Butane badness

by **bench.worker** on July 1, 2007

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Intro: Butane badness

This is awesome: A butane powered mini-gun with interchangable barrels capable of firing a wide range of ammo.

I started playing with this several months ago. I had seen the film canister cannon and wondered about the possibilities. Initially I saw this: Pirate Cubicle Cannon . I then saw several other implementations all using a sprayed fuel, typically Binaca.

I thought that "autoloading" would be better than having to spray fuel into the canister and attach it. I thought that the fuel-air ratio was probably too rich, not too light in the Pirate Cannon but I planned on making a small hole in the film canister to relieve the pressure and allow fuel to flow in if it were indeed too light.

I built a prototype using butane as the fuel, piped in. There was no problem, just a _very_ rewarding *loud* report + fireball followed by insane laughter. Finally I calmed down and began thinking (ir)rationally.

As I thought about making a hole, my thoughts morphed from a small one to a larger one to a barrel: a-la the "ultimate spit-wad shooter".

I tried it and the performance was beyond anything I expected. I used a Bic Round-stik pen as the intitial barrel...hunting for ammo... would you know that Tic-Tacs fit really well in a Bic pen? Yeah and when the tic tac hurtled across the room, bounced of an angled door, down the hallway and ricocheted arround in the bathroom for a while I knew I had something.

I scoured the web looking for anything similar, I found one thing at the BleachSoft website. At instructables, I filtered through all the KNEX guns, marshmallow guns, airsoft guns, etc and turned up nothing. I have however recently seen several similar projects appearing here on instructables:
Q-Tip Gun
Small Dart Gun
Axe Rocket Launcher/ Mini Spud Gun
Mini Spud Gun, Classroom Nemesis
Mini Spud Gun
Now that my fear of being the sole corruptor of the DIY builders of the world has abated, and I will not share sole responsibility for the fallout, I present my work so far.

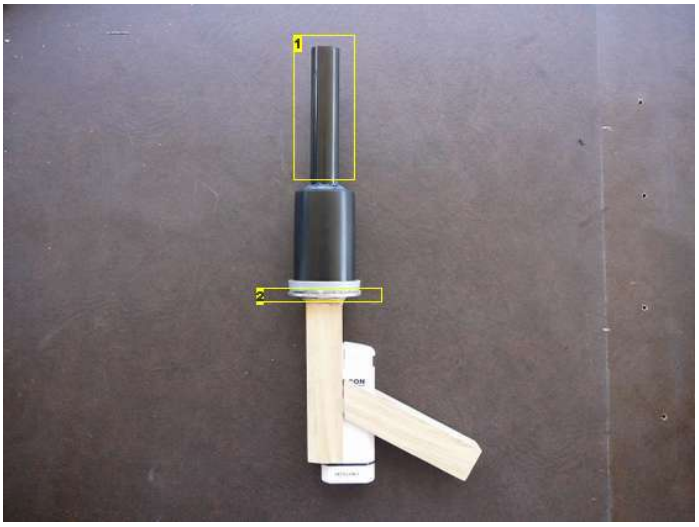


Image Notes
1. CD spindle barrel
2. Fender washer

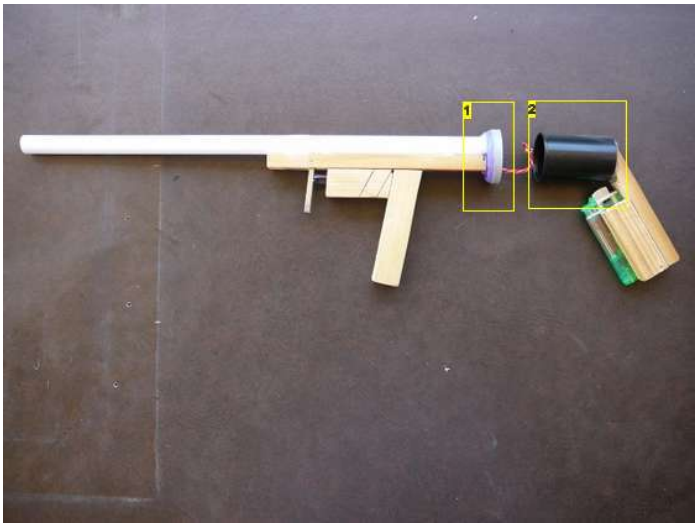


Image Notes

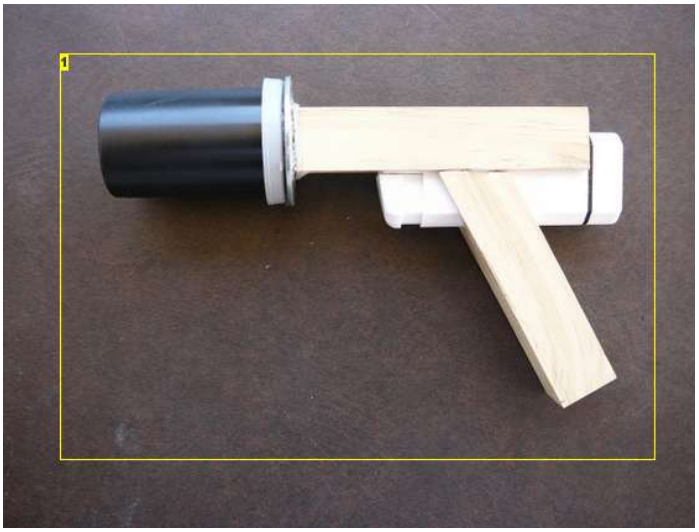
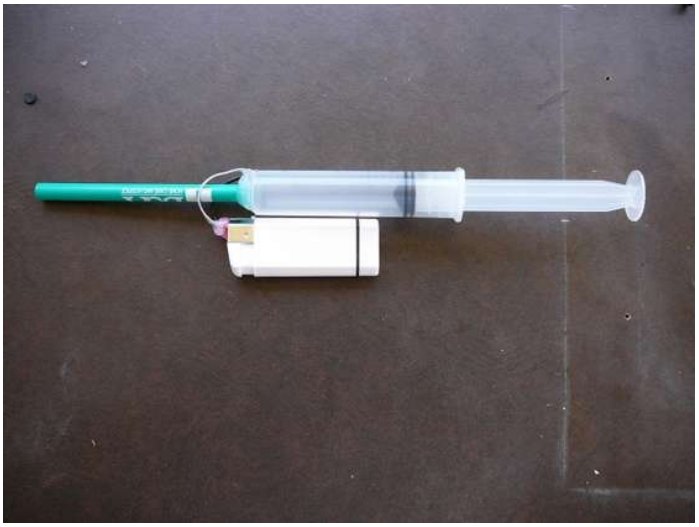


Image Notes

1. Breech loading
2. Gas tube inside. Gas flow regulated seperately from spark source.



1. Film Canister Cannon mode. Noisemaker, canister projectile.

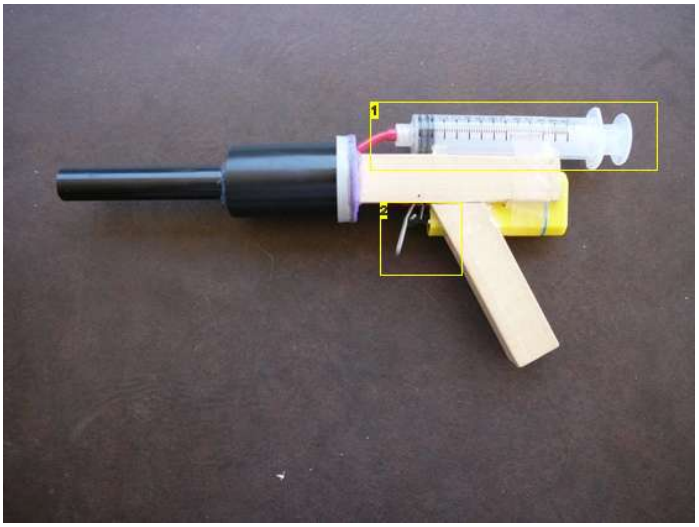


Image Notes
1. Syringe modified for chamber purge pump.
2. Alternate trigger style

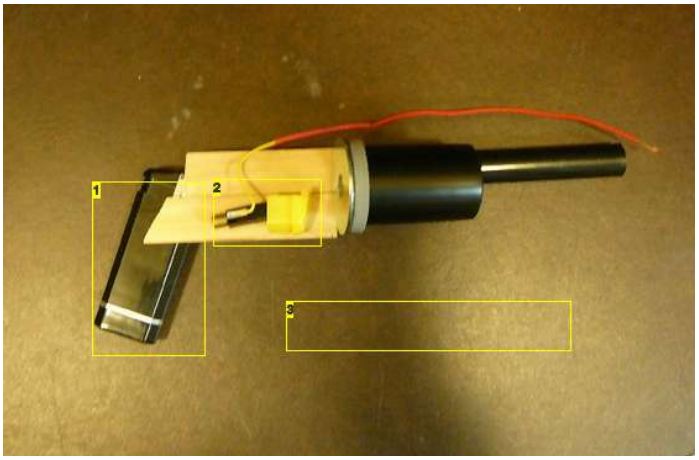


Image Notes
1. Gas flow control
2. Trigger area
3. Future design

step 1: Parts Overview

All parts should be easily found around the home or office. The Ronson lighters came from a local pharmacy. The candlelighter came from a dollar store.

Parts

1. Wood.
This could be 3/4" stock, 1" stock, Exotic hardwoods...anything you want. For office expediency a flat ruler could be employed or better, one of the square cross-section yard sticks. I'm using 3/4" here. It would be great to combine this: Wooden Luger with the project...mayabe in the future.

2. Lighter to be used as trigger and fuel control
- I used the illustrated Ronson lighter. Almost any would work. Make sure it is refillable. You will be refilling it. Trust me. Choose one and get several of the same type -- they all have little differences. Once you've used one type it will be easier in future devices.

3. Film Canisters.
- These are easily available and will be used as the combustion chamber and for changing barrels for firing a variety of ammunition. Agian, you may want several. I have not tried the translucent Fuji variety or the oval advantix ones.

4. Fender washer.
- Dimentions are not critical. You could use any round rigid flat piece of material. This will support the back of the lid as it attaches to the body of the device. I've used plastic scrap before. You want a rigid plataform that adheres well to the lid and the device body.

5. Barrel.
- shown are a standard Bic pen and a black tube - this is the spindle from a CD spindle pack. Other options are chapstik tube, pen barrels of other dimentions; basically any straight piece of tube of a diameter that matches the ammo you want.

6. Candle lighter.
- From the dollar store. Bascially we are harvesting the wire and the gas tube from this. I also use the piezo striker as it has the wire already soldered neatly to one of the leads.

7. Wire.
- Used to convey spark from piezo into chamber. Not needed if using wire from candle lighter.

Tools
1. Saw - cutting wood to proper angles / lengths
2. Dremel or other carving tool for channeling the wood to accept the lighter
3. Drill or method of making long thin holes for gastube and wires
4. Soldering iron - for attaching / tinning wires
5. Hot melt glue gun - could use another adhesive if desired

That's it. Move on for the good stuff.

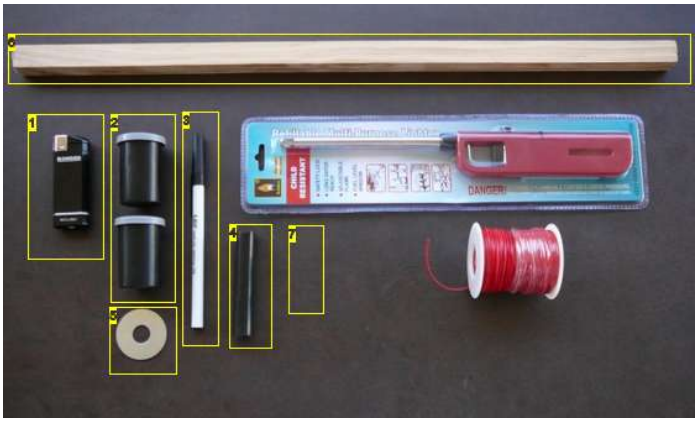


Image Notes
1. Ronson lighter for trigger and gas flow control
2. Film canisters form combustion chamber and barrel swap function
3. Tic-Tac barrel
4. CD pack spindle. This works great for minimarshmallows
5. fender washer to support the breech
6. Wooden ruler, square stock, etc.
7. Invisible ink pen spring

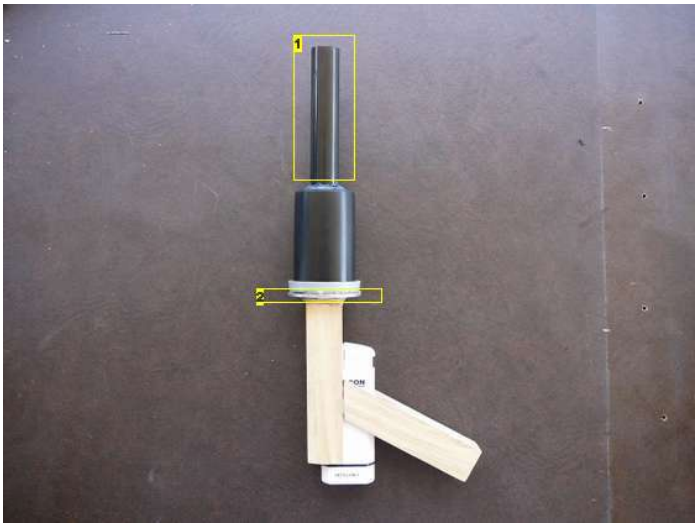


Image Notes
1. CD spindle barrel
2. Fender washer

step 2: Electronics

Now for the piezo setup.

Take apart the lighter and the candlelighter. Below are illustrations.

The idea is to divide the long wire on the candlelighter piezo lighter and attach it to the brass base of the same piezo element. The spark will then jump between the two wire endes. I use a pen spring to hold the wire in place. I have not attempted soldering to this type of piezo element. I have had no trouble with the reliability of this piezo either.

We will be replacing the native ronson piezo with the one we salvaged from the candlelighter. They are the same device as illustrated.

These wires will protrude from the finally almost fully reassembled lighter and be fed into the chamber.

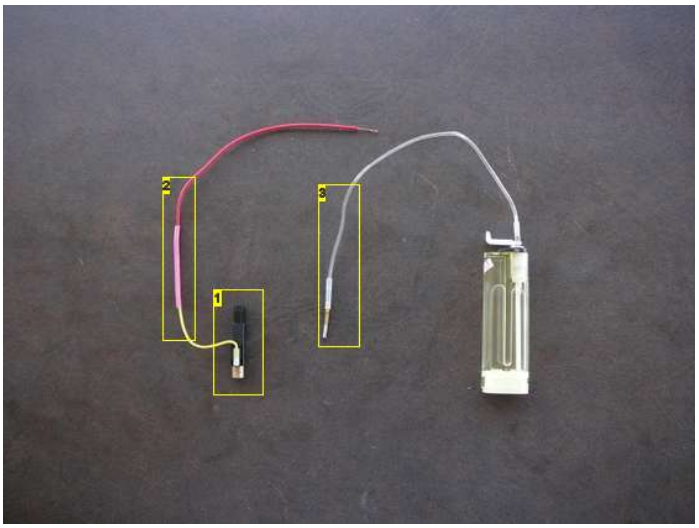


Image Notes
1. piezo
2. Default wire inside candlelighter. We'll use this.
3. Gasflow tube. We'll use this.

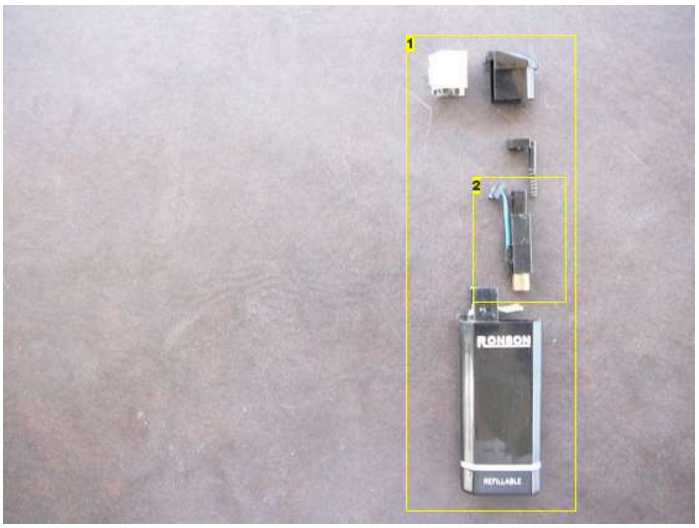
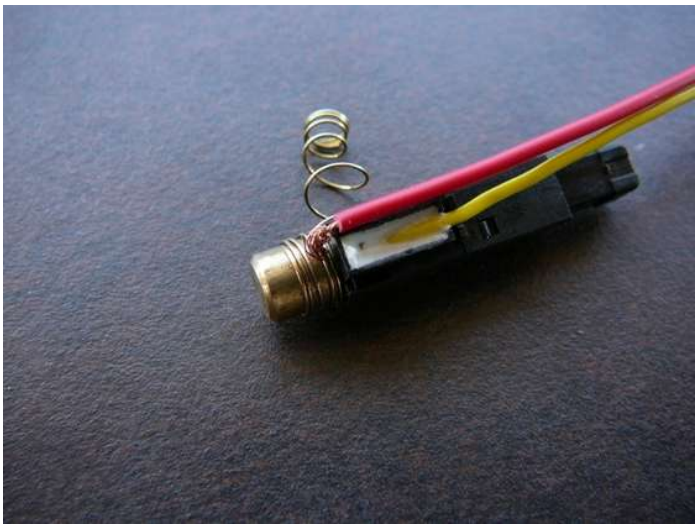
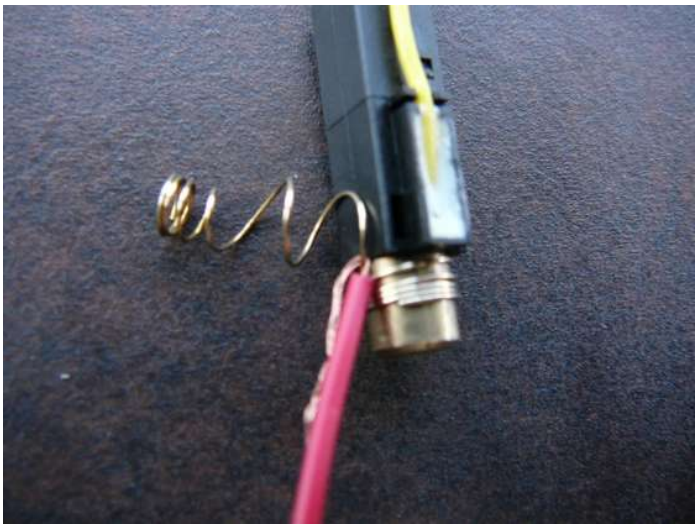


Image Notes
1. Exploded view. Note the piezo, short wire. We won't be using it.
2. Piezo. We will not be using this one because of the short wire. You could solder to it to lengthen it, but it is harder than it seems.

Image Notes
1. This is going to hold the wire in place. Again, soldering to this is challenging.





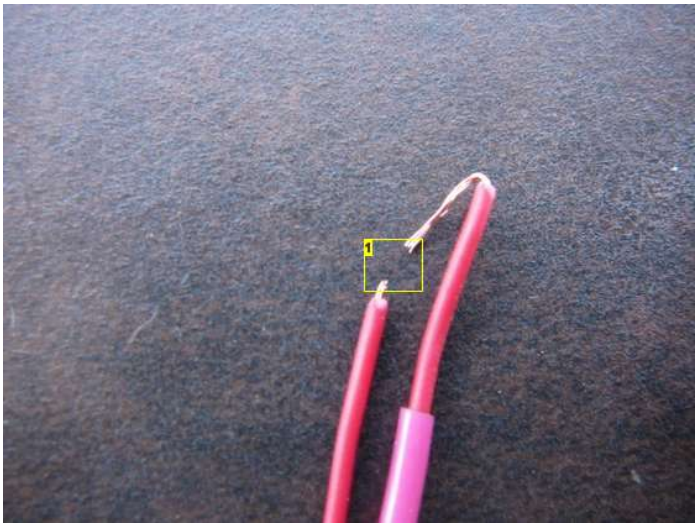


Image Notes
1. Brilliant electric arc.

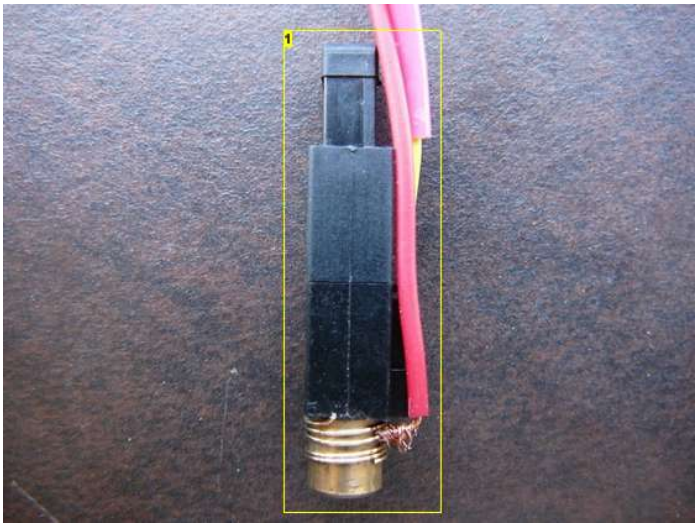


Image Notes
1. All done.

step 3: The Body

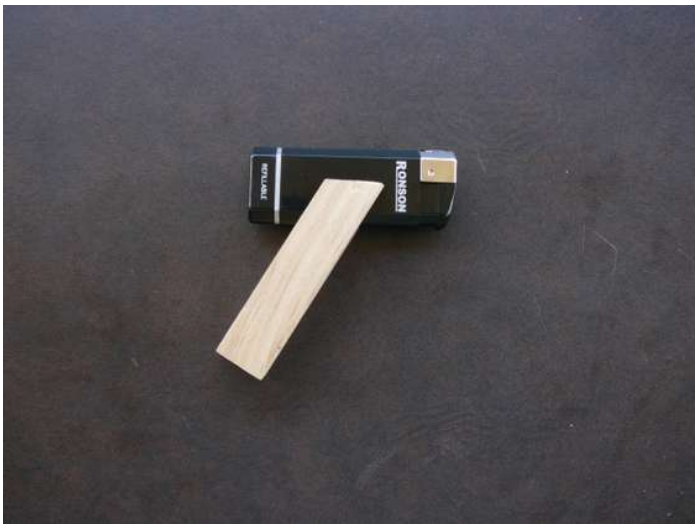
Now we cut the wood to the right size and angles. The excess wood is removed to make space for the lighter to nestle within. This is illustrated in the pictures.

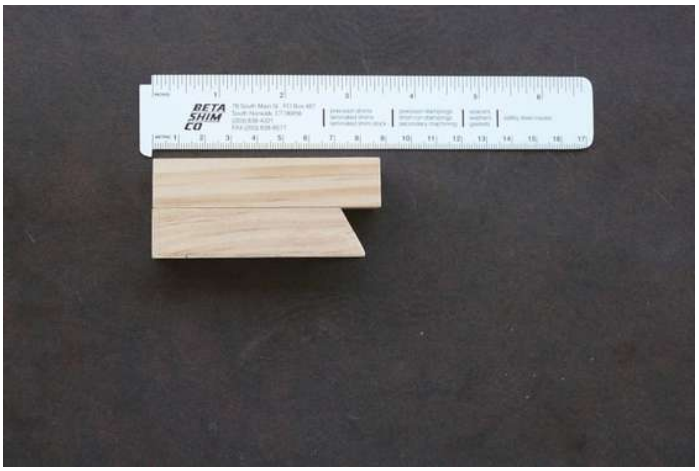
In an office setting the wood could be removed by a patient person with an exacto blade. Or be slowly burned out with an element heated in the lighter flame.

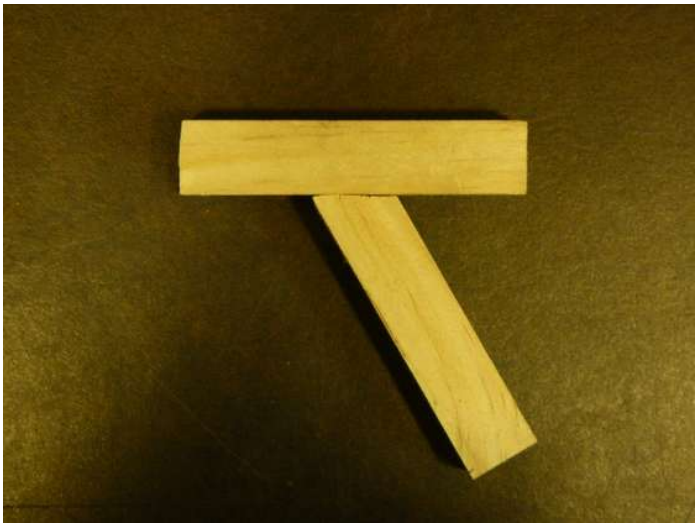
This will vary for the shape / size of the lighter you choose.

You should play with this and do what feels right in your hand.

As in all good instructables, we'll be using hot melt glue but do not glue anything together yet.







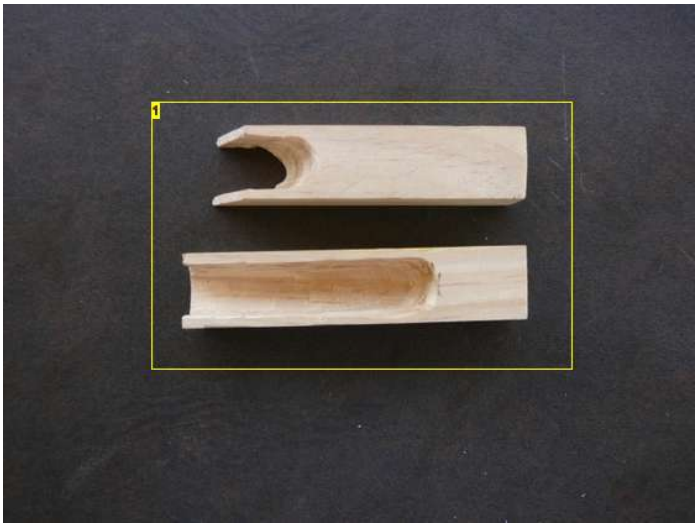


Image Notes
1. This is a lot of work.

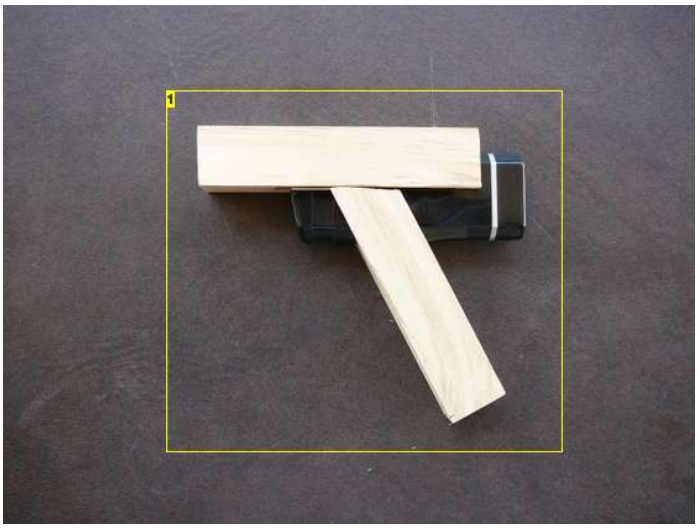


Image Notes
1. But it is worth it.

step 4: Gasflow

The gas will be conveyed in the clear tube we salvaged. We must fasten this to the lighter.
I used superglue for the but there are a few gotchas...

Firstly if you just don't have the tube, you can substitute by removing a piece of insulation from a wire and using this insulation as the tube. I have done this using a toothpick to flare out the end of the tube so it would fit over the brass gas outlet on the lighter (see photos).

The tube will flex as the gas is delivered because the valve is opened by moving the assembly upward. This means we will have to leave plenty of wiggle-room for our tube as it travels to the chamber.

There is a little sometimes yellow spongy disk surrounding the gas outlet on the lighter. If you get superglue in this which is almost inevitable, the valve may not fully close and you will lose all control of the ratios and lose your gas as well. It may be best to remove this. I have simply been careful and kept it compressed when glue got into in it (i.e. let it close as it normally would--don't hold the valve open as the glue cures).

The joint between the tube and the brass fitting is not going to be strong. It will be gastight, but not physically strong. You will need to be careful in the next steps to protect this.

Image Notes
1. The brass fitting we will attach our gas tube to.

Image Notes
1. The notorious yellow thing. I have had no problems with it removed.

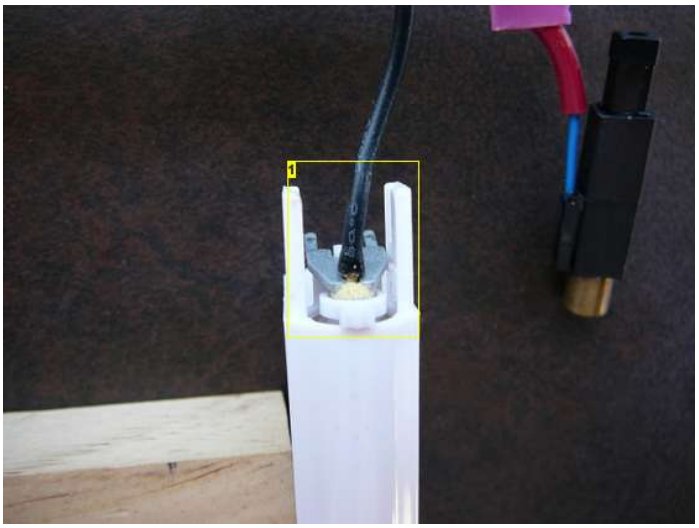


Image Notes
1. Alternate tube of salvaged wire insulation, flared out with a toothpick.

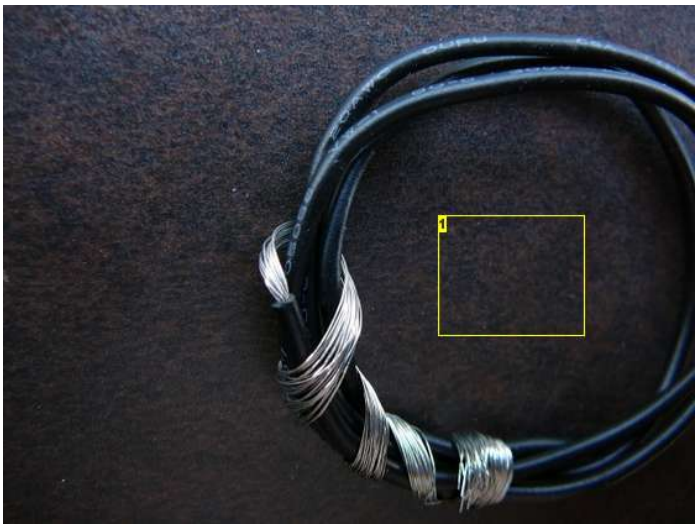


Image Notes
1. The wire I have used for the gas tube. Note the missing insulation.

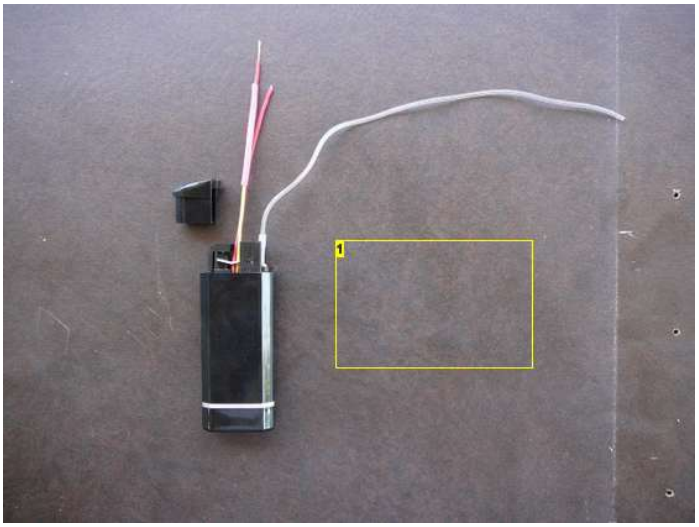


Image Notes
1. Reassembled, all set to install.

step 5: Film Canister Lid

Next we need to prepare the lid.

I sanded the fender washer and scratched up the film canister lid to improve adhesion. I used simple hotmelt glue which has worked very well.

Next we drill the appropriate holes and begin treading the wires / tubes.

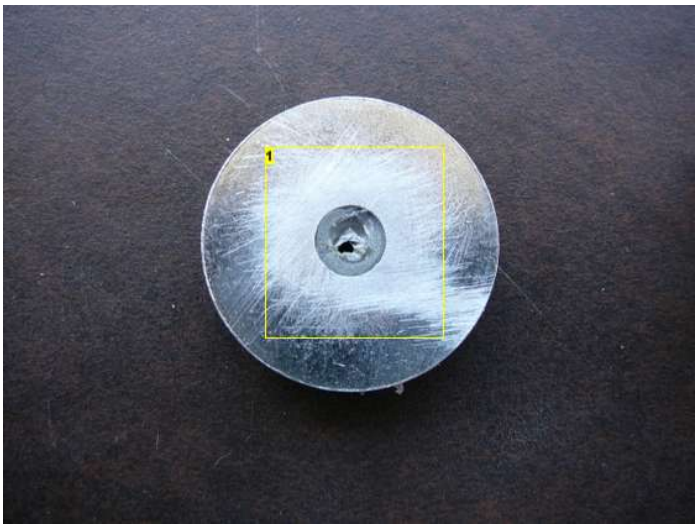


Image Notes
1. You sanded the other side, sand this as well where it will contact the wooden body.

step 6: Final Assembly

This is the tricky part. You want to drill the holes to get you from the trigger area into the breech. As previously stated, make the hole for the gas tube ~3-4 tube diameters to allow wiggle room. Be careful here. It is easy to break the gas tube off the lighter at this stage.

Only after everything is positioned properly do I glue it in place. You can see I again sanded the washer where it would join the wooden body.

Once the wires are through, position them and the gas tube and cut to length. I like to tin the electrodes, but it is not essential. I try to position them in mid-chamber. The gas tube I bend 90 degrees and direct the flow against the upper wall of the chamber. I do this for two reasons. One is because I believe it will result in better gas mixing. The second is that when you have to open the chamber to vent combusted gasses it doesn't interfere as much -- it depends on the motion you use to seperate them.

Okay, so why have the images till now been showing a black ronson lighter and the final assembly shows a white one? Well...I got to this stage before discovering that the black lighter had a cracked base and permanent leak. So I continue with the white one.

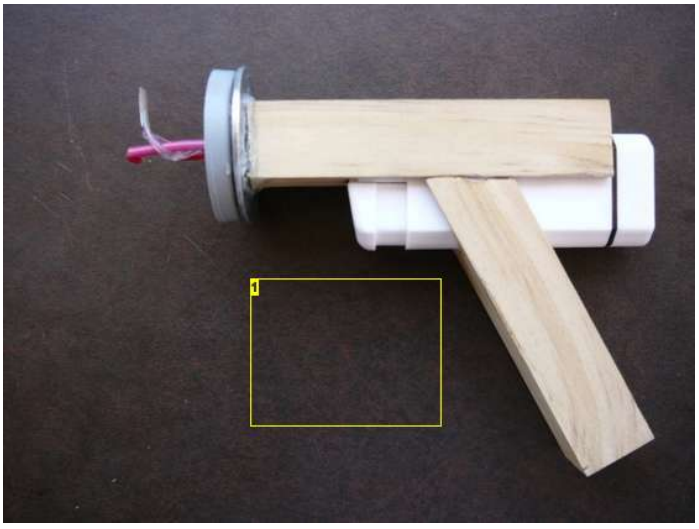


Image Notes
1. The goal

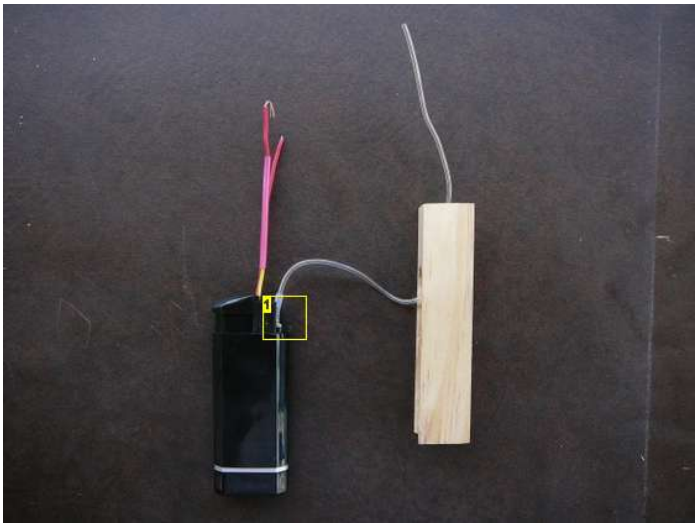


Image Notes
1. Be Gentle!

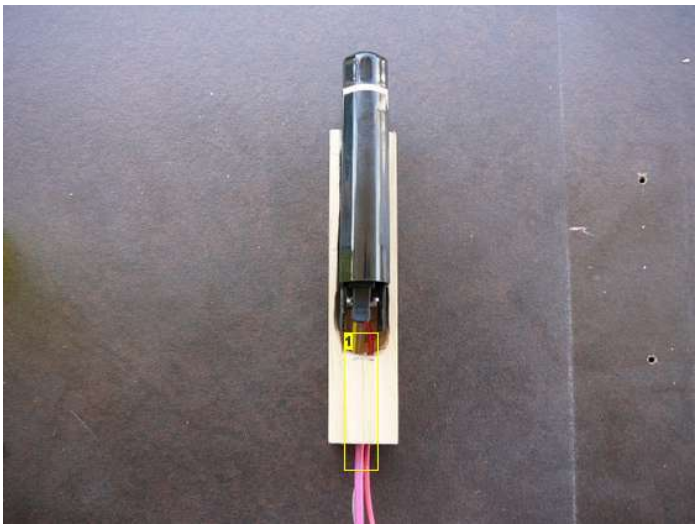


Image Notes
1. One big hole is just fine.

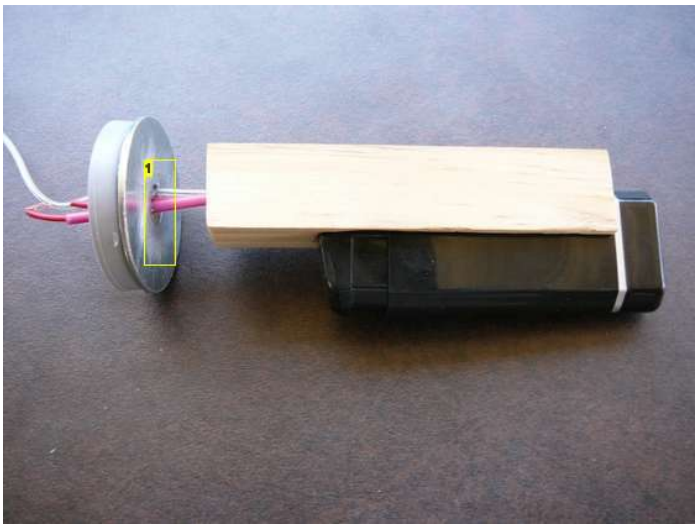


Image Notes
1. One to three holes as you prefer. I seal them with hot glue so it doesn't matter too much.

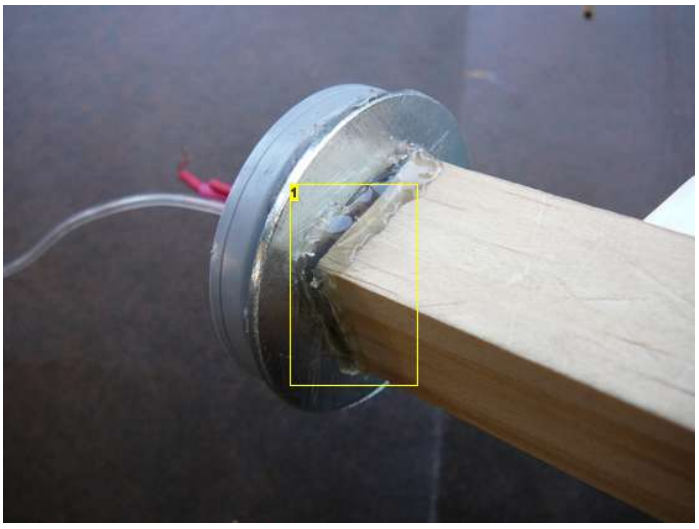


Image Notes
1. Get your glue on.

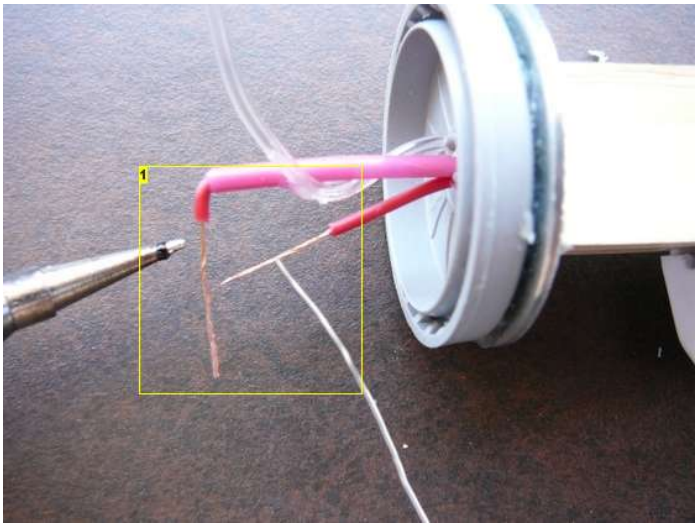
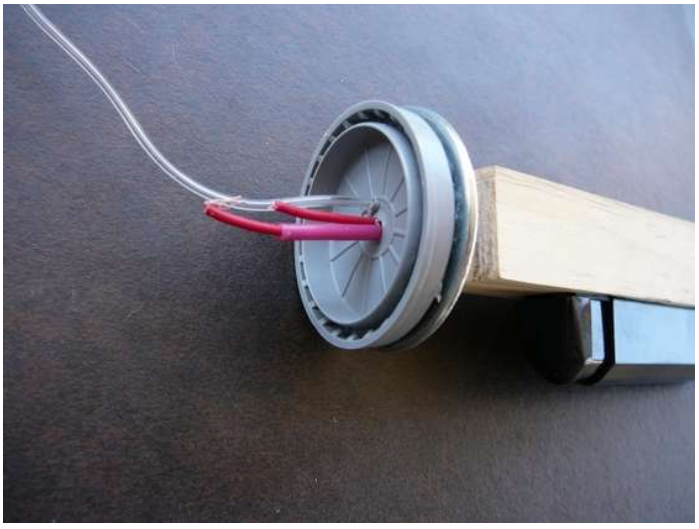
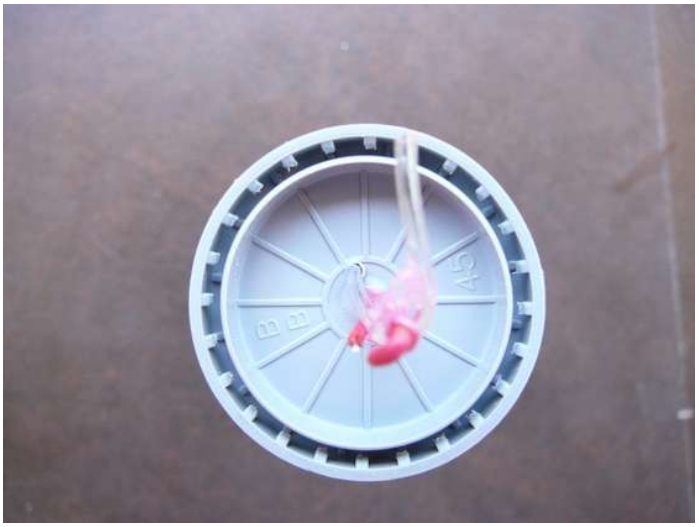


Image Notes
1. Tinning for durability.





step 7: Barrels

The only trick here is to drill in the center of the film canister. This is not difficult, and may not be necessary. I'd like to play with some offset designs and have begun to do so already.

The smaller the barrel diameter, the greater the need for reinforcement of the end of the chamber. The barrel can wobble too much. Be creative here. I have used plastic scrap glued inside the barrel to essentially thicken the end wall. Also you want some mechanism to prevent your ammo from entering the chamber after it is muzzle-loaded.

I have used pens with various restrictions in them and have also used a copper wire through a diameter of the barrel. This works well while not restricting the combustion outflow like a circumferential stop would.

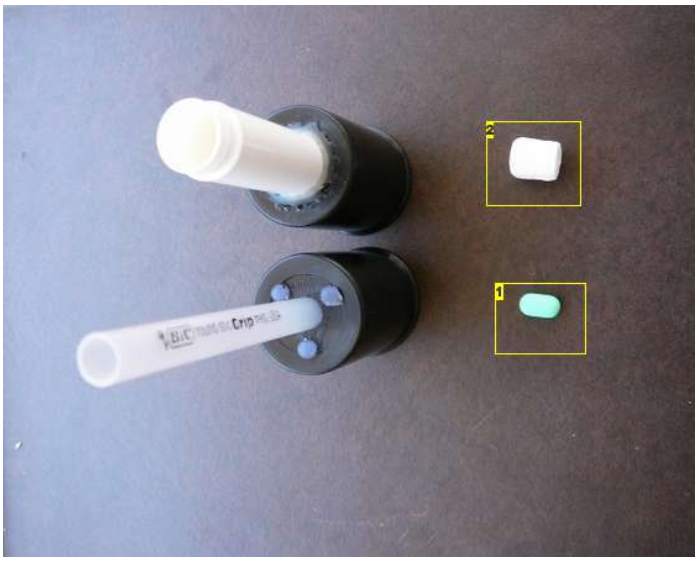


Image Notes
1. tic-tac
2. Mini-marshmallow

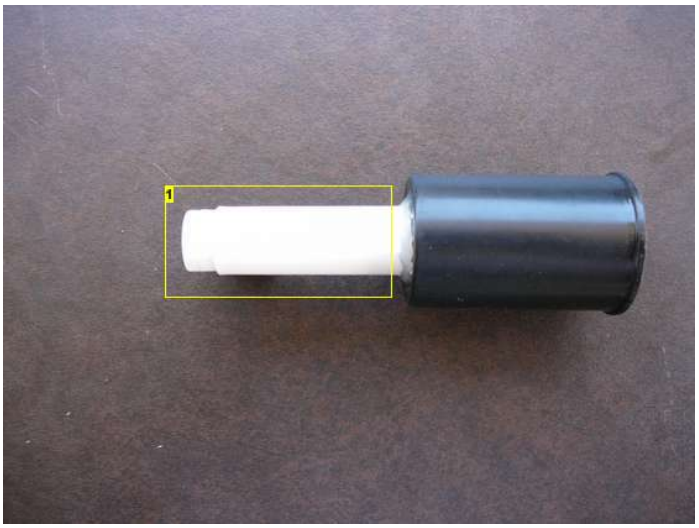


Image Notes
1. Chapstic

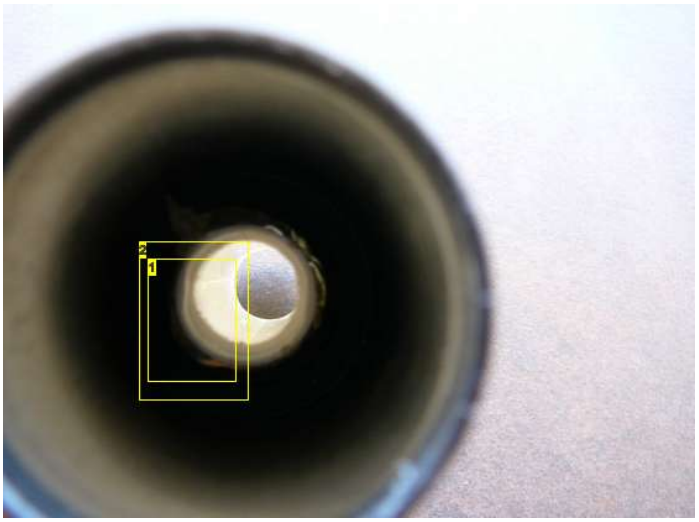


Image Notes
1. Slight natural rim acts as an effective stop.
2. I left a rim here at the bottom of the chapstic tube as an effective stop.

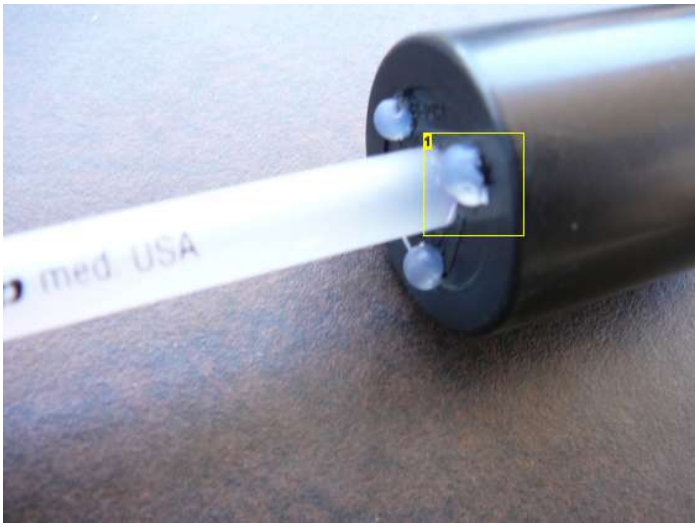


Image Notes
1. This is hotmelt glue bulging through. There is a plate inside the chamber reinforcing this wall.

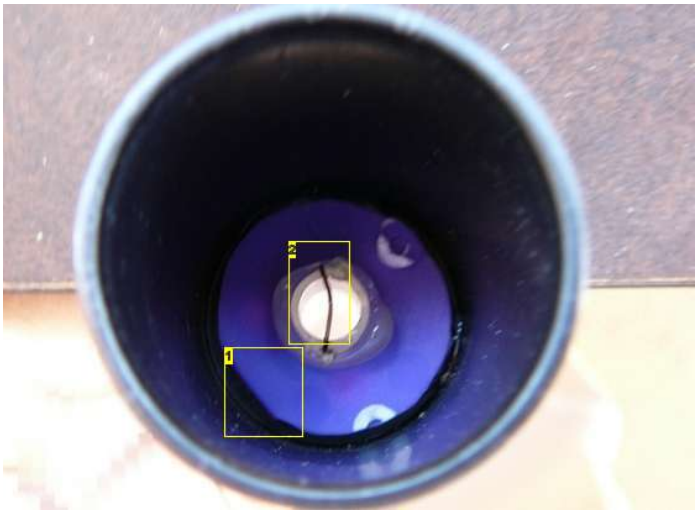


Image Notes
1. Bic internal - plastic reinforcing plate

2. Copper wire as a stop - works great.

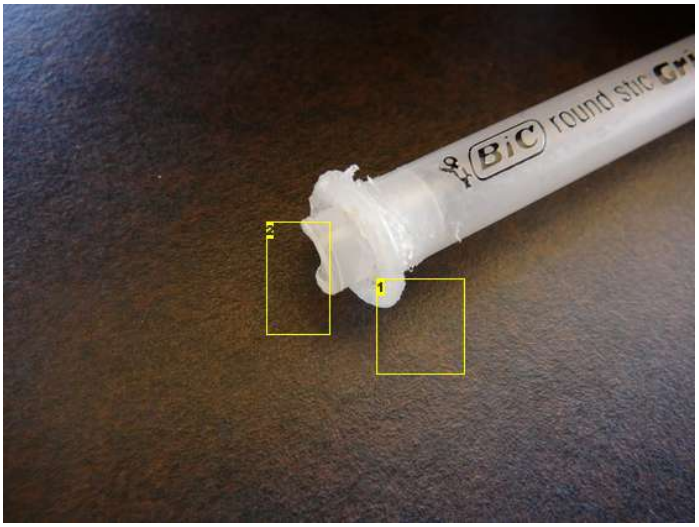


Image Notes
1. Initial prototype with flared end (shown here) and inserted plastic stop.
2. Here is the stop. This worked well, but it probably restricted the flow too much.

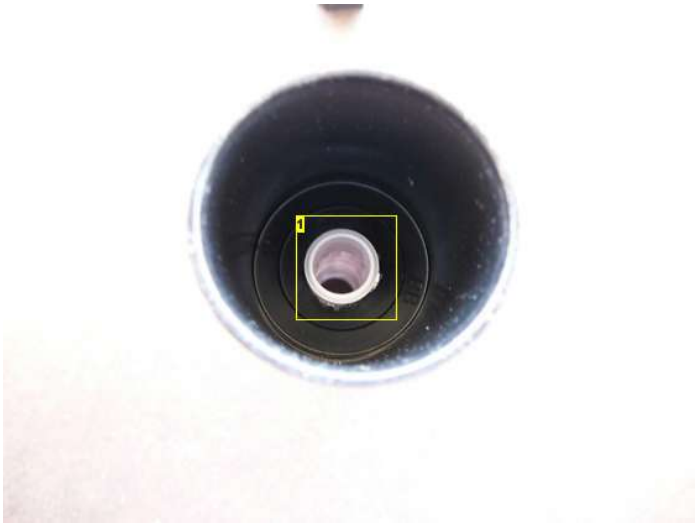


Image Notes
1. The "Stolen From:" barrel has a built in stop...the barrel is constricted at this end.

step 8: Usage

Firstly, study, memorize, practice, recite, remember:

Gun safety:
1. Every gun is always loaded.
2. Never point a gun at something you do not wish to see destroyed.
3. Keep your finger off the trigger till your sights are on the target.
4. Be sure of your target.

I could tell stories illustrating how each of these have led to negative consequences when violated. Remember them. Practice them always. Read them again.

When I assemble the device I usually set the lighter gasflow lever setting to the middle. I find that three half pulls of the trigger sends in three puffs of butane which is about perfect. I wait or not, and pull fully the fourth time. Showtime.

The performance of this device will amaze you and astound your friends. I can shoot minimarshmallows through both sides of a cardboard box. Printer paper folded a-frame is penetrated through both sides by a tic-tac while remaining standing still. This usually works with two such a-frames i.e. penetrating 4 layers of paper.

I have better pictures...but there is a deadline to meet. Stay tuned.

Tic-tacs to the skin - OUCH. Marshmallows? Yikes.

The longer the barrel, the better the performance - within limits. I have not yet fully explored those limits. Stay tuned.

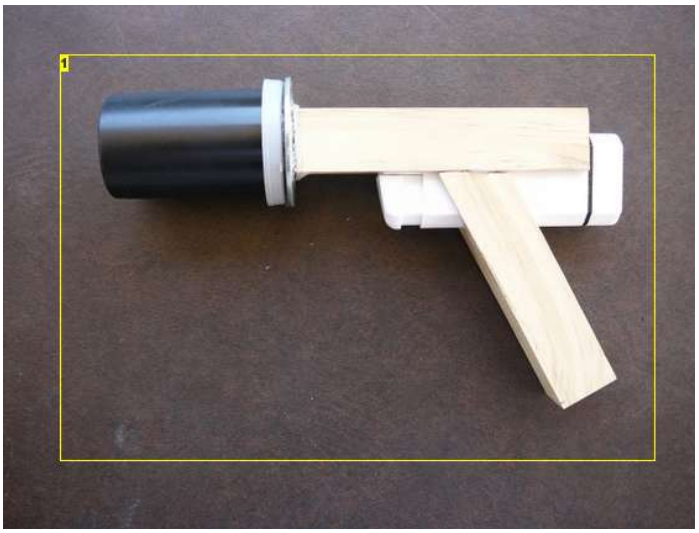


Image Notes
1. Film Canister Cannon mode. Noisemaker, canister projectile.

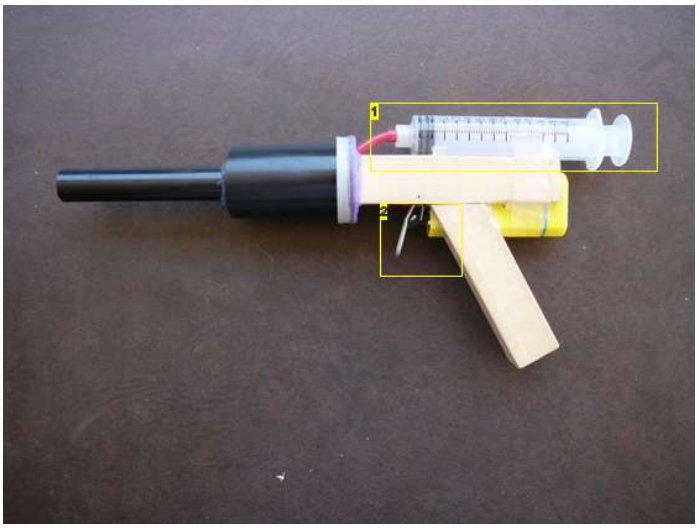


Image Notes
1. Syringe modified for chamber purge pump.
2. Alternate trigger style

step 9: Wrapup

Notes on Ammo

Marshmallows
These work great. Chaptstik tube uses them native from the bag...minimarshmallows. I like to dry them out though till they are good and crusty. I carefully roll them to near barrel diameter and use the barrel like a mandrel to "extrude" them. This sets a perfect diameter and works great.

Tic-tacs
Already discussed, work great, become sticky with time...water is a product of combustion. sticky is not good. They're cheap, buy more.

Straws
You would be amazed at the performance of a short length of soda straw with wax vs hotmelt glue plugging the end. Add a sewing pin and you have nice darts.

Wax balls, Hot melt glue tubes, foam plugs, balls of yarn, peas, beans, spit-wads...have a blast. The range is from harmless short range stuff to fairly lethal. The marshmallow can seem nearly lethal with a long barrel. So many possibilities....have fun.

The Future
I like breechloading better than muzzle loading.

I like having the gasflow control seperate from the spark control.

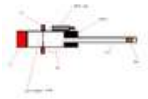
When the projectile fails to leave the barrel---it becomes a film canister cannon. The pressure builds till the canister seperates from the lid. This is LOUD = ouch my ears, especially indoors. Can this be fixed while still having a pressure release mechanism for safety?

I would like some muzzle velocity measurements. I am exploring high-speed photography among other things for this and I would like some nice pictures.

Basically, this is the beginning, stay tuned for more.

Feel free to offer suggestions / improvements / post your own designs.

Related Instructables



Mini Spud Gun by A_squared

Mini spud gun: by Blo0dZsTa

micro spud gun by nonickname

Steam Powered Potato Pistol 1.0 by robbtoberfest

Mini Spud Gun, Classroom Nemesis by Grim

Cheapy Lighter Laser Burner by Kipkay

Micro advanced spudgun (slideshow) by nonickname

DIY Peg Mini-Gun by mezon

Comments

50 comments **Add Comment** **view all 197 comments**

jupeter5 says: Nov 12, 2009. 6:03 PM **REPLY**
Wow this is really cool i must build one, keep up the good work

~~mynameishamm~~ says: Sep 30, 2009. 2:40 PM **REPLY**
the cake is very delicious.
Butane Madness?
I'm making one charged with HHO----In the syringue?!
Push the Embol? to charge.

shawntherobot says: Sep 29, 2009. 4:28 PM **REPLY**
mine uses a mini can of axe spray for fuel and i use a piezo thingamabob to ignite it. it works really good and flames go out after the projectile

matroska says: Sep 10, 2009. 7:23 PM **REPLY**
I just built mine today from a broken butane torch gun. Only the flame part was broken, the valve and butane tank were all OK. So I built my combustion chamber with a Steadler sharpener and hot-glued a hollow pen as the barrel. I used the igniter from the butane gun (trigger like, very nice) to light the thing.

However, butane NEVER worked. For whatsoever reason which escapes me. I could only get it to fire when spraying Axe. I assumed this was because the axe is sprayed like a small mist and thus my spark hits it.

Any hint on why butane would never work? Thanks!

PS: my design worked super well also just with axe!

krugerm says: Sep 7, 2009. 2:26 PM **REPLY**
I have a quick question
do you have to open the chamber every time you reload because of lack of oxygen, or have you found a way around it?

I ask because i have some mini spud guns and they can have enough fuel, but i run out of oxygen to do multiple shots without reopening the chamber.

zipzapper859 says: Jun 22, 2009. 9:28 AM **REPLY**
for your future design, use a refillable flint lighter for gas flow then a shocker for your ignition system but make a hole in the side of the film canister and stick it in thereand a nother hole on the other side of the canister,also by useing a refillable flint ligher u won't acidentally set off tthe gas

toogers says: Aug 11, 2009. 6:52 PM **REPLY**
i made one and modeled it to look like an ak-47.

toogers says: Aug 11, 2009. 9:27 PM **REPLY**
what the heck?
i clicked "add comment" and it appeared as a reply to your comment.
sorry for the mistake.

firefighter1333 says: Aug 31, 2009. 10:19 AM **REPLY**
u can delete ur own comments u kno?...

cdawg14 says: Jul 20, 2009. 4:07 PM **REPLY**

essentially use a bic lighter for your fuel control, then attach an electrical shocking butane lighter or something of the sort into a foregrip below the film canister to ignite the gas.

zipzapper859 says: Aug 11, 2009. 1:07 PM **REPLY**

exataly

sc lightning says: Aug 15, 2009. 3:11 PM **REPLY**

this looks alot like a lego gun

smeata says: Apr 5, 2008. 7:22 AM **REPLY**

good instructalbe, i now have tic-tacs lodged in my roof lol. im a massive nerd so my fuel air mix is computer controlled and supplied by a bottle of butane but its basically the same thinng

bench.worker says: Apr 23, 2008. 7:46 PM **REPLY**

That sounds pretty cool.
I'd be interested in pics / explanation of the computer control, valving mechanisms, and purge mechanisms.....

Cheers.

smeata says: Apr 29, 2008. 5:52 PM **REPLY**

maybe "computer controlled" is not the right wording. i can't give you any pics as my camera is currently filled with water (don't ask) but i can explain it. a variable resistor on top is used to set how much butane to use. a solenoid releases the butane into a syringe and at the same time blocks the end of the syringe. the plunger of the syringe is attached to another variable resistor which senses how far back the plunger is pushed is pushed. when it reaches the point set by the first variable resistor the solenoid is disabled so the butane flow is stopped and the end of the syringe is opened allowing the butane into the main chamber. i have two LEDs to tell me the status, red is filling and green is ready to fire.

it is breach loading and purges as it is loaded.

the system is controlled using a PICAXE 18X off memory but that is just what i had lying around.

hope that helps, feel free to ask me if you need any more information

NIJU! says: Aug 4, 2009. 6:13 AM **REPLY**

you should go to a aldie store and buy a $90 6MP underwater cam/vid recorder. i did (:

totos says: Jul 6, 2009. 6:19 AM **REPLY**

could you send me the schematics in Quite Universal Circuit Simulator (qucs) format?
(you could send it in any other format if you wish)

maccag115 says: May 28, 2009. 5:08 AM **REPLY**

this sounds very worth while, would you be able to send me the schematics for this and software that is loaded on the PICAXE 18x, muchly appreciated.

smeata says: Jul 9, 2009. 1:50 AM **REPLY**

sorry guys, i made it like a year ago and i got sick of it about a month after that. i sold the actual "gun" and i didnt bother moving the files over to my new laptop.

bench.worker says: Apr 29, 2008. 10:23 PM **REPLY**

Very nice! Thanks for sharing.

A couple of questions:

What amount of butane have you found to be ideal in your setup? Are you using a standard film canister for the chamber?

smeata says: Apr 30, 2008. 12:50 AM **REPLY**

if you are looking for the best fuel to air ratio it is about 2:65 by mass. the best fuel to oxygen ratio is 2:13 by mass. i am using a short length of PVC pipe that i had left over from my pneumatic cannon as my chamber.

MadMechanicMike says: Apr 6, 2008. 6:22 PM **REPLY**
pfft hahaha does that 212 IQ include common sense? not to call you out or anything but i doubt it.

philgenius says: Dec 23, 2008. 1:04 PM **REPLY**
If you don't mean to call someone out, then don't.

venom52 says: Oct 23, 2008. 6:47 PM **REPLY**
WHAT? ARE YOU STUPID OR SOMETHING!

smeata says: Apr 7, 2008. 4:11 PM **REPLY**
what do you mean does my IQ include common sense? what are you trying to say?

MadMechanicMike says: Apr 6, 2008. 6:20 PM **REPLY**
pfft hahaha

Marble of Doom says: Jul 30, 2009. 3:33 PM **REPLY**
Effective and they look great!

Colonel88 says: Jul 2, 2009. 5:59 PM **REPLY**
Mine doesnt work... My dad says that if i use something flammable it will go up in flames. i tried using the easy way by putting the barrel assembly on a unmodified lighter and there IS a lot of fire, but i think it would burn up the ammo. I'm going to do this project another way.

Cheers.

!revenge! says: Jun 29, 2009. 4:14 AM **REPLY**
it would be so friggin awesome if someone made a desert eagle out of this thing :P

forte1994 says: May 30, 2009. 7:32 PM **REPLY**
if the valve to the butane tank failles you will blow up your hand . right?

aflacgoose says: May 30, 2009. 7:25 PM **REPLY**
Great idea for a spud gun. Looks very cool.

corpse--paint says: Mar 16, 2009. 10:58 AM **REPLY**
s = v sin a t - 1/2g t 2

v = (s + (1/2g t2))/ sin a t

g = gravity (9.81)
s = distance
t = time, meaning you could use the time code of a video etc
a = angle of launch

make sure you launch from ground level though, or the equation doesnt work

firefighter1333 says: Mar 22, 2009. 11:09 AM **REPLY**
btw how do u calculate/measure the fps of any gun?

firefighter1333 says: Mar 22, 2009. 11:04 AM **REPLY**
corpse where is this for exactly (im just curious), could u explain this to me? pls? (im such kind of person who likes fysics and stuff but who not always understands)

finnster says: Mar 7, 2009. 7:16 PM **REPLY**

This is pretty sweet, but I haven't managed to shoot a potato out of it, it just makes a fireball, which is cool.

Jupitane says: Mar 3, 2009. 7:43 PM **REPLY**

By any chance do you know the FPS on this nice cannon?

jeoncs says: Jan 31, 2009. 2:27 PM **REPLY**

This is great I am going to scrounge for a lighter when I get home!

---

venom52 says: Jan 31, 2009. 10:18 AM **REPLY**

Finally finished mine made of steel welded together

PKM says: Jan 22, 2009. 3:19 PM **REPLY**

Very nice! I have considered making a lighter-fueled gun like this before but was always slightly nervous about having the butane delivery tube inside the combustion chamber for some reason. Perhaps from blowing up enough lighters deliberately to know that I don't want it happening in my hand :)

Fortunately I still have the butane tank from making my latest version so I might try giving that an incorporated fuel supply. Not sure how long the thing would last with a one litre combustion chamber, but it's worth a try. Now I just need a refillable lighter...

cowscankill says: Oct 15, 2008. 1:26 PM **REPLY**

This 'ible is great! The only thing I was not sure on was how and what the syringe does... Maybe add info in about it?

Kryptonite says: Dec 10, 2008. 8:46 PM **REPLY**

The syringe is to purge the chamber. When the butane ignites, it leaves behind a non flammable gas, and butane needs oxygen to combust. By the looks of things the syringe draws out the old air, and then you can pump in clean air.

Are/have you making/made one of these? Me and my good friend are currently, we've made the barrel, the combustion chamber, and just last night I started on the electronics, I couldn't find a barbeque lighter so I just soldered some wire onto the lead coming from the piezo, then covered it with trusty heat shrink.

Hope that helps!
-Kryptonite

KNEX BUILDING IS FUN says: Dec 23, 2008. 4:15 PM **REPLY**

wat does the butane gun do? flame thrower? sprayer? what does it do?

Kryptonite says: Jan 1, 2009. 2:28 AM **REPLY**

This gun shoots a range of small thngs, the butane part is just for the combustion, which makes rapidly expanding gasses to push the bullet out the end of the barrel at high velocity.

KNEX BUILDING IS FUN says: Jan 5, 2009. 3:42 PM **REPLY**

is it like real fast or is it just like a strong nerf gun?

Kryptonite says: Jan 7, 2009. 2:51 AM **REPLY**

REAL FAST. I think that would be your answer. =D

cowscankill says: Dec 11, 2008. 1:05 PM **REPLY**

Thanks! I might make one. The one I have now looks pretty real, just needs new paint. The chamber is too small though.

Kryptonite says: Dec 11, 2008. 2:26 PM **REPLY**

Can you post a picture? I'd like to see other peoples work.
It's a shame that this instructable is disregarded almost, it's a great gun, and it's not even featured.

cowscankill says:
If I ever remember too lol.

Dec 12, 2008. 1:38 PM **REPLY**

Kryptonite says:
Yeah, I'm pretty busy to remember to do anything on 'ables these days, it's sort of sad because I love instructables!

Dec 27, 2008. 5:36 PM **REPLY**

cowscankill says:
I just bought 3 electirc lighters from a dollar store today :D I might wanna try this now.

Do you know if I will lose gas when I take apart the lighter?

Jan 2, 2009. 2:25 PM **REPLY**

view all 197 comments