

Part 0 - Disclaimer:

I have not attempted to make any of these devices and have NO intention on doing so. To my knowledge they are illegal everywhere in the United States. Build this at your own risk and liability.

This is for information purposes only and is made part of this Blog Site that explores vast types of weapons and weapons technology throughout history.

NOTE: Sorry, No Pictures are included.

Part 1 - Background and Use:

Pipe bombs are true wartime devices and their blast and shrapnel can cause very cruel and debilitating injuries to humans. Pipes can be used to contain fast self combusting chemicals until they reach a useful pressure for material destruction that unconfined in a pipe would have just burned quickly.

Use, for example - In World War II, Pipe Bombs were often used to blow a hole through barbed wire so troops could easily pass.

Resistance fighters would often use pipe bombs to kill occupying enemy forces because pipe bombs can be made with household chemicals.

Part 2 - Effectiveness:

One thing that any bomber should have learned from The Unabomber's (Ted Kaczynski) bombs is, add some shrapnel.

This can be tiny nails, small screws, etc.

For higher velocity, use small ball bearings or shotgun shot.

The shrapnel (nails or other sharp objects) can be part of the pipe bomb in two different ways-

(1) Mix the shrapnel with the explosive inside the pipe bomb.

(2) Duct Tape the shrapnel to the outside (outer wall) of the pipe bomb.

Using shrapnel will severely increase the damage you do while using this pipe bomb.

Part 3 - Pipe Bomb Types:

There are several ways to make pipe bombs. I have chosen the one that seems the most logical to me. I did include one other method at the bottom but it seems more dangerous to make.

Part 4 - Preparation, Pipe Bomb Type 1:

Obtain the Pipe, Materials, and Equipment.

-Needed is approximately a 2 inch diameter pipe 6 inches long with two threaded ends and two threaded pipe end caps.

-Teflon Pipe Tape.

-Plastic air tight zip lock freezer bags.

-Alcohol.

-Box wooden matches.

-Candle.

-Electric Drill with drill bit.

-Tube of Liquid Nail Glue.

-Bag of Cotton Balls.

-Fuse (see below).

-Broom Handle.

-Detonator (see below).

-Explosive Materials (see below).

-Gun (black) Powder (this can be obtained from a local gun shop)(other types of explosives can be used, see below).

-12 inch Ruler.

-Black Magic Marker.

-Fuse (cannon fuse or firecracker fuse works best)

Important - Test any fuse before using.

Cannon fuse can usually be obtained from a local gun shop.
If you make your own fuse, it will not be as reliable.

Optional Ingredients: Shrapnel.

The best shrapnel is ball bearings because they won't puncture the plastic bag and they offer less resistance when traveling. In lieu of ball bearings you could use shotgun shot such as Double 00 Buck (sold at local gun shops for reloading equipment).

Important Safety Tip: Always prepare the pipe in advance and fill the explosive or powder into a sealed plastic bag, this reduces the possibility of a friction explosion.

Never coat the cotton ball with liquid chemicals such as diesel fuel, alcohol, gasoline, etc. These types of chemicals expand in weather and will cause the pipe bomb to prematurely explode.

Ingredients to make Flash powder:

1>Potassium Chlorate (get it at any chemical store)

2>Powdered Charcoal (not briquets, take some ash from the fire place)

3>Powdered Magnesium (ground up mag. fire starters from camping sections)

4>Sulfur (you know where to get this!)

The magnesium has to be FINE!!! The finer the faster! You can get them in the camping sections of Caldor, and Sears. They look like a block of aluminum on a key chain (\$5.00 - \$7.00 but they go a long way!).

pour in the

potassium chlorate (largest amount).

Then pour in the charcoal (a

little less than the chlorate). Pour this stuff into a grinding plate, not the pipe. Now for the magnesium you filed off the block and ground up finally, make this a bit less than the charcoal amount.

Lastly add the sulphur, only a little though, about half as much as the magnesium you just put in. Now grind all the ingredients together until they look like 1 grey dust.

Try a little bit (no not the whole

damn thing! save that for the fun later!). Light it and see how fast it goes off. You gonna have to fiddle with it until it turns out the fastest (sounds like something else eh?).

Part 5 - Assembly:

Prepare the Pipe.

First thing using the ruler and magic marker, mark one inch lines on the outside of the pipe for measurement purposes.

This is done upside down from use.

Using one of the pipe caps, drill a hole in the center. This should be slightly larger than the fuse or detonator.

Insert the fuse, it needs to be long enough to go into the pipe, about two inches.

Using some hot candle wax gently drop wax on both sides of the hole in the cap to insure closer.

Take the pipe and apply the teflon tape to the top of the pipe.

Using the alcohol wipe both of the pipe cap threads clean, let dry.

Take the pipe cap and screw it onto the pipe tightly.

Now cut the ends of the wooden matches off.

Drop the match heads into the pipe.

Now pack about inch of compressed cotton into the pipe. Be careful not to damage the fuse and make sure it extends past the cotton. Use a broom stick to compact the cotton but remember there are match heads so don't pound or scrap it around, pack it tight but not too tight.

Now cut a small hole in the bottom of the plastic bag gently load the bag into the

pipe making sure the fuse goes inside the bag.
Pull the bag up and over the open end of the pipe.
Now fill the bag with the gun powder. Remember you still need to close the bag and get it totally inside the pipe so the end will close.
Once you think you have the right amount of powder, seal the zip lock bag and stuff it inside the pipe.

Note: If you are using shrapnel you load that alternating with the gun powder.
Once the bag is inside and you know the cap will go on without compressing the bag, fill the empty areas, if any with cotton, do not pack.

Wipe the inner and outer threads of the pipe with a damp washcloth (do not get any water inside the pipe).

To be safe, clean the outside of the pipe threads with alcohol and let thoroughly dry.

Now apply the teflon tape to the threads of the pipe.

Gently screw the bottom cap on.

Finally using the Liquid Nail Glue run a bead of glue around the pipe caps and pipe on both ends. This prevents the pipe caps from coming lose.

If you're still alive and have all your body parts, congratulations, you just built your first pipe bomb.

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This info extracted from various sources:

Other Stuff to know about Pipe Bombs:

Optional Detonation Devices:

Electronic Timers-

A properly low voltage switch gate silicon controller rectifier or thyristor (any of several semiconductor devices that act as switches, rectifiers, or voltage regulators) will take the low voltage from a kitchen timer speaker line or cell phone vibrator or ringer and switch on a larger usable power supply from a battery or AC power, if the audio circuit is so low that it won't flip the SCR gate add an amplifier transistor. This is perfect for setting off timed tear gas during an event, or a phone or pager controlled smoke bombs to cover a retreat.

Altitude Switch-

An altitude switch can easily be made with a can, tape, a plastic bag, wire, and two strips of metal. Securely tape and seal the plastic bag into the can with half of the air pushed out. Place one strip as a bridge on the top of the can, the other strip like a lever that the expanding bag can push across to touch the bridge strip. When the altitude gets high enough (a few thousand feet) the circuit will close and current can flow. A fun thing to do is put this onto a logging truck heading into the mountains that will ignite a string of firecrackers.

Bean Timer-

The expansion of dry beans in water can also be used as a timer, you need a clean unpainted metal disk like a can lid, two shiny nails and a straight walled plastic container. As the seeds or beans expand the metal disk will be pushed up against the nails which completes the circuit. Seal the container with tape unless air transport is expected.

Testing-

All timers must be tested with the operational battery and a buzzer, or light-bulb in place of its igniter or blasting cap several times. Always test the circuit to be sure that it is off before connecting the electrically activating the timer. A double activation circuit if there is room doubles the chance of success.

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Preparation, Pipe Bomb Type 2:

Another method of pipe bomb assembly using gun powder and a firecracker:

When you have the right pipe and both caps selected, drill a hole in the side of the pipe (before powder is inserted) big enough to insert the firecracker. Put the firecracker into the hole and glue it into place securely.

Cap one end snugly.

Pour the powder in.

Wipe the threads with rubbing alcohol.

Now cap the other end, screw it very slowly and gently.

You're ready to blast off.

Note: This type of pipe bomb is for throwing and is very very dangerous, both to make and use.

You can make this using a fuse instead of a firecracker. Thus it can be placed where you want it versus throwing it.

A good innovation is to grind down one half of the pipe before you insert the powder. This makes the walls of one end thinner than the walls of the other end. When you place the bomb, the explosion, follows the line of least resistance, and will head in that direction. You can do this with ordinary grinding tools available in any hardware or machine shop. Be sure not to have the powder around when you are grinding the pipe, since sparks are produced.

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Pipe Bomb Explosive Materials:

The first step to improvising a pipe bomb is to choose an appropriate explosive material as the filler. For simpler purposes match heads or gunpowder can be used though they burn rather slowly and create a lesser rupturing velocity of the pipe than other suitable materials. Permanganate with sugar half half or similarly Chlorate with sugar are easily available materials with the chlorate having a higher explosive effect than the permanganate. Aluminum (in powder form) is a potent fuel and when combined with Carbon Tetrachloride or Permanganate can produce a more dangerous explosive pipe filler. These are all of the lesser explosives which, however, are easier to acquire.

A more complicated scenario would involve the use of TNT or plastic explosives as filler which also increases the risk factors involved. The lesser powders are usually ground fine to accelerate their burning rate.

Choosing A Fuse:

Military detonation cord is best to use as a fuse otherwise cannon or fireworks fuses can be used, or if available dynamite fuse.

To make a completely improvised fuse masking tape sticky side up can be placed on a surface and sprinkled with ground gunpowder, the powder will stick to the tape. It will make a fuse, although less reliable than others.

Option # 1 - Buy some fireworks sparklers. Read the box, the best ones work that have magnesium in them.

Option # 2 - Make your own sparkler for a fuse, or for fun.

Option # 3 - This is dangerous, and not recommended: Another method is twine or heavy string. Simply melt some candle wax, dip the string in the wax, then lightly sprinkle gun powder on the wax before it is cools.