflage for your goggles.

Instructions:

- Take clothing and shred into about a half-inch wide and about 8 to 10 inches long.
- Tie the ends of the shreds in a knot around the air holes of the mask then let dangle down.
- Continue doing this till you're happy with the looks of your mask.

Paintball Grenades

I have spent a long, long time researching paint grenades. I have spent an equally long time surveying people's experiences of using paint grenades. Paint grenades fall into two basic categories: explosive, and "splatter".

Explosive grenades use a small charge, usually no larger than a firecracker, to break open a paper shell and spew out the paint contents. They are usually lit with a fuse or use a pull-pin.

The model is the M-69. The paint tends to fly out in sloppy chunks, if it flies out at all, due to the fact a distressing number of grenades tend to be duds. The grenades that I know of that fall into this category are-- The M-69 made by Strange Ordnance, a grenade made by Enola Gay (brand name unknown), and a grenade made by Pro-Line (brand name unknown). Of these, the only one used extensively is the M-69, which is odd seeing as how it has the greatest overall failure rate.

Now let me interject the final word here about explosive grenades:

I DON'T LIKE THEM!

The reason they set me on edge so much is twofold. One, I don't care how small the charge is in the grenade, it is still an explosive, and as such threatens everyone's safety, including your mask and goggle system. Two, paintball still labors under a negative public image. I'm not helping matters admittedly by encouraging a "scale-model Wargame" atmosphere with my ideas and plans, however my point is; if the public at large hears about us tossing EXPLOSIVE materials at each other, it's all over, all of it.

Strange Ordnance are you paying attention?

I admit these grenades are fun, they go boom. Hell I want to play with one. But they don't, repeat don't engender a safe atmosphere. Okay, that's off my chest.

Now on to the good stuff!!

Okay, where was I, the second category of grenade is the "splatter" kind. Grenades, which fall into this category, are the SquadBuster by Tippmann.

Grenade 1

The Little Betty is the grenade that you will be making here, and water balloons. These types of grenades rely on paint under pressure to hurl their contents onto targets. So, let's begin shall we?

Materials:

- A section of 1/8" rubber tubing about a foot long. (Available at hose supply stores, medical supply stores, or chemistry supply stores.) Alternately, you could use a used Squadbuster.
- A plastic clip tie.
- A large syringe (if you don't have medical friends, you can find syringe like "emergency pumps for basketballs" in your local sporting goods store).
- Some paint (either boiled down paintballs or children's washable non-toxic paint).
- A pair of hemostats.
- Some ball bearings of slightly larger diameter than the tubing (you can find these in your hardware store).
- Some cotter pins.
- Some alcohol.
- A rubber band (optional).
- A target.

1) Take the tubing, and Pinch it down tight in the middle. If you want to make smaller, Little Betty type grenades, use only a six-inch length and tie off one end of the tubing. If you're using an old SquadBuster, this is already done for you.

2) Fill the syringe with the paint mixture and inject it into one side of the tubing. Leave about 2 to 2.5 inches at the top empty.

3) Before you remove the syringe, crimp off the tubing below it with the hemostats. The filled section of tubing should look like a hotdog.

4) Lubricate one of the ball bearings with the alcohol and insert it into the tubing above the hemostats. If you still have the cap from the SquadBuster, just fold the tubing tip over and place the cap on.

5) Insert one of the cotter pins above the ball bearing, through the tubing. Or place the old SquadBuster pin through the hole in the cap. Leave the hemostat on until the alcohol dries. If you are making a Little Betty type grenade, you are now done.

6) Take the other empty side and repeat the process, except use the same cotter pin to hold both bearings in.

7) If you want the grenade to have maximum area coverage with smaller paint coverage, simply leave as is. However, if you want maximum paint coverage put a weak rubber band around the grenade. The theory being this: When you pull the cotter pin out and throw the grenade, the non-banded kind will fall apart, pointing in two different directions. The banded kind will, however, spray a greater amount of paint at a specific area. At any rate, both types will spray in a radius because the release of pressure will make the hose tip wag around.

I have tested one of these; they do work, and expect about a 5 to 6 foot spray radius. Remember VERY IMPORTANT: get a good arc on these or try to throw it at something hard (like a bunker right behind your target) because you need to get enough pressure when it hits to push out the bearing (or knock off the cap). Conversely, after you have pulled the pin, DON'T squeeze the grenade or you will get very, very messy! Also, after you pull the pin, if you notice a small amount of leaking paint, throw it quickly or it will blow soon! And this should be the final result.

So there you go folks, hope you enjoy it. If you try this out, email me and let me know your results or send me some pictures. I am also interested in anyone using these as cannon or mortar ammo! Please let me know if you try this! Thank you all and happy painting!

Grenade 2

Use plastic Easter egg shells with one side with vinegar and paint the other baking soda separate the two sides with tinfoil. CAREFULLY hook the two sides together then put electricians tape on the seal. There is two ways to detonate these; 1- twist to break the tinfoil, 2- poke a needle on the little hole (on the egg to break the tinfoil. Have a piece of tape ready to fold over the hole and throw.

Grenade 3

Fill a water balloon with paint and throw. This is cheaper and probably more effective than Grenade #1. To fill balloons use a plastic water bottle fill with paint attach balloon squeeze bottle and tie balloon.

Grenade 4

The Squadbuster

These are manufactured by Tippmann and can be found at most paintball stores and fields. Cost is usually around \$5 ea. They are probably the most common paint ball grenade in use today. They gained popularity quickly when explosive paint grenades were turned away from in the sport. They hold a good volume of paint and make a nice mess of someone if you land it near them.

Because I have the equipment and understand how these work, I reload them. They use 2 balls on each end of the tubing to hold the paint in. The tube is bent into a U shape and wrapped in mesh to hold the shape and I suppose make it more attractive. The 2 ends of the tube are folded into the cap and the cotter pin is inserted through the cap holding it all in place. When you get ready to use the grenade, just pull the pin, remove the red cap and toss it. The impact should push the balls out and make a good quantity of paint spray out.

Here's the process I use to reload these. It requires tubes that are in good shape (tubes decompose if left in the elements for a period of time).

- Slide a ball about 1" into one end of the tube and clamp it off there.
- Fill the tube with paint until only about 1" of tubing is left and clamp it off.
- Insert ball on this end.
- Bend the tubing into a U and put the mesh back on to hold in this shape.
- Hold the ends together, bend both in half and push the cap over them.
- Put the pin through the cap. It should not go through the tubing but underneath the folds to hold it.
- Remove the clamps and rinse it off.

Here are some of my reloads. I didn't clean them off that well because these were for me to use and not resale. They work the same.



Grenade 5

Special Forces Grenades:

These are manufactured by Tippmann Ordnance and can be found on a few web sites including Tippmann Ordnance's page and Alternative Paintball. Cost is usually around \$6 ea. These use a combination of vinegar and baking soda to pressurize the tubing and make it explode on impact.

I believe the large end is the vinegar solution and the small end is the baking soda. I could be wrong. In one of the two paint is mixed in. I haven't used one of these yet. I love the idea but don't trust the reliability. On the directions from the manufacturer best coverage is achieved after mixing the solutions and waiting 1-2 minutes. Yeah right.

I took 10 grenades on the field with me recently (2 betty's, 1 Squadbuster, 6 Balloons and 1 Special Forces). I used all the others and not this one. I just didn't trust it or feel like messing with it on the field. I'll have to see how effective they are before I render my final judgement though. You could probably make these yourself, but it would be a little stinky and messy getting it all in the tube. It would also take a bit to get the mixture right for decent blue paint to come out of the tube.



Grenade 6

Balloon Grenades

Ok, now that you're totally let down by those pathetic "make your own grenade" plans, and pissed at me because I won't give up my secrets, here are the easiest and cheapest grenades to make! I have had good luck carrying these in a tube and as they're cheap and easy to make I have no regrets tossing a dozen or so in a single game.

1. Acquire some paint. (Melt paintballs, use kid's water paint... whatever)
2. Acquire some small water balloons or Latex Rubber gloves (you could probably use a condom but that's WAY to weird for me).
3. If you use the Latex Gloves, cut the fingers off and use the fingers for the material.

4. Get a 20oz or 2 liter pop bottle, fill it with your paint and use it to fill the ballons / fingers. For smaller water ballons you can use a tapered nozzle like a catsup bottle. If you want a more sturdy grenade, double them up before filling!
5. I usually twist them in the middle once and wrap tape around them to make them a bit sturdier. You can twist multiple Balloon grenades together in different shapes to make them bigger and more interesting!
6. Toss them into a bush where your enemy is hiding.... or into a building , or a bunker, or their base... Whatever... Just nail em!

Is that simple enough for you? Oh yeah, as these tend to be somewhat fragile, I recommend carrying them in a Ziploc bag. A pocket full of paint is no fun, trust me! :)

I found some nifty small balloons that actually have a grenade look to them. If filled to the right size, you can fit half a dozen in one 140 round tube.



Grenade 7

Aerial Balloon Grenades

This was one of those things I've been thinking about for a while and finally decided to try.... at 2 AM of course. These work pretty well. They have about 0.5 to 1.0 second delay after you

let go of them before they start going off. With a decent toss I could get them 15-20 feet before they started spraying. They make a very nice shower as the entire balloon empties itself in the air. The only concern I have about these is safely transporting them on the field. Doubling up the balloons should help.

Items needed -

- Small Water Balloons
- Popsicle Sticks
- Paint and Filler bottle
- Rubber bands
- Tape

Instructions:

1. Bend the popsicle stick in half without breaking it.
2. Fill the water balloon with your paint (or water for testing). Do not tie it off!
3. Use the popsicle stick like a clamp around the end of the balloon you would normally tie. Twist the balloon about a dozen times. It should look something like the picture below.



4. Use a small piece of tape and tape the rubber band to the middle of the balloon.
5. Fold the stick down so it's on the opposite side as where the rubber band is taped, then wrap the rubber band around to hold the stick in place.

All done. The end result should look something like the picture below.



Grenade 8

Little Betty Grenades

These grenades and the plans you've probably seen before as they are quite common.

If you just want a couple of grenades to throw in a weekend game, GO BUY a couple! Trust me, the time and energy aren't worth the effort. Here's what my first couple of grenades cost me -

Surgical Tubing - 1.99 per foot @ local hardware store
Ball bearings, pins and key-rings - \$1
Paintballs (had to melt down) - \$5
Stupid bicycle hand pump thing - \$10
Crile Forceps (hemostats) - \$5

OK, we're up to \$22, you get the idea. Not only did it quickly become expensive and time consuming, if you use the "Melt Paintballs" method, it's A ROYAL MESS melting the paint (have you ever done this??? Paintballs STICK to the bottom of the pan like glue!). Also, the paint from paintballs isn't the proper color for grenades. It should be Light baby blue! You can also prepare for tons of frustration trying to use that sorry pump to fill the tubing. I can't even count how many times I got painted trying to put it together. Needless to say, I quit that method!

Grenades the way they should be....

After tons of blood sweat and tears, I have come up with a grenade that sprays more, goes off more often and you can carry 2 in a view-loader tube. I use smaller diameter tubing. The result is that they are higher pressure, spray more and have awesome range in a smaller grenade. I got the cost for the supplies down a bit, and once I made the equipment to fill them I was all set. I made a new method for filling them. I don't have a picture of the filling device, but I will say that I use an air compressor to pump the paint in. I make my own non-toxic, non-staining, baby blue paint by the gallon. I won't give that recipe away either as it took me 9 or 10 tries and a ton of time to get the right color! If you want to buy paint or the finished grenades, let me know! Here's a picture of my little demons.



Grenade 9

M-69 Decoy Grenade

The M-69 Decoy grenade is a new concept from Alternative Paintball. Have you ever played a game of paintball and had a paint grenade thrown at you or into your bunker? Needless to say, it usually causes you to jump, scream, panic or at the very least, take your eyes off your target and stop shooting for a moment. The M69 Decoy grenade simply looks very much like the Strange Ordnance M69-A2 grenade, with its brown cardboard shell and metal pull pin top. It weighs just as much and is almost the exact size of its namesake, yet it contains no explosive or for matter of fact, no paint whatsoever. Its sole purpose is to startle the enemy into thinking it may be a live grenade and flush them out of bunkers, from behind cover or to just grab their attention for a while. The M69 decoy is constructed of a PVC tube wrapped in simulated cardboard packaging just like the real M69. It has a metal simulated pull pin on the top and a sealed bottom. The letters "M-69" are stenciled on 2 sides, and the whole device is covered with a water resistant plastic covering for protection. In addition, the inside of the "grenade" has several metal rings inside that causes it to tick and rattle as it is thrown and rolling on the ground, drawing attention to itself. Next game, yell grenade and throw this at your opponent. It's at least good for a laugh or even a conversation piece!

Grenade 10

REMOTE GRENADE (using M69s)

Get an old remote control toy car and remove the motor from it. Take the remote car mechanism, so now you can only rotate the little knob when you activate the car with the control. Attach the whole mechanism to the top of the grenade very securely. Now, tie a piece of twine or monofilament to the knob, and the other end to the pin, so that when you press the remote, the knob will turn, winding up the twine or monofilament onto the knob, making the pin come out. Position the grenade so the nozzle end is pointing at the path or area you are defending. Lay in wait for the enemy to come by and then press the remote and watch the paint fly. This is one of my favorites and it is awesome.

Grenade 11

REMOTE GRENADE CLUSTER (using M69s)

Try the setup for grenade # 10 with a cluster of three or four grenades taped together, and the pieces of twine or monofilament on the same knob. You can also vary the lengths of twine or monofilament so the grenades “detonate” consecutively (grenade #1, pause, grenade #2, pause, grenade #3) rather than all at once which is even cooler. You can also space the grenades out in the direction you think the enemy will be moving and they will wonder where the h*** they are coming from.

Grenade Filling Device

Well it's really not all that complex. It works off of an air compressor. It cannot be used with CO2 as the maximum pressure is 200 psi. It's a 1' section of 4" PVC. The bottom is a standard end cap. The top is the screw off type. I could not get the top to seal properly so I glued it on and threaded in a 1" close galvanized pipe and use a galvanized cap to close it off. This is where you fill it. The fitting sticking out on the right is where the compressor line goes into the filler. Notice I drilled where the PVC is 2-layers thick. It is also tapped and threaded to 1/4" MPT. The end cap at the bottom was also drilled and threaded to 1/4" MPT and a brass fitting was threaded in. A piece of reinforced clear hose (200 PSI) attached to the fitting and to make sure it stays I added a hose clamp. The line runs to the same fitting threaded into the blowgun and is also clamped in place. On the "out" end of the blow gun there is another brass hose fitting (1/8" MPT) which you slide the grenade tubing on to fill it. It works like a charm. This unit holds approximately 3/4 gallon of paint and was built specifically for someone. My new one is the same design but uses a 2' piece of the 4" PVC and holds 1.5 gallons. The only revisions I might make to the unit are a better filler cap (mine leaks a little air, no big deal) and a pressure release valve where the air fitting taps in.

