

The A Files

An Illustrated Handbook on the Art and Science of Things that Go Boom

Or: The Big Book of Bad Ideas

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“Wisdom is ignored,
Tradition is forgotten,
Fools blindly follow.”
~ A Haiku, Zero.

Thursday March 27, 2001 AD.

The latest version of this document can always be found at:
<http://www.millenianet.com/~firestarter/Z/AFiles.zip>
The link is case sensitive.

I am always looking for contributions. Any information or recipes to add, photographs of finished devices or the effects thereof, detonation velocities of compounds, &c would be greatly appreciated.

I think everyone is in agreement that the A Files is long overdue for an update. Thus, I proudly present the following revisions:

Updated/Added some data to some info boxes. Nothing major as of yet.

Added illustrations and/or photos to the following: **Pen Grenades, Exploding Pens, Polumnas.**

Added **Safety Precautions.**

Added **HMTD** in Stuff to Make.

Working on **Black Powder, Milling Method.** I'll have to do articles on all the necessary equipment for this, too.

Added an article on **Ball Mills.**

Also added **The Lazy Man's Ball Mill.**

Added **Obtaining Charcoal.**

Added **H3.**

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Things listed with a contain pictures. Things listed with a - aren't finished yet, but are in the works.

WARNING : DISCLAIMER : READ THIS

Yes, this is yet another “anarchy” text that is no doubt causing various individuals to cry blasphemy and whine about how the Internet is corrupting our youth and arming our lunatics. Usually these texts hide behind a flimsy disclaimer as an excuse. I will say this: This document is not intended solely for entertainment purposes. This document is intended to be an informative guide, to be used as it will. I am not here to preach to you, to tell you what to do, or tell you what not to do. However, I do expect, perhaps foolishly, that you, dear reader, have a tiny modicum of common sense and not to build any damn fool thing you read about on the Internet and set in off in your basement. I urge you to use your head regarding such matters.

Many of the projects and techniques listed in this document are classified in the category of “dangerous as hell.” Foolish use of these articles will usually result in horrible bodily injury or natural selection. Also, most of these things are a wonderful way to get arrested, incarcerated, expelled, or cause spectacular property damage. Once again, I recommend the use of a little common sense when dealing with such things. Information presented here comes with no guarantees, and isn’t necessarily completely correct or perfect. I cannot be held responsible for any injuries, legal actions, deaths, damages, singed eyebrows, confiscated goods, or destruction of planets. Anyone caught plagiarizing this document will be drawn and quartered.

With that said, on with the show.

Anarchy, He Wrote

The author's foreword to the A Files.

Anarchy, the buzzword of the day. You see it everywhere- In the newspapers, spraypainted on walls, and on the web. You hear about it in music and on the news. What is anarchy? Why is it considered to be so evil? Anarchy is nothing more than a political mindset. Actually, the lack thereof. Anarchy is the belief that government is wrong. Anarchism is the practice of removing government. That's all there is to it. Despite the words of a thousand fools, anarchy is not mindless violence, anarchy is not shootings in our schools, and anarchy is not making bombs.

The A Files is not about anarchy. It's about the art of destruction. The A Files *is* mindless violence and bomb making. It wasn't written to change your viewpoint on the world. It wasn't written to coax teenagers into killing their classmates. It's just information. Knowledge is power, and here is the knowledge. As long as there are people, there will be people interested in destruction, bombs, weapons, and similar things. As long as there is interest in this, there will be the A Files.

As long as there is the A Files, and anything similar, there will be opposition. Police, parents, the federal government, and all the rest of respectable society will forever attempt to destroy, secrete, and hide information like this. Society fears anything different, and anything it doesn't understand. Anything out paranoid society fears it will try to fight, try to put down, and try to demonize. Someone practicing that which it doesn't condone is dealt with harshly by those in power. In short, this is illegal. Recent legislative hot air has made even the intent to build a bomb a felony. That's right, the thoughts in your head are enough to get you arrested. Don't get caught.

This isn't the Anarchy Cookbook. The Anarchy Cookbook is almost entirely false, and nearly useless. This isn't some juvenile text file. All of the information here was researched, tested, and is presented to the best of my ability. It's the closest to perfect that I can make it. The A Files is always growing. I'm always adding new information, and I'm always fixing tiny details in things that I've already written. It may never be finished, and it will never be complete.

Your goals are your own. What you do with this is up to you. If you're a basement bomber looking for a thrill, a political extremist or a terrorist seeking a new arsenal, or just curious and looking for information, this is for you. Use it and use it well.

~Zero the Inestimable

Stuff to Know

How to Use the A Files

Understanding this document is obviously essential to carrying out any of the procedures contained herein. There is a common format and some general information that you should know before setting out to use the A Files.

The A Files is less of a concrete cookbook and more of a serving suggestion. Experimentation with the basic principles and ideas outlined here is the key to success. Whatever your overall goal is, be it to learn, to destroy something, or just to have fun, the best ideas will still come from you. What you happen to do with this information is up to you, and quite frankly, is your own problem.

General

First of all, safety should be a large concern to you. You should follow all of the safety procedures outlined, and failure to do so could prove unpleasantly fatal. The biggest safety rule is to use your head. Employ a little common sense and don't do anything stupid and you'll more than likely enjoy a longer life. There is an article called "Safety Precautions" that you should read before you do anything. Basic protective equipment is a must.

Proper equipment is essential as well. There is an entire article devoted to this, as well. Sometimes common household items can be substituted for more complex or expensive objects. This is usually noted in the equipment list of whatever recipe you're reading. Make sure you can use whatever tool the plan calls for properly. If you don't know how, ask someone who does.

Dimensions are generally given in inches, feet, or yards. Temperatures are almost always given in degrees Celsius (C). Weights are in grams, ounces, and pounds. Liquid measurements are usually in milliliters. Velocities are in feet per second. Detonation velocities are given in meters per second.

I attempt to provide the most accurate information as possible. Sometimes I may have mistyped something, have a number wrong, or something of the like. I try to proofread things, but sometimes errors slip by. If you spot an obvious error, let me know so I can fix it. Also, I've gotten questions about this- The symbol "&c" is an old fashioned shorthand for "etcetera." It's a habit of mine, and you'll just have to get used to it.

Format

All plans and recipes in the A Files follow a standard format. Most plans are broken down into five (and sometimes six) sections. Materials lists the things you'll need to make the object or substance in question, most of which will be used in construction or operation and will be a permanent part of the object and/or never seen again. Equipment lists all the tools and such you'll need to carry out the plan. Procedure lists a step by step plan for the construction of said object. Immediately after the Procedure, the operation section explains how to use whatever you've just built. Effects explains the effects of the thing, be it the explosive characteristics, range, or other information. Some articles include the Modification section, which lists some basic ways to make whatever you've made better.

In addition to these sections, some articles have an information box. This lists specific data about the device or substance described in the article, and are all standard. Info boxes have their own format and are an entire section unto themselves.

Information Boxes

At the end of some articles you will find a blue information box. These boxes list various useful statistics about whatever the article describes. There are four kinds of info boxes: Boxes with green borders explain substances like explosives, flammables, fuses, and other ignition devices. Boxes with blue borders contain information about bombs or explosive devices. Bombs with yellow borders explain weapons and the

like. Boxes with grey borders don't fit into any of these categories and are effectively miscellaneous info. All info boxes contain danger levels for construction, storage, and deployment. 0 is no danger, and 10 is the most dangerous. **ALL numbers in these information boxes are approximate.** Your mileage may vary. Temperatures are given in degrees Celsius (C) and detonation velocities are in feet per second (fps).

Blue bordered boxes describe explosive devices, bombs, and the like. They may or may not include the following: **Type-** Either generic explosive, noisemaker (firecracker), pyrotechnic (firework), incendiary (firebomb), anti-personnel (shrapnel), anti-vehicle (armor piercing), or trap. **Radius-** The maximum range of the actual explosion of the device. **Shrapnel-** Either none, or the range of flying debris produced by the bomb. **Flame-** Either none, or the radius of the fire produced by the bomb. **Smoke-** How much smoke the thing makes. **Deployment-** How the device is used. Either Thrown, Ground (set it down, light fuse, run), Projectile (shot from a mortar or cannon), Rolled (rolled towards target), Self Propelled (moves towards target under its own power), Adhered (stuck to target), or Left (armed and left lying around, like a booby trap). **Crater Size-** How large of a crater the device generally makes on a sand surface.

Green bordered boxes describe explosive or flammable compounds, fuses, and the like. They may or may not include the following: **Classification-** Either High Explosive, Low Explosive, Primary Explosive (used for detonation), Flammable, Fuse, or Chemical. **Sensitivity-** How easy or hard it is to make the material display its intended result, like catching fire or exploding. **Set off By-** Lists what can set off or ignite the compound. **Ignition Temperature-** The temperature at which the compound ignites, explodes, or whatever it does. **Burn Temperature-** The temperature created when said substance explodes, burns, or whatever. **Burn Speed-** How fast flame travels across the substance. **Detonation Velocity-** How fast the explosion force of the detonating compound moves. Basically, how powerful it is. Also, listed with the danger levels may be warnings such as Toxic, Dangerous Fumes, and the like.

Yellow bordered boxes describe weapons like cannons and sharp objects. They may or may not include the following: **Type-** Either Cannon (large bore gun), Gun (smaller bore), Missile Launcher, Mortar (designed to fire at high angles and arc projectiles), General Projectile (blowguns, slingshots, &c), Hand to Hand (staffs, clubs, beating sticks, brass knuckles), Flame (flamethrowers), Electrical (stunguns), or Bladed (knives, &c). **Range-** On average, how far the weapon can shoot. **Load Time-** About how long it takes to prepare the weapon to fire. **Capacity-** How many shots can be held on or in the weapon. **Velocity-** How fast the projectile generally moves when fired.

Safety Procedures

If you want to retain your eyesight and your ability to count in base ten, following a few common safety practices is a good idea. Following these guidelines greatly reduces the chances of harm coming to both yourself and ignorant / innocent bystanders.

Discretion is a better part of valor.

In today's paranoid world, strife with terrorism, bomb threats, and school shootings, rule #1 is "Don't get caught." Making and deploying bombs, homemade weapons, pyrotechnics, or anything of that ilk is usually illegal and invariably socially unacceptable. Both the police and the upstanding citizen types don't like our practices of making things that go boom, and for the time being it's something that we just have to deal with. Keeping yourself out of jail is just as big a concern as keeping yourself in one piece.

Unless your intent is to cause damage to people or buildings in some sort of terroristic mission, you'll need a good place to set off your toys. Your blasting site should be fairly remote, away from houses, people, major roads, and civilization in general. Your back yard is generally *not* a good choice unless you have an unusually large property. A large field or a sparsely wooded area is ideal (watch out for flammable underbrush in the woods- the last thing you need is a forest fire). You should try not to keep going back to the same site unless you are certain that no one has noticed or cares about what you're doing there. Once someone discovers your usual spot it's only a matter of time before the police are waiting for you there. If you can set things off on your own property there is very little anyone can do about it except file a complaint about the noise.

If you do go someplace public (other than your own property or the property of someone you can trust), you should leave as little evidence of your actions as possible. Pick up any pieces and parts you leave lying around. Any clues you leave lying around could be trouble in the future. Footprints or trampled brush can lead investigators right to your house. Keep these things in mind.

If you are spotted setting off bombs and whatnot you'll often have to make a break for it. Always keep an eye out for undesirable witnesses and bystanders, for two reasons: You don't want them to get hurt and you don't want them to rat on you. If you see someone, don't do anything stupid. Panicking and running away is often a dead giveaway, as is lighting something off in plain view of the witness. Act casual, conceal your equipment, and see what happens. If you have to, walk away. If you do need to run, gather up as much of your junk as you can (you don't want clues lying around) and make your escape. Don't run straight home or to a friend's house. This will just tell anyone who is interested in following you exactly where you live. Find some cover and make sure no one is following you. If you have to, go someplace public like a shopping center or a bus stop where no one will hassle you. When the coast is clear you can go home.

On your way back home, take the long way. If someone sees you walking home coming from the direction of a deafening blast and a mushroom cloud of smoke they'll probably suspect you. If you've made a lot of noise and called attention to yourself you should leave the blast site as soon as possible before nosy people show up to investigate. Above all, use your head. Always have a plan just in case something undesirable happens.

Safety at the blast site.

The most dangerous place to be is close to whatever you're setting off. When you're going to light something off, first go through a few safety procedures. If there are bystanders, an audience, or if you have friends with you, make sure they are in a safe place. If possible, have something durable for them to hide behind like a rock or a heavy piece of metal. Everyone, including yourself, should be wearing safety equipment like goggles and gloves.

Make sure you have enough of a delay on your ignition mechanism (be it a fuse, timer, or otherwise) to be in a safe place when your device goes off. Electrical detonation is preferable for larger things because you decide exactly when the bomb goes off and can be in a safe place (like behind a boulder) when you press the button. If you use fuses make sure they're long enough to give you the desired delay. Always check the burn rate of your fuse before you use it. Verify that all electric circuits are working by

disconnecting the detonator and attaching a lightbulb to test them. If possible, keep detonators and explosives separate until you are ready to set them off.

Safety during construction.

While you're making your bombs you should be following the following safety guidelines. First, you need a suitable workspace. A workbench or a table is ideal. It should be clean and clear of clutter and dangerous objects. Keep a fire extinguisher within reach and keep other people away from the work area unless they are helping you with the construction. Always wear goggles, gloves, and an apron. Adequate ventilation is also a must, and for some things will require going outside.

Avoid flame, sparks, excessive heat, shock, and friction at all times. Many pyrotechnic mixtures are sensitive to at least one of these things. Take your time and be careful, don't rush through the preparation of something. Also follow any safety precautions in the recipe, they are there for a reason. Always read the recipe through until you understand it before you start.

Other general guidelines include:

- Never grind dry ingredients together unless the recipe explicitly tells you to. Grind all ingredients separately and mix them afterwards.
- Once you're done using something, put it away. Don't keep open containers of chemicals lying around.
- Use clean equipment. Clean tools and equipment off after using them.
- Store explosives in small quantities. If you have a lot of an explosive, divide it into several small containers. A fireproof safe is very useful for storing finished explosives.
- Don't store sensitive explosives inside. Keep them in a shed or outside. If your explosive goes off, a shed is a lot cheaper to replace than a house.
- Store explosives and detonators separately.
- Use your head, and don't do anything stupid.

The Anarchy Bag

As any boy scout would know, being prepared is the key. For those of us who are intent on carrying out plans of mischief, some supplies are generally needed. Carrying a bag around with the basics is often a good idea, because you never know when you will need some supplies, or when your chance to use them may strike.

For some reason I've received a lot of flak for this article. It seems some people think that having a big bag o' mischief automatically makes one a worthless vandal and lowlife. Well, I have a three word reply:

“Deal with it.”

The best thing to use to cart your junk around is a medium-sized backpack. Large camping or frame packs usually attract attention, and are a little large to cart around whilst maintaining mobility. On the flip side of the coin, you don't want a pack that is too small to store anything useful in. Lots of pockets are okay, but make sure you know where everything is. Hooks, straps, and loops on the outside are often very useful for hanging often used items off of. Also, darker colors are best, especially if you plan to cause your mischief at night. Ladies, you have an extra advantage. People don't usually question handbags.

If your backpack has one of those reflective strips on it, tear it off. Put some tape around the zippers so they don't clink when they hit each other. Keep it adjusted properly so it isn't sagging off your back, too.

Your pack should contain: (This is, of course, only a general list.)

- **Knives.** Plural. You should have at least one good folding knife, preferably a lockblade, and a Swiss Army style knife. Larger fixed blade knives are also useful for self defense, and tackling larger jobs. IMPORTANT: The knife of your choice, like all weapons, should be within easy reach. If possible, keep it in your pocket, even. Otherwise, hang it off a shoulder strap, or belt. You want to be able to get it out as fast as possible if an emergency arises.
- **A Flashlight.** Indispensable for operations that involve darkness. Useful also in exploring empty rooms without turning on lights and attracting attention. You can use it as a signal, as well. Also useful for seeing inside locks, holes, crawlspaces, &c.
- **Wire Cutters / Pliers.** A small pair of wire cutters is a must. They should be insulated, and durable. Good for clipping power and phone wires. If you have really good cutters you can also slice holes in chain link fences, barbed wire, and window screens.
- **Screwdrivers.** Very useful in taking things apart. Pack large and small flat (-) and Phillips head (+) screwdrivers.
- **A Multi Tool.** If you can get your hands on one of these, it can effectively replace the wire cutters, screwdrivers, and perhaps a knife or two. Make the investment to get a good one. You'll end up using it more than you think.
- **Lighter.** Also indispensable. A Zippo or a windproof “Jet” lighter is best. Use it to light dark rooms, fuses, and other things. A good pyro is never without one.
- **Matches.** Bring a box of waterproof matches even if you have a lighter. Why? You can use them as boosters, fuses, projectiles, and light sources. You can throw a match, but not your lighter.
- **Smoke Bombs.** You want good ones, not those weak little 4th of July novelties. Cover your escape, clear out a room, or set off smoke alarms.
- **Rope.** Always have rope. Use it to climb things, bundle things together, or pull things. You can also use it for various mischief like tying car axles together, rigging doorknobs, &c.
- **Explosives.** Very useful. Cratermakers are easy to make, and very effective. Use for self defense, “picking” locks, and generally creating mayhem.
- **A Long Range Weapon.** You probably will never have to use it, but there are times when you'll wish you had it. The best choice is a CO2 powered BB pistol. Powerful slingshots, handguns, crossbows, and

such work as well. Bring ammo and keep it in an easily accessible place. You can also use it to pop lightbulbs, punch holes in glass, and persuade locked things to open.

- **Crowbar.** The burglar's mainstay, and for a good reason. Opens standard doors and windows in a jiffy.
- **Nails.** Hammer doors shut, booby trap things, puncture tires, disable locks, &c. You can bring a hammer if you want, but usually your crowbar will do the trick, as well.
- **Flammable Substance.** You never know when a little arson is in order. A small canister of Stern-o, lighter fluid, or gasoline will work.
- **Ski Mask.** You never want to be identified.
- **Paper Clips.** A paper clip in an electrical outlet usually blows all the lights in the area. You can use 'em to jumper things, and if you're good, you can use them for picking small locks as well. There are more things you can do with a paperclip than almost anything else on this list.
- **Duct Tape.** Use it to cover cracked windows, tape things shut, block vents, and in a pinch you can use it to bind and gag people.
- **Spray Paint.** Interior redecoration is always fun. You can use it like a can of mace, too.
- **Super Glue.** Krazy Glue, or any other fast-setting strong glue works. Glue locks shut, glue things to desks and floors... The possibilities are endless.
- **Small Hacksaw.** Padlocks, bars, and doorknobs no more. Bring a replacement blade or two as well.
- **Glass Cutter.** Windows are a pain. Eliminate them. Or cut letters into them and punch them out.
- **Wire.** Useful for meddling with electronics. String phone wires into electrical outlets, short circuit things, and electrify doorknobs, &c.

Other things you may want, depending on the situation. Try to anticipate what you'll run up against, and pack as necessary:

- **Bolt Cutters.** If you can find a small pair, they're very useful. Padlocks, bars, fences, and cables will no longer be a problem.
- **Lockpicks.** A slightly quieter method of uninvited entry than explosives and crowbars. Of course, you have to know how to use them, too.
- **Stink Bombs.** Instant diversion.
- **Darts, Throwing Stars.** A quiet method of "distracting" people.
- **Graphite Powder.** Useful for getting fingerprints off of things, like alarm keypads.
- **Night Vision Equipment.** Even in the daytime, you can see people through thin obstacles like leaves, one way mirrors, and screens. At night, it's use is obvious.
- **Amplifiers.** Things like the Bionic Ear and cheap hearing aids are useful for listening through doors, walls, &c, as well as alerting you of other people's footsteps.
- **Cleats.** If you intend to do a lot of running, you might want to use these. Not for use on tile floors. Useful on hardwood floors, though...
- **A Plank.** In some situations, a skateboard is useful for outrunning people. Can also be used as a weapon or a shield if you don't mind scratching the paint. Also makes a good excuse for being somewhere. Just say you're skating, or you're on your way somewhere and just passing through.
- **Sparklers.** Use 'em for fuses, weapons, lights, diversions, and projectiles. Jabbing someone with one will slow them down considerably.
- **Visene.** Need to get someone away from the area? Drop some of this into their drink. Sounds stupid, but it works. Great fun in the lunchroom.
- **Whistles, Air Horns.** Preferably a loud one. Gets people's attention, if that's your intent. Use it for a diversion, if you want.
- **Bat.** Hey, it has its uses. Persuading people to leave you alone, for instance. Best hammer a nail through the end too, just for effect.
- **Laser Pointer.** Blind people, or just get their attention.
- **Radio.** Turn it on and leave it hidden someplace. Distracts people, and helps cause a diversion.

- **Powerful Magnet.** Buggers up computers, tapes, and disks. Also fun for messing with microphones and speakers. You can make some really horrible noises if you do it right.
- **Tacks.** Really useful. Put one on a chair for predictable results. Also, you can leave them on the floor and they get stuck to people's shoes. Now you can hear them coming. Tap, click, tap, click...
- **Ball Bearings, BB's.** Makes following you a... slippery situation. Just throw a handful into a crowded hallway for a laugh or two.
- **Aerosol Foam Insulation.** Silences alarms (before you set them off) and generally creates a sticky mess wherever you want one. Try filling someone's desk drawer with it for a few laughs.
- **Dremel.** Use it to drill holes in locks, saw padlocks clean in two, cut through glass, and generally cause damage. Cordless, of course.
- **Wrenches.** Allen and normal wrenches (adjustable, preferably) are good for taking things apart. Chairs, for instance.
- **Fun Computer Programs.** A nasty virus on a disk will really brighten someone's day if you can get at a computer.
- **Thermite.** Faster than a speeding bullet! Able to leap tall buildings in a single bound! Well, no. But it can vaporize pesky things like bars, locks, and such. If you see a parked cop car (with no cops in it, of course), apply liberally. Make sure you have the stuff to light it with, too.
- **Pickaxe.** Mayhem on a stick. Figure it out.
- **Tryout Keys.** You can get these from disreputable retailers nationwide. They usually open all models of a certain make of car. Think big. There's all kinds of stuff you can do with these. (Car pyramid, anyone?)
- **Empty Bullet Shells.** "What?" I hear you ask. Go to a firing range and pick up some spent shells. (Don't use shells from *your* gun, dummy.) If you've committed a crime or something, leave a shell or two on the floor. It confuses the cops when they show up to investigate. Make sure your prints aren't on them, though. That'd be bad...

Be creative. There's all kinds of useful stuff you can probably think of that isn't on the list. Use your imagination.

The key to your bag is rapid deployment. Situate all of your stuff so that you know where it is, and you can get at it fast. You don't want to be rummaging around in there for too long to find what you need, especially if someone is chasing you, or you're pressed for time. Also, don't overburden yourself. You still want to retain some maneuverability, and be able to run if you have to.

If you want, take your Anarchy Bag everywhere. With a little creativity, you can alleviate boredom just about anywhere by causing a little mischief. If you have explosives and whatnot, don't do anything stupid like take it to an airport.

Where to Find Materials

Obviously, if you can't find something for a recipe in this document, the recipe is useless. Some chemicals and materials are getting increasingly difficult to find at a reasonable price, or at all. This is a general list of places where you can find some commonly used ingredients and materials.

Note that it may be illegal for stores to carry certain items in your area. For example, pellet gun and paintball gun supplies cannot be sold in West Chester, PA. Likewise, fireworks are illegal in many states. For some things, you may simply have to go elsewhere to obtain them.

So you need some kind of weird chemical that you've never even heard of before? Rarely a problem. The good folks over at <http://www.pyrotek.org/> will gladly supply you with pretty much anything you need, for a (semi) reasonable price. No, I don't work for Pyrotek, and they aren't paying me to say this. They sell chemicals and ingredients in units of 1, 5, and 10 pounds. They carry the following, as of November, 2000:

ALUMINUM POWDER
ALUMINUM SULFATE
AMMONIUM CHLORIDE
AMMONIUM HYDROXIDE
AMMONIUM NITRATE
AMMONIUM PERCHLORATE
ANTIMONY SULFIDE
ASPHALTUM
BARIUM CARBONATE
BARIUM CHLORATE
BARIUM NITRATE
BARIUM PEROXIDE
BENZOIC ACID
BITHMUS TRIOXIDE
BORIC ACID
CAB-O-SIL
CALCIUM CARBONATE
CALCIUM CHLORIDE
CALCIUM HYPOCHLORITE
CALCIUM OXIDE
CITRIC ACID
CRYOLITE
COPPER CARBONATE
COPPER OXIDE - black
COPPER OXYCHLORIDE
COPPER SULFATE
CYCLOHEXANONE
DENATURED ALCOHOL
DEXTRIN
ETHYL ACETATE
ETHER ethyl
FERRIC CHLORIDE
FERROTITANIUM
FORMALDEHYDE
GLYCERIN
GRAPHITE

GUM ARABIC
HEXACHLOROETHANE
HEXAMINE
HEXANE
HYDROGEN PEROXIDE
ISOAMYL ALCOHOL
ISOPROPYL ALCOHOL
IRON OXIDE RED
IRON OXIDE BLACK
LITHARGE
LACTOSE
LAMPBLACK
MAGNALIUM
MAGNESIUM CARBONATE
MAGNESIUM NITRATE
MAGNESIUM OXIDE
MAGNESIUM POWDER
MAGNESIUM SULFATE
METHANOL
MOLYBDENUM DISULFIDE
METHYLENE CHLORIDE
METHYL ETHYL KEYTONE
NITROMETHANE
NAPHTHALENE
PARAFORMALDEHYDE
PARLON
PENTAERYTHRITOL
PHOSPHORUS - RED
POLYVINY ALCOHOL
POLYVINYLCHLORIDE
POTASSIUM BENZOATE
POTASSIUM CARBONATE
POTASSIUM CHLORATE
POTASSIUM CHLORIDE
POTASSIUM DICHROMATE
POTASSIUM HYDROXIDE

POTASSIUM METABISULFITE
POTASSIUM NITRATE
POTASSIUM PERCHLORATE
POTASSIUM PERMANGANATE
POTASSIUM SULFATE
RED GUM
SARAN RESIN
SILICA GEL
SILICON POWDER
SODIUM BICARBONATE
SODIUM BISULFITE
SODIUM BENZOATE
SODIUM CARBONATE
SODIUM CHLORATE
SODIUM HYDROXIDE
SODIUM NITRATE
SODIUM OXALATE
SODIUM SALICYLATE
SODIUM SULFATE
SULFUR
STEARIC ACID
STRONTIUM CARBONATE
STRONTIUM NITRATE
STRONTIUM SULFATE
TANNIC ACID
TETRAHYDROFURAN
TITANIUM
TOLUENE
SUGAR
UREA
VINSOL RESIN
XYLENE
ZINC ACETATE
ZINC OXIDE
ZINC DUST
ZINC SULFATE

Pyrotek also sells various lab acids, such as the following: ACETIC ACID, HYDROCHLORIC ACID, HYDROFLUORIC ACID, NITRIC ACID, PERCHLORIC ACID, PHOSPHORIC ACID, and SULFURIC ACID. They sell all kinds of test tubes, beakers, lab equipment, fuse, and flares too. Other useful suppliers include <http://www.skylighter.com> and <http://home.rmci.net/firefox1/>.

Also, many electronic devices and components can be bought or stolen from your local Radio Shack. Wire, switches and buttons, diodes (very useful), inverters, and just about anything else you can think of. They have a master catalog in every store with just about every electronic replacement component in the known universe in it. They also have nifty tools like torches, butane, tiny screwdrivers, and things to make lockpicks out of. Go take a look and see what you can find. (Radio controlled detonator, anyone?)

Here is a list of other common things you may want or need, and where to find them. This list is by no means complete, and may or may not be accurate to your area. Some chain stores do not carry items that other similar chain stores do. (Supermarkets, for example.) If this is common, stores that carry the item are listed. Some items are age restricted. This is usually noted.

Item	Uses	Source
Acetone	Paint thinner, solvent.	Hardware stores.
Acetylene	Welding.	Hardware stores, welding supply warehouses.
Alcohol	Medicinal.	Pharmacies, supermarkets.
Aluminum (Powder)	Pyrotechnics, metalworking.	Pyrotechnics supplier, hardware stores (rarely). Grind up an aluminum bar.
Ammonia	Cleaning agent.	Supermarkets.
BB's, pellets.	Ammunition, shrapnel.	Sporting goods stores. Department stores: Kmart. Must be 18 to purchase in some areas, 16 in others.
Black Powder	Firearms, explosives, fireworks.	Gun shop. Also available is Pyrodex, similar to black powder. Must be 18 to purchase.
Butane	Torches, lighters, stoves.	Supermarkets: SuperFresh, Acme, Shop Rite, Super G. Hardware stores. Smoke and cigar shops. Department Stores: Kmart, Wal Mart. Radio Shack, as soldering torch fuel.
Calcium Carbide	Model cannons, carbide lamps.	Hobby shops, hardware stores. For use in model cannons and old lamps.
Carbon Dioxide	See CO2 cartridges.	See CO2 cartridges.
Carbon Tetrachloride	Paint, fire extinguishers, dry cleaning.	Paint stores, fire extinguishers. Pharmacies, rarely. Lab suppliers.
Chlorine	Lab use, swimming pools.	Pool supply store, lab supplier.
CO2 Cartridges	Life rafts, pellet guns.	Sporting goods stores, paintball shops. Department stores: Kmart. Must be 18 to purchase in some areas, 16 in others.
CO2, Frozen (Dry Ice)	Special effects, lab use, short term refrigeration.	Beverage outlets, lab suppliers.
Cyalume Sticks	Camping, novelties. (Those plastic things you get on Halloween that light up when you snap them.)	Toy stores, novelty stores. Department Stores: Kmart, Sears, Wal Mart.
Epoxy Putty	Adhesive, sealant.	Hardware stores.
Fertilizer, Chemical	Farming and gardening.	Hardware stores, farm supply stores.
Fuse, Safety Fuse	Model rockets, fireworks.	Hobby shops, some hardware stores. Can be ordered from fireworks distributors, or taken from dismantled fireworks. Can be ordered from www.pyrotek.org .
Gasoline	Vehicles.	Gas stations.
Hydrogen Peroxide	Medicinal, hair bleach.	Pharmacies
Iodine	Medicinal.	Pharmacies.
Iron Oxide	Rusted iron. Abrasives.	Hardware stores (rarely) Rusted pieces of iron.

Oxygen	Welding.	Welding supply warehouses.
Lighter Fluid	Grills, lighters.	Hardware stores. Supermarkets. Department Stores.
Magnesium	Firestarters.	Camping stores, I Goldberg in particular. Lab suppliers.
Matchheads, Matches	Starting fires, of course.	Supermarkets: SuperFresh, Acme, Shop Rite, Super G. Hardware stores. Smoke and cigar shops. Pharmacies: Rite Aid, CVS. Department Stores: Kmart, Wal Mart.
Mercury	Thermometers, radio tubes, mercury switches in thermostats. Lab use.	Hardware stores, lab supply stores.
Model Rocket Engines.	Model rocketry.	Hobby shops.
Model Rocket Igniters (Solar Igniters)	Model rocketry.	Hobby shops.
Nichrome Wire	Toasters, electronics.	Electronics store, old toaster.
Nitrous Oxide (NO ₂)	Torches.	Radio Shack under the name "Micronox." Also available by stealing from dentists.
Orthotolidine	Swimming pools.	Pool supply store.
Percussion Caps	Firearms, nailguns.	Hardware stores as "Remington Power Loads." Gun shops.
Potassium Chlorate	See Solidox	See Solidox
Potassium Chloride (Salt substitute)	Salt substitute, food.	Health food stores.
Potassium Nitrate	See Saltpeter	See Saltpeter
Potassium Permanganate	Snakebite kits.	Camping store.
Propane	Stoves, heaters.	Camping stores. Department Stores: Kmart.
PVC Pipe	Plumbing.	Hardware stores.
Saltpeter (KNO ₃)	Medicinal, fertilizer.	Pharmacies, rarely. Chemical supply stores and suppliers. Garden supply shops.
Sodium Chloride	It's table salt!	Supermarkets.
Sodium Bicarbonate	Baking powder.	Supermarkets.
Solidox (Potassium Chlorate)	Welding oxidizer.	Welding supply warehouses. Used as an oxidizer. Hard to find, nowadays.
Sucrose (Sugar)	Sugar. Food.	Supermarket.
Sulfur	New age medicine, science experiments, gardening.	Health food stores, as a dietary supplement. Science stores, as a rock. Gardening shops.
Sulfuric Acid, Dilute	Vehicle Batteries.	Auto supply stores. Hardware stores.

Chemical Effects Chart

This is a general list of the effects and uses of various chemicals and substances. It's useful for making your own pyrotechnics and bombs. All temperatures are in degrees centigrade (C). The symbol (At) means the substance must be atomized, or powdered and mixed with air.

Chemical Name	Formula	Combustibility	Effect	Sensitive To	Stability
Aluminum	Al	Melts @ 660	None.	Acids.	Stable.
Aluminum (Powder)	Al	Burns (At) @ 500	Burns white or yellow when (At).	Acids, oxidizers, flame.	Stable.
Aluminum (Powd. Dark)	Al, coated.	Burns (At) @ 500	Burns intensely, white or yellow when (At).	Acids, oxidizers, flame.	Flammable.
Aluminum Oxide	Al ₂ O ₃	Melts @ 2030	None, though can be used as oxidizer.	None.	Stable.
Aluminum Carbide	C ₃ Al ₄	Unknown.	Burns...	Moisture, acids, oxidizers, flame.	Flammable.
Ammonium Chloride	NH ₄ Cl	Medium temps.	Burns...	Acids, silver, bromine compounds.	Flammable.
Ammonium Dichromate	(NH ₄) ₂ Cr ₂ O ₄	High temps.	Oxidizer. Known to cause cancer. Avoid contact.	None.	Stable.
Ammonium Perchlorate	NH ₄ ClO ₄	Burns @ 150.	Oxidizer.	High temps, flame, oxidizers.	Flammable.
Antimony Trisulfide	Sb ₂ S ₃	Burns with flame.	Burns white.	Flame, oxidizers, acids.	Flammable.
Barium Carbonate	BaCO ₃	Not flammable. Base.	Neutralizes acids.	Acids.	Stable.
Barium Chlorate	Ba(ClO ₃) ₂	Burns with flame.	Burns green.	Heat, friction, aluminum, sulfides.	Unstable, flammable.
Barium Chloride	BaCl ₂	Burns with flame.	Burns green. Poison.	Flame	Flammable.
Barium Chromate	BaCrO ₄	High temps.	Oxidizer.	None.	Stable.
Barium Nitrate	Ba(NO ₃) ₂	Burns with flame.	Oxidizer. Poison. Burns green.	Flame, high temps.	Flammable.
Barium Sulfate	BaSO ₄	High temperatures.	Oxidizer. Burns green.	Phosphorus.	Stable.
Benzoic Acid	C ₆ H ₅ COOH	Burns @ 121.	Acid.	Flame, heat, bases.	Flammable.
Bismuth Trioxide	Bi ₂ O ₃	High temperatures.	Unknown.	Unknown.	Unknown.
Boric Acid	H ₃ BO ₃	Non flammable.	Stops aluminum/water reactions.	Bases, potassium.	Stable.
Calcium Carbonate	CaCO ₃	Non flammable.	Base.	Acids.	Stable.
Calcium Silicide	CaSi ₂	Very high temps.	Burns yellow/white.	Moisture, acids.	Stable.
Calcium Sulfate	CaSO ₄	May burn @ 1500 +	Oxidizer.	Acids.	Stable.
Charcoal (carbon)	C	Burns @ 3500 + or hot flame.	Glows dim orange.	Oxidizers.	Stable.
Copper Chloride	CuCl	Burns with flame.	Burns blue.	Potassium, oxidizers.	Stable.
Copper Fluoride	CuF ₂	High temperatures.	Adds blue color to flames.	Acids.	Stable.
Copper Oxide	CuO	Very high temps.	Burns blue.	None.	Stable.
Hexachloroethane	C ₂ Cl ₆	High temperatures.	Smoke. Toxic.	Bases, metals.	Stable.
Hexamine	C ₆ H ₁₂ N ₄	Flame, or @ 250.	Burns.	Flame, sparks, heat.	Flammable.
Iron (Powder)	Fe	Burns (At.) with hot flame.	Burns yellow-orange.	Flame, acids, oxidizers, moisture.	Flammable.
Iron Oxide	Fe ₂ O ₃	Very high temperatures.	Oxidizer at high temps.	None.	Stable.
Lactose	C ₁₂ H ₂₂ O ₁₁	Hot flame, with oxidizers.	Smoke.	Oxidizers.	Stable.

How To Sneak Around

Remaining undetected is, of course, an invaluable asset to anyone intent on causing destruction. As it is often said, Rule #1 is "Never get caught." Stealth takes a little preparation, a lot of discipline, and some practice, but it's a skill you'll need sooner or later.

Clothing is important to your efforts to remain concealed. When sneaking about, be sure to wear comfortable clothes that you can move around in. Things like nylon and snow pants that make noise when you move should be avoided. Try to match yourself with the terrain. If you're going out at night, wear black or dark blue. In the woods, wear green and brown. Open fields, beige, tan, and green. Exposed skin, if you are a Caucasian, can give you away. It's an obvious visible area, being lighter than the clothes you're wearing. Gloves and ski masks will cover up this problem. Never wear anything reflective. If you have shiny metal buttons, zippers, or anything of that nature, use a permanent marker or some paint to make them not quite so reflective.

If you're hauling equipment, situate it so it doesn't rattle or clink as you move. Zippers on backpacks and coats should be covered in tape so they don't make noise. The rule for packing is to retain mobility. You want to be able to move about freely to run, jump, and crawl if necessary. If your backpack is constantly in the way, there's a greater chance that you'll slip up and give yourself away.

Shoes are important. Wear shoes that you are comfortable running in. Try to avoid boots, since it's next to impossible to walk quietly in them. Sneakers are the best choice. If your shoes have shiny eyelets for the laces or white soles and stitching, color them black as well. Don't wear brand new shoes on tile floors, because they'll squeak like crazy.

Outside, remaining concealed is seldom a problem. Stay in covered areas. Behind trees, bushes, rocks, &c. Solid objects provide the best cover. Move carefully and slowly if you're hiding. Try not to rustle bushes or underbrush. If you're in the woods, step very lightly with your toes to avoid breaking twigs and crunching leaves. Watch where you walk, and try to put your feet where the ground is as clear as possible.

Avoid open areas. If you must cross an open area, make sure no one is watching, and do it as quickly as possible. If possible, dart from hiding place to hiding place. Always pay attention to line of sight. Assume that if you can see someone's eyes, they can see you. Avoid hiding in tall grass, because it moves too much whenever you move. Also, it is far too easy to see through. Go for rocks, trees, and hills.

When climbing over a hill, be careful not to silhouette yourself. As you cross over the crest of the hill it is very easy for someone below you to spot you against the sky. Stay as low as possible and peer over the top of the hill. If the coast is clear, cross the crest quickly while staying as low as you can. If possible, go for cover on top of the hill and survey the situation from there.

At night, only use a flashlight if necessary and always keep it pointed down. NEVER wave a flashlight around, because it's a dead giveaway. You might want to keep your hand over the flashlight and only let the light you need shine through between your fingers.

Indoors, things get tricky. Escape routes are limited, doors get in the way, and lights can cast your shadow exactly where you don't want it. Walk on the outside edges of your feet, starting from the toes, and roll them inward as you walk on hard surfaces. It will make your footsteps much quieter. If you can, stay flat against a wall.

Always be on the lookout for windows where people outside could spot you, especially if it's dark outside. Don't turn on lights. It will give you away in short order. Always listen for voices, footsteps, and doors opening and closing. Look for cover like file cabinets, desks, and chairs. Darkness is your friend, and light is your enemy. Stay in the shadows.

Speaking of shadows, pay attention to where lamps and such are. Remember that your shadow goes in the opposite direction as the light source. The closer to the floor (where you are) the light is, the longer your shadow will be. If someone sees your shadow, they might as well have seen you. Always pay attention to what your shadow is up to.

Corners are a pain. If you've got a mirror, use it to look around them, keeping it as close to the ground as possible. If you don't, stop and listen for anything around the corner. Footsteps, breathing, shuffling feet, turning pages, anything. Carefully peer around the corner, staying low. If you see someone and they see you, leap out and take them down as fast as possible, before they can react.

Security devices are a bitch. If wherever you're sneaking around has stickers that say "Premises protected by whatever" then be on your toes. Cameras can usually be spotted easily. If you see a suspicious hole in something, a reflective dome, or there seems to be an out of place thing near the ceiling, there's probably a camera in it. Assume that if you can see it, it can see you. NEVER smash a camera. This is a dead giveaway to whoever may be watching them. Be on the lookout for motion sensors, which are usually located in corners, near the ceiling. Don't get anywhere NEAR one if you spot one. Smashing these is often a bad idea as well, as it sets them off. Near the floor or across doorways you may find beam sensors. You've seen them at the entrances to Radio Shack. You can step over the beam if you spot the thing before you stumble into it. Sometimes you can just unplug them, too.

Any electronic security gizmo needs electricity. If you can, shut off the power. Stick a paperclip in an electric socket to short the circuit and cut all the power in that room. If whatever nasty security thing has a light on it and this makes the light turn off, the thing is usually out of commission. If you can get to the circuit breaker, that has the same effect. Be warned: People get suspicious when all the lights in the place suddenly shut off. Sometimes motion sensors are battery powered, but more often they are not.

Always be careful of obvious stuff. Don't slam doors, don't jiggle door knobs, try not to smash windows, drop stuff, or move furniture. And ALWAYS wear gloves. Fingerprints are nasty little buggers, and more often than not get you landed in jail if anyone notices you've been there. Keep your shoes clean, too. Try to get in, accomplish whatever your mission is, and get the hell out as fast as possible. Never stick around to watch whatever you set.

If there are other people milling about, things get ever hairier. Watch them carefully. Wait for them to leave, if possible. Don't move if you're within earshot. If they see you, persuade them to be quiet before they can do anything. If you really must take someone out, a guard for example, do so quickly. Whomp him over the head with something as hard as you can, cover his mouth, and tie him up when you're done. Try to keep your eye on him, cause he may try to do something heroic when you least expect it. Or want it. Watch people from as far away as possible.

The final rule is to be prepared to abort your mission and run away. Always have an escape route. Have a place where you can go where you can hide. If you get spotted and have to run, NEVER run straight home. Chances are some wiseass decided to follow you and the cops can't be far off, especially if he finds your house. Take a long route back, and watch for people following you. If someone sees you walking home coming from the same direction as that explosion, chances are they suspect you.

Obtaining Black Powder

If you're too lazy to make your own black powder, there are several places you can get some. If you're over 18 you can go to a gun shop and just buy some. If not, you can try to get someone else to buy some for you. If that doesn't work, we are forced to get creative.

You will need a pair of pliers, a hacksaw, a plastic baggie, and several Estes model rocket engines. Saw an engine open, lengthwise, and peel the cardboard off. You will be left with a hard black cylindrical thing with some clay on each end. The clay crumbles easily, so break it off and discard it. That black thing is actually a hardened plug of black powder. Grip it in the pliers, and crunch it. Do this inside the plastic bag so all the pieces that go flying stay inside. Break all the pieces up, and then use a broomstick handle or something hard and not made out of metal to grind the stuff into a powder. Repeat as necessary.

Obtaining Charcoal

Making high quality charcoal relies partly upon finding or making high quality charcoal. Willow and grapevine charcoal are generally regarded as the best for making black powder, and fortunately there is a good source for ready made willow charcoal.

I noticed, not too long ago, something very interesting. A box of charcoal sticks belonging to my niece was sitting on the kitchen counter and lo- the inscription on the corner of the label reads “Pure willow charcoal sticks of varying sizes for sketching and uniform shading.” Interesting indeed. You can buy surprisingly large boxes of the stuff at art stores. It is, of course, far cheaper to make your own willow charcoal, but if you can’t get your hands on willow wood this should do quite nicely. It grinds very nicely into a fine powder either by ball mill or by hand, and makes excellent black powder.

Matchheads

The heads of matches contain enough phosphorus and chlorates to be used as a reliable explosive. Although preparing them is tedious work, matchheads are safe, reliable, cheap, and readily available.

You can usually buy boxes of 1000 paper matches at your local supermarket, hardware store, smoke shop, or pharmacy. Acme, Shop Rite, Super G, CVS, Rite Aid, and True-Value stores almost always carry boxes of matches. A box can cost anywhere from 69 cents to \$1.99.

Another good investment is a good pair of scissors, preferably with serrated edges. The usual procedure is to take all the paper off of the box of matches. Dump the matches out on the floor or a table. Take a pack of matches, open it, and cut the heads of the matches off into the box that the matchbooks came in. This can be time consuming, but you can do it while watching TV or whatever. Keep an eye out for escaped matchheads, as they like to fly away every once and a while when you cut them. Dump them into an airtight container for storage, as nosy parents and roommates often pester you with the dreaded question, "Why do I smell matches in here?"

If you want more explosive power, you can scrape the material directly off the matchheads with a razor. The best way to do this is to take the matchbook apart and scrape one strip of matches at a time. Scrape the matchhead material into a bowl and crush it up with a spoon or something. The matchpowder is best stored in an airtight container, so it doesn't absorb moisture from the air.

Matchheads burn violently when they are lit (duh), and if packed in an enclosed container will explode. Regular book matches and safety matches are not shock or friction sensitive, at least to a degree to make them dangerous. Strike anywhere matches should never be used in a bomb, because they may ignite if the device is dropped or hit too hard. Regular fuse will ignite matchheads easily.

Matchheads

Classification: Low explosive.
Sensitivity: Medium.
Set Off By: Flame.
Danger Levels (0-10)
Synthesis: 1
Storage: 2
Detonation: 5

Ignition Temperature: 450 °
Burn Temperature: 750 °
Burn Speed: ?
Unknown.

High Explosives and Nitration

This article is a must read for anyone who is going to attempt to make high explosives. Without a proper understanding of what's going to happen, you are infinitely more likely to get yourself killed, which is not the overall goal.

A large majority of high explosives (like nitroglycerin, RDX, guncotton, and others) are made by a process called nitration. This usually involves treating a suitable substance, called the fuel, with a mixture of concentrated nitric and sulfuric acids. This process bonds three or more NO₂ (Nitrogen Dioxide) molecules to the fuel. The detonation energy is created when a shockwave passes through the explosive, breaking these bonds. High explosives have varying sensitivities and thus need to be detonated in varying fashions. Sometimes only heat is needed to break these bonds (as in the case of guncotton and a fuse) and sometimes a small shockwave (dropping nitroglycerin) or a large shockwave (created with a blasting cap, as in the case of RDX). Regardless of the explosive, they all need to be handled with care.

The nitration process in itself is often dangerous because the reaction makes a lot of heat. This heat is very bad news, because it can set off the newly formed explosive, which will shower you in acid and perhaps relieve you of a hand or your face. As a result high explosives need to be kept cold, usually with an ice bath, when they are nitrating. If, at any point, the explosive gets too hot you can dump the mixture into the ice bath or pour a large amount of water into the mixture to stop the nitration.

Nitration requires relatively pure (undiluted or concentrated) nitric and sulfuric acids. These acids are very dangerous and can eat through metal, not to mention you, with ease. They **MUST** be stored in glass or plastic containers. Also, when the acids are first mixed they have an annoying tendency to splatter. They are best mixed a small amount at a time, and very slowly. Always wear the proper safety equipment like goggles or a facemask, gloves, and an apron when working with these chemicals.

As a general rule you should never heat, drop, or shake a finished high explosive. The best course of action is to convert the explosive into a desensitized form, such as a plastic explosive, or dynamite. Storing the explosives inside is generally a bad idea. High explosives should be used as soon as possible. **Never EVER** get caught with any of this stuff in your possession. If you think life sucks now, try it in jail.

Utility Knives

If you're ever in need of a cheap and reliable weapon, utility knives are it. They've got all kinds of advantages that you've probably never even thought of.

You've probably seen these things at hardware stores and supermarkets and even dollar stores. They're retractable utility knives. They're long and skinny, plastic with razor sharp blades inside, and dirt cheap. You can pick up a pack of three at a dollar store for all of one dollar (plus tax, of course) with no age check, no hassle, no nothing. They're usually some hideous neon color like pink or orange, but a black permanent marker will remedy that situation. Almost all of them come with clips for attaching to your belt or pocket. You can open them with one hand in a split second, and they lock, too. They come in two sizes: Skinny and fat. The fat ones are sturdier, but the skinny ones are easier to hide.

The great part about them is they're less detectable than regular knives. Because the blades are so thin, metal detectors sometimes fail to see them. Likewise, cops often don't notice them in your pockets during a pat-down, and you can have one clipped to your shirt pocket and they'll think it's a pen. If you screw one up in a fight, or through regular wear and tear, just go home and pick up another one.

The Lazy Man's Ball Mill

If you need a small capacity ball mill and don't feel like building your own there is an alternative. A quick trip to the hobby store will quickly net you a usable ball mill for a reasonable cost.

You've probably seen rock tumblers at toy and hobby shops. They're meant to be loaded with random minerals and a bagfull of grit to polish rocks down to a glassy luster. They can also be used as ball mills. A rock tumbler will usually run you about \$25. All you have to do is buy a rock tumbler and discard the polishing grit and included rocks. Actually, you should save the grit- It has other uses. Regardless, load the rock tumbler 1/3 of the way with steel balls and 1/3 of the way with the ingredient you want to mill. Turn it on and it acts just like a regular ball mill. Keep in mind, however, that these have a much smaller capacity than a full blown ball mill.

If you're wondering where to get steel balls, there are a few options. You can buy ball bearings at the hardware store, though they are rather expensive. You can order them from lab and pyrotechnics suppliers that sell ball mills, too. Another alternative is steel slingshot ammo. You can get this from almost any sporting goods or department store.

Stuff to Make

Fuse (Generic)

Fuse (sometimes called a wick) is an essential material in making most bombs. It's a reliable ignition method, providing you with the age old "light fuse and run" strategy. You can usually buy it by the foot from hobby shops (it's used in model rocketry), and you can tear short fuses out of fireworks. If you can't find any, you're forced to make your own.

Materials:

- Saltpeter. (Potassium nitrate, KNO_3)
- Sugar.
- Soft string. Cotton or something.
- Water. (Alcohol will work faster. Up to you.)

Equipment:

- Bowl.

Procedure:

1. Mix 1 part saltpeter with 1 part sugar in 2 parts of HOT water. Hot alcohol works, but it's harder to work with. Mix it up until the stuff dissolves as much as it will.
2. Soak the string in the solution. Make sure it's not coiled up or anything. You want the whole surface of the sting to be exposed so it can absorb the mixture.
3. After the liquid cools completely, take the string out. It should be somewhat stiff. If it isn't, heat the solution back up, dump some more saltpeter and sugar in it, and repeat steps 1 and 2. Let the fuse dry.

Operation is fairly simple. Stick it in a bomb, and light it.

Effects:

This is a fairly stable, medium rate fuse. It usually burns about 2.5" every 10 seconds. ALWAYS check how fast the fuse burns before you use it in a bomb. ALWAYS. It might burn faster or slower than you think, in which case you could be in real trouble. This fuse may or may not operate underwater.

Modification:

If you coat the fuse in a thin layer of wax (melt down a candle or something) then it will be resistant to water. Make sure it's coated thoroughly.

Generic Fuse

```
Classification: Fuse.
Sensitivity: Low.
Set Off By: Flame.

Danger Levels (0-10)
Synthesis: 1
Storage: 0
Detonation: 2
```

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Ignition Temperature: 600 °
██████████████████████
Burn Temperature: 875 °
██████████████████████
Burn Rate: ██████████ .25"/sec
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Match Fuse

Match fuse is an easy to make and mostly reliable means of ignition. The main ingredient, of course, is matches. This is a useful alternative if you can't find any other kind of fuse to use for your bomb.

Materials:

- A few packs of matches. Paper book matches work best.
- Some tape. Packing tape, masking tape, and scotch tape work well. Duct tape is a little harder to work with, but it will suffice in a pinch.

Equipment:

- A pair of scissors.
- A razor or a sharp knife.

Procedure:

1. Cut 30 or 40 matchheads off of the sticks of the matches. You want as much of the head and as little of the paper as possible.
2. Take a piece of tape about 7 inches long. Place it sticky side up on a table or something and stick the matchheads to it, down the length of the tape. Make sure the matchheads are all touching.
3. Roll the tape into a tube over the matches. Make it as tight as possible. Press it to make sure it sticks. You might want to use the razor to cut off any excess tape.

There you have it, a match fuse. It can be lit with the flame from a lighter or a match.

Effects:

The match fuse burns with a bright yellow-orange flame, as the matches ignite and set each other off in a chain reaction. It burns fairly quickly, so it is best used for short delays. Match fuse does not operate underwater. Very high winds may put out the fuse, but the tape helps protect from this.

Match Fuse


Classification: Fuse.
Sensitivity: Low.
Set Off By: Flame.

Danger Levels (0-10)
Synthesis: 0
Storage: 0
Detonation: 2

Ignition Temperature: 450 °

 Burn Temperature: 750 °

 Burn Rate: 1.5"/sec



Napalm

Napalm is a flammable jelly-like substance that is used primarily in firebombs and similar incendiary devices. As an explosive, it's use is very limited. Contrary to the ideas in a thousand and one useless internet anarchy texts, napalm is not explosive.

Materials:

- Some gasoline.
- A bunch of styrofoam. See? Aren't you glad you saved all the crap your computer came packed in?

Equipment:

- A glass or metal bowl, not plastic.
- A utensil with which to stir, and that you will never eat with again.

Procedure:

1. Pour some gasoline into the bowl. Obviously, the more gasoline you use, the more napalm you get.
2. Break the styrofoam into little pieces and dump it into the bowl. Watch it fizz and dissolve. Keep adding styrofoam until no more will dissolve.

Scrape the resulting gunk into an airtight container until you use it.

Effects:

Napalm burns a very long time. It also sticks to whatever surface it happens to come in contact with, causing even more damage as it continues to burn. It's hard to extinguish, because it reignites almost instantly after you put one part of the fire out.

Napalm is best used in addition to an explosive device to scatter it over a wide area. You can also just dump it and light it for an instant bonfire. For some fun and laughs, try writing with it, or making a giant flaming pentagram or perhaps a burning cross on someone's lawn.

Napalm

Classification: Flammable.
Sensitivity: Low.
Set Off By: Flame.

Danger Levels (0-10)
Synthesis: 0
Storage: 1
Detonation: 4

Ignition Temperature: 350 °

██████████
Burn Temperature: 650 °

████████████████████

Black Powder (Precipitation Method)

The mainstay of pyrotechnics, firearms, and explosives for centuries. Black powder is actually relatively easy to make, provided you can get the materials. Hell, the Chinese did it a thousand years ago without any trouble. This is one of two major methods, the called precipitation. It's easier to do with less equipment than the alternative, milling, though it generally produces lower quality powder.

Materials:

- Some Potassium nitrate. (KNO₃) Also called saltpeter. You can buy it from <http://www.pyrotek.org> .
- Some sulfur. You can also get this from Pyrotek.
- Some charcoal dust. Just the stuff you get from burning wood is fine.
- Alcohol.

Equipment:

- Glass beaker, mixing implement.
- Heat source. A hot plate works best.
- A baking pan.
- A glass bowl and wooden grinding spoon.

Procedure:

1. Fill the beaker about half way with alcohol. Heat it until it is warm.
2. Dump 75% KNO₃ into the beaker, followed by 10% sulfur, and 15% charcoal.
3. Continue heating the mixture and stir it until it is a uniform black or dark gray. DO NOT BOIL THE MIXTURE. I think you know why.
4. Once it is mixed, dump it all out onto a baking pan or something of a similar nature and let the alcohol evaporate. This is best done by leaving it in the sunlight. It is best to spread the mixture out as thin as possible. The thinner you spread it the easier it will be to grind, and the faster it will dry.
5. Grind the resulting dried black stuff into powder. Don't use metal tools, or it may ignite. If you spread it thin enough (almost paper thin), you can just pick it up and crush it in your hands.

Black powder burns quickly and produces a fair amount of smoke. If you ignite it in a confined container, it explodes. Otherwise it burns with a hot flame. It is best stored in an airtight container, as it tends to absorb moisture from the air.

Black Powder

Classification: Low explosive.
Sensitivity: Moderate.
Set Off By: Flame, static electricity.
Danger Levels (0-10)
Synthesis: 3
Storage: 4
Detonation: 6

Ignition Temperature: 400 °
Burn Temperature: ?
Unknown. (High.)
Burn Speed: ?
Unknown. Varies with grain size.

Black Powder (Milling Method)

Though it requires more specialized equipment than the precipitation method, the milling method generally produces much higher quality and faster burning black powder. You can find more information on ball mills and presses elsewhere in the A Files.

Materials:

- Potassium nitrate. (KNO₃) Also called saltpeter. You can buy it from <http://www.pyrotek.org> .
- Sulfur. You can also get this from Pyrotek.
- Charcoal dust. The type of charcoal you use plays an important role in the quality of the end product. You'll want charcoal that is carbonized evenly and all the way through. Willow and grapevine charcoals are generally regarded as the best to use, being very reactive. See the article titled "Charcoal" for more information.

Equipment:

- A ball mill with a load of heavy balls and a load of fairly light balls. See "Ball Mills" for more information and a plan to make your own.
- A hydraulic press. See "Hydraulic Presses" for more information.
- A vessel of smashing. There are two methods to go with: The first involves using a pot or a bowl and crushing the powder in it. The second involves putting the powder in a plastic bag and hitting it with something to crush it. Whichever method you use is up to you.
- Something to crush black powder cakes with. A wooden baseball bat, a weight bar, or even a hammer will do. Make sure you can use it with your vessel of smashing. (For example, a hammer and a pot doesn't work well, but a hammer and a bag does.)

Procedure:

1. The first step is to gather up all your ingredients and mill them. Load your ball mill with 75% potassium nitrate, 15% charcoal, and 10% sulfur (by weight, not volume). Also load in the heavy balls and fire it up. Milling time will vary depending on the size of your mill, the weight of the balls, the amount of ingredients, &c. A good time to check on it is after three hours of milling. If you have a uniformly colored mass of very fine powder then you are ready for the next step. You should have a hard time seeing the particles in the mix without magnification. If it looks coarser than this, put it back in for another spin in the mill. You can't overmill it, so don't worry about that.

2. The powder you now have is called "green powder", and though it is not finished black powder yet it is useful for some things like fuses and lift charges. You will now have to moisten your powder just enough to make it clump together. Load this into your press and press it down until it forms a solid hard cake. This cake should hold it's shape well and be of uniform consistency. If it isn't, press it some more. This process is called "corning".

3. Allow your cake of pressed powder to dry out completely before attempting the next step.

4. It is now time for the step that I call "smashing". It is fairly simple. Place your powder cake in something durable and crush it into grains. The goal here is to break it into smaller pieces with a high enough surface area to promote fast burning, but not to the point where the ingredients fall apart (become "unpressed", so to speak) into useless powder. A good grain size for most applications is about half a millimeter. Larger grains are useful as well, mostly for lift charges and powering large cannons. You may wish to separate your different grain sizes with a set of screens.

Your black powder is now ready for use.

Effects:

Black powder burns quickly, with the speed varying depending on grain size. Smaller grains burn faster. The powder itself burns with an intense, hot, orange flame and produces fairly large amounts of white or grey smoke. Black powder is well suited for many applications ranging from lift charges to propel shells into the air, to firearms, burst charges, firecracker loads, and priming compounds.

Black powder is somewhat disposed to absorbing moisture from the air (not good) and thus should be stored in an airtight container. It is sensitive to excessive heat, flame, and very hard shock.

Nitrocellulose

Nitrocellulose, or guncotton, is a fairly powerful low explosive. As the name implies, it is commonly used as a propellant in bullet shells instead of black powder. Nitrocellulose burns faster (when confined, like in a bomb) and produces more hot gas than black powder.

Materials:

- Some cellulose. (Cotton, folks.)
- Concentrated nitric acid.
- Concentrated sulfuric acid.
- Water. Preferably distilled (pure) water.

Equipment:

- Two beakers or glass containers.
- Tongs or something with which to pick up things you ain't gonna touch with your fingers.

Procedure:

1. Put 10 ml of nitric acid into a beaker. Then, VERY SLOWLY, add 10 ml of sulfuric acid. If you do it too fast, it has a tendency to splatter. Getting acid on yourself is not good.
2. Fill the other beaker with water.
3. Fluff up a ball of cotton and drop it in there. Poke it down with your tongs to get it completely submerged. Let it sit for three minutes.
4. Take the cotton out of the acid and dunk it in the beaker of water a few times. The goal here is to wash off as much of the acid as possible.
5. Let it dry. Don't try to dry it in the oven, or you'll lose your guncotton. (And possibly your baking sheet.)

This stuff is extremely flammable. It burns very fast, and produces little smoke, making it ideal for use in firearms and the like. An interesting property of guncotton is its ability to be detonated as a high explosive with a blasting cap. It needs to be confined to do this, however. You can also use it in bombs, shells, and other assorted pyrotechnic devices. Keep it away from heat, sparks, and flame. Don't let it get anywhere near glycerin, if you happen to have any around.

Nitrocellulose

Classification: Low explosive.
Sensitivity: Moderate.
Set Off By: High temperature, flame.

Danger Levels (0-10)

Synthesis: 4
Storage: 3
Detonation: 6

Ignition Temperature: 300 °

Burn Temperature: ?
Unknown. (High.)

Burn Speed: ?
Unknown. (Fast.)

Ammonium Tri-Iodide

This is an odd substance that, in its solid form, is a very unstable contact explosive. It can be used in a similar manner to Snap 'n Pops, or similar novelties, but it is much more powerful.

Materials:

- Iodine crystals. These are hard to find. You can grow your own if you make a solution of about half water, half (pure) iodine. Heat it up and dangle a string in the solution. As it cools, iodine crystals should form on the string, and possibly the walls of the container. You will want crystals as small as possible, preferably in powdered form. You can buy solid iodine from some chemical suppliers. Iodine sold in drug stores is NOT pure iodine.
- Household ammonia. No Windex, no fancy colors or anything. Just regular ammonia.

Equipment:

- A container that you don't mind screwing up.
- Some paper towels.

Procedure:

1. Put some iodine crystals/powder in the container. Dump in just enough ammonia to cover it.
2. Let it sit for about five minutes.
3. Carefully dump the treated powder onto a paper towel. Let it sit for a minute or two to dry a little. Dump it onto a clean paper towel and let it dry completely. The powder is now friction and shock sensitive. Don't drop it, crush it, or handle it too roughly.
4. Once it is dry, wrap up a small amount of powder in a piece of clean paper towel.

Go throw it at something and watch what happens. The stuff has a shelf life of about a week, usually less. It's best to use it in fairly short order, because it slowly decomposes and releases iodine gas, amongst other things, and will dissolve into nothing and/or explode in long term storage.

Ammonium Tri-Iodide is extremely unstable. It will explode if crushed, dropped, or thrown against a surface hard enough. When it detonates there is a loud bang, and a cloud of purplish smoke is released. The smoke isn't good for you in the least, to try to avoid breathing it in. Also, a purple singe mark is left on whatever surface is unlucky enough to have a crystal explode on it. The iodine itself stains the skin a brownish color, and the crystals have a similar, though less severe, effect. Wash your hands after using iodine or ammonium tri-iodide crystals.

Ammonium Tri-Iodide isn't particularly useful as a detonator, because it decomposes, and becomes more and more unstable over time. The best uses for the results of your little chemistry experiment are crowds, concerts, and anyplace you want to get someone's attention. It's also useful for long range vandalism.

Ammonium Tri-Iodine

Classification: Primary explosive.
Sensitivity: Very high.
Set Off By: Mild shock, flame, heat.

Danger Levels (0-10) Poisonous.
Synthesis: 6
Storage: 10
Detonation: 9

Ignition Temperature: 125 °

Detonation Velocity: 3000 m/sec



Carbon Tetrachloride Explosive

This is an unusual and rather dangerous high explosive slurry made from carbon tetrachloride. Carbon Tet is getting increasingly harder and harder to find these days, but many laboratory suppliers still carry it.

Materials:

- Some carbon tetrachloride. WARNING: This stuff is classified as a moderate carcinogen (causes cancer). Don't touch it, breathe it in, or ingest it.
- Some aluminum powder or filings.

Equipment:

- A container.
- Something to mix with.
- A blasting cap.

Procedure:

1. Mix two parts aluminum to one part of carbon tetrachloride.
2. Stir until the mixture has a uniform consistency.

Fuses and matches won't ignite the explosive. You will need to use a blasting cap to get it going.

This explosive is fairly powerful, supposedly packing about 90% of the power of dynamite, in ideal mixtures. It has a short shelf life, however, unless it is stored in an airtight container. A blasting cap is needed to detonate the mixture. The fumes from the mixture are very harmful and should not be inhaled. Other information and accurate figures on this explosive are unavailable at this time.

```
Carbon Tetrachloride Explosive
Classification: High explosive.
Sensitivity: Low.
Set Off By: Shockwave, detonator.

Danger Levels (0-10) Carcinogen,
Poisonous.
Synthesis: 9
Storage: 5
Detonation: 8
```

Flash Powder

Flash powder is the term for almost any unstable and fast burning metal/oxidizer mixture. It's aptly named- it burns or explodes with a bright flash. Flash powder is useful as an explosive, special effect, or additive. This is a recipe for just one kind of flash powder- there are many other mixtures that work as well.

Materials:

- Potassium Nitrate (KNO₃), powdered.
- Magnesium, powdered. (Aluminum works, too.)

Equipment:

- Storage container.
- Mixing implement.

Procedure:

1. Mix 50% KNO₃, 50% magnesium or aluminum in your container. Do this slowly, and carefully. Flash powder is often very sensitive. Don't scrape or crush the powder when you mix it.

Flash powder ignites with a bright flash, and releases smoke. It burns faster than black powder, and generally produces more hot gas. Flash powder is sensitive to heat and excessive friction. Never grind the KNO₃ and magnesium in the same container. Don't shake the flash powder or expose it to heat, flame, or sparks. Store it in a safe, dry place.

Modification:

There are literally dozens of flash mixtures. Other popular mixtures include the following:

2 parts potassium nitrate	1 part aluminum powder
2 parts potassium perchlorate	1 part aluminum powder
1 part potassium chlorate	1 part sugar
2 parts potassium permanganate	1 part sulfur
2 parts ammonium perchlorate	1 part aluminum powder
2 parts sodium perchlorate	1 part magnesium powder

As a general rule the finer the ingredients the faster burning and more powerful the flash powder will be. Flake shaped metal particles are better than spherical particles, as well. You can order both sphere and flake type aluminum powder from many pyrotechnics suppliers.

```
Flash Powder
Classification: Low explosive.
Sensitivity: Moderate.
Set Off By: Heat, flame, hard shock.

Danger Levels (0-10)
Synthesis: 4
Storage: 4
Detonation: 5
```

Thermite

Thermite is indeed interesting stuff. It's a fuel/oxidizer mixture, much like flash powder, but it produces slightly different effects. Thermite burns at a ridiculous temperature, usually around 5700 degrees, and is useful for a variety of applications where vaporizing metal is involved.

Materials:

- Finely ground iron oxide. Iron rust or iron scale will work. Either which.
- Finely ground aluminum. The more pure, the better.
- Magnesium powder.
- Saltpeter. (Potassium Nitrate , KNO₃)

Equipment:

- Mixing vessel. (A bowl.)
- Something with which to ignite. Fuse, soldering torch, &c.

Procedure:

1. Mix up 75% iron oxide and 25% aluminum. This is the actual thermite. Set it aside.
2. Mix 50% magnesium, 50% KNO₃. This is the starter compound. You only need a pile of this about the size of a nickel. (Notice that it's essentially flash powder.)

Thermite requires a fantastic temperature to ignite. Thus, it is very stable and safe to store. There is a drawback to this, however. Regular fuse or matches won't light the thermite. This is the reason for the starter powder. To use the thermite, pour it on to an object you don't like. Pour a smaller pile of starter powder on top of the thermite, stick a fuse in the starter powder, light the fuse, and step back. Or run away, case depending. Windy situations will scatter your thermite about, so you can dump it in a plastic cup or something similar to keep it in one place.

Thermite burns with a brilliant white light and throws sparks and molten metal all over the place. It gets hot enough to melt through virtually anything. Beware, however- Some ceramics can withstand the heat generated by thermite. It seldom works on brick or fired clay, though it may crack such surfaces.

Thermite is near impossible to extinguish once it is lit. Since it carries its own oxygen in the mixture, thermite can burn underwater. Thus, fire extinguishers, sand, sprinklers, and the like won't put out thermite. If you have a thermite fire on your hands, the best strategy is to run away and wait for it to burn out. Otherwise, find a manner to separate the burning particles, stopping the reaction and the fire.

Thermite

Classification: Flammable.
Sensitivity: Very low.
Set Off By: Very hot flame.

Danger Levels (0-10)

Synthesis: 0
Storage: 0
Detonation: 5

Nitroglycerin

Nitroglycerin (sometimes called nitro) is the original high explosive. It's dangerous, unstable, and powerful. Making it at home is very dangerous, and the best thing to do with it is to convert it to dynamite immediately. Nitroglycerin, like most high explosives, is made by a procedure called nitration, which is a very tricky process. If you do decide to make it, use extreme caution.

Before making nitroglycerin, or any other high explosive, you should read "High Explosives and Nitration" in the Stuff to Know section. This contains important information that you should know when you're making high explosives.

Materials:

- Concentrated sulfuric acid. (Full strength.)
- Concentrated nitric acid. (Full strength.)
- Glycerin. (Rather hard to find.)
- Baking soda.
- Ice, salt, water. (For an ice bath.)

Equipment:

- Metal bucket.
- Glass beakers.
- ACCURATE thermometer, capable of measuring temperature in degrees Celsius.
- Clean eyedroppers.

Procedure:

1. Make an ice bath by dumping a bunch of ice and water into the bucket. Stick the beaker into the ice (make sure it stays there). You can add a little salt into the ice water to lower the temperature more. The temperature is important here, so have lots of ice handy.
2. Pour 13 ml of nitric acid into the beaker. Then add 63 ml of sulfuric acid. Do this carefully, because the acid likes to splatter when you mix them. Stick the thermometer in there too, and let it cool down to about 20 degrees (C) or so.
3. Take an eyedropper and suck up a little glycerin. Add it to the acid mixture one drop at a time. ONE DROP AT A TIME. Keep adding it until you cover the surface of the acid. As soon as you add the acid the nitration reaction will start. This makes heat. Watch that thermometer like a hawk. If the temperature gets above 30 degrees, the nitroglycerin will more than likely go off, which is very bad. If you have to, stop adding glycerin for a few minutes and add more ice if you have to.
4. Once you've added all the glycerin, stir the mixture gently for a minute or two. In about 10 minutes it'll be done nitrating.
5. Take a CLEAN eyedropper and snork up the nitroglycerin. It floats on the top of the mixture. Fill another beaker up with water and a little baking soda. Put the nitroglycerin into the baking soda water. This will neutralize any acid that's stuck to the nitro, which will make it more stable.
6. Pour off as much of the baking soda water as you can without losing any of the nitro in the beaker. Pick up the nitro with an eyedropper and put it in a glass or plastic container for storage. Store it in a safe place, like outside, on someone else's property.

Effects:

Nitroglycerin is an oily yellow liquid that is very sensitive and unstable. It will explode if you drop it, hit it too hard, or get it too hot. The best thing to do with nitro is to turn it into dynamite ASAP, since this makes it much safer to store. Pure nitro has been known to spontaneously explode in storage. Using pure nitro in a bomb is a very bad idea. Likewise, using nitro in a detonator thinking it will set the bomb off when you throw it at something usually results in natural selection.

Nitroglycerin vapors have been known to cause headaches and other afflictions. These are temporary and mostly harmless, though irritating. Nitro opens blood vessels in the body, and a sharp increase in blood flow to the head is what causes these headaches. If this is a concern, wear a respirator or use a fume hood.

Nitroglycerin

Classification: High explosive.

Sensitivity: High.

Set Off By: Shock, flame, heat, agitation.

Danger Levels (0-10)

Synthesis: 9

Storage: 9

Detonation: 9

Dynamite

Everyone's seen dynamite on Saturday morning cartoon shows. It's a high explosive made from nitroglycerin, and is much safer than nitro alone. Making it is a simple process, provided you have a bottle of nitroglycerin lying around.

Materials:

- Nitroglycerin.
- Sawdust.
- Potassium Nitrate. (Saltpeter, KNO_3)

Equipment:

- Plastic Ziplock bag.
- Container, like a cardboard tube.

Procedure:

1. Put about 80% sawdust, 20% saltpeter in the bag. Shake well.
2. Mix in the nitroglycerin. You should use about 50% sawdust/saltpeter and 50% nitro by volume. In a pinch you can use less nitro. You will wind up with either a paste (if you have a lot of nitro) or a crumbly substance (if you don't have much nitro). Be careful not to put an excess of nitro into the mixture, because the unmixed nitro is just as dangerous as nitro that hasn't been made into dynamite- And guess what it's sitting on top of.
3. Pack the mixture into the container. Let it solidify as much as it will before you try to use it.

Don't try any Wile E. Coyote stunts with this stuff.

Effects:

Though dynamite can be set off with just the heat from a flame (it can burn fast enough to make a shockwave and set itself off), the most reliable way to set it off is with a small blasting cap. Just a two inch length of thin copper pipe filled with black powder or flash powder will do the job. Likewise, pipe charges and cratermakers do very nicely. It might go off if you drop it from a few feet up or crush it hard, but it usually isn't a problem. It isn't anywhere near as sensitive as nitroglycerin alone.

```
Dynamite
Classification: High explosive.
Sensitivity: Moderate.
Set Off By: Shockwave, detonator, flame,
hard shock.

Danger Levels (0-10)
Synthesis: 3
Storage: 5
Detonation: 8
```

Acetone Peroxide

Acetone peroxide (AP) is an interesting high explosive that can be made at home fairly easily. It's a good explosive, fairly powerful, but also fairly sensitive to heat and shock. Making AP is a common entry point to the world of high explosives. AP is a common material for detonators.

Materials:

- Acetone. The highest concentration you can find is best.
- Hydrogen Peroxide. This stuff comes in an opaque brown bottle. You can get it at any pharmacy. You'll need a 30% concentration, and usually the stuff sold over the counter is usually less than that (around 3%). If you can't get 30%, you can add 10 times more peroxide than the recipe suggests. The reaction will take longer due to the dilute peroxide, however.
- Hydrochloric acid. You can buy this from various lab suppliers. The concentration you want depends on how fast you want the reaction to take place. Lower concentrations react more slowly, and produce less heat (which is usually a plus). Usually a concentration of about 5% is used. Other mineral acids will work, as well.

Equipment:

- Glass beakers.
- Mixing implement.
- Thermometer.
- Eyedropper.
- Equipment for an ice bath. Bucket, ice, water, and salt.
- Filter paper or fine fabric. (T shirts work well, as do coffee filters.)

Procedure:

1. Make an ice bath in the bucket. Dump some ice in it and fill it with water. Add salt to melt the ice and lower the temperature. Place the beaker in the ice bath and put the thermometer in the beaker.
2. Put 50 ml of acetone into the beaker. Then mix in 30 ml of hydrogen peroxide. Let the mixture cool to around 5 degrees, C.
3. Using the eyedropper, slowly add and mix in 5 ml of hydrochloric acid. Watch the thermometer as you do so, as the reaction will make heat. The ideal temperature for the reaction is between 5 and 10 degrees. This is important because the type of AP formed depends on the temperature of the solution. At the ideal temperatures the reaction forms tricycloacetone peroxide, which is what we want. At higher temperatures the reaction forms dicycloacetone peroxide, which is far less stable and is more dangerous.
4. Stir for about 5 minutes.
5. Keep the beaker in a cool place, either in the ice bath or in the refrigerator (covered, of course) for a few hours. If you used dilute hydrogen peroxide, you should wait 24 hours. If you used the recommended 30% hydrogen peroxide, about four hours should do it.
6. You will notice a white precipitate has formed in the beaker. Filter it out, and wash it in a beaker of clean water. This is the AP. Dry it someplace that isn't humid and is dark (Like the fridge.). **DO NOT DRY THE AP BY LEAVING IT IN THE SUN!** This may cause the AP to detonate.

Acetone peroxide can be set off by crushing it or striking it hard enough, or by coming into contact with high temperatures or flame. It has a maximum shelf life of about three weeks. It should be used shortly after making it.

Effects:

Acetone peroxide is a primary explosive. This means that it is sensitive and ideal for use in blasting caps and for detonating other high explosives. AP explodes with heat, flame, or a shock. Dropping it, exposing it to heat, or handling it roughly can make it explode. Be careful. It makes a loud report when it

goes off, and is fairly destructive. It is suitable for making small explosive devices, but it's best used for making detonators for high explosives. WARNING: Acetone peroxide is very sensitive to sunlight. The UV rays from sunlight break down the AP and make it very unstable. If you must store your AP, store it in an opaque container, and don't leave it in the sun! Also, AP can react with metals to form various unstable compounds. If you're going to put your AP in a metal container, coat the inside with nail varnish before you put in the AP.

Dried AP has an average shelf life of about 14 days, if it is not made into AP putty or a similar substance. If you must store AP long term, store it in a bottle of water and dry it out before use. Just enough water to cover the powder is sufficient. Improperly stored AP has been known to cause problems.


AP is a very common explosive. There are thousands of articles on the internet about it, and it seems everyone has their own special mixture and chemical proportions. Experimentation will give you the process that gives the best yield. Feel free to play around with the amounts of the ingredients a little.

Acetone Peroxide

Classification: Primary explosive.
Sensitivity: High.
Set Off By: Shockwave, detonator, flame, hard shock, heat.

Danger Levels (0-10)

Synthesis: 4
Storage: 8
Detonation: 8

Ignition Temperature: 125 °

Detonation Velocity: 4000 m/sec



AP Putty

AP putty is a moldable and somewhat more stable form of acetone peroxide. AP putty is well suited for making blasting caps and detonators, and has a slightly longer shelf life than acetone peroxide alone.

Materials:

- Some acetone peroxide (AP). See the section titled “acetone peroxide” for more information.
- A double base smokeless powder. This is used in rifle and shotgun shells. You can buy it at a gun shop, and there are a few online suppliers that sell it as well. Here’s something weird for you: If you can’t get ahold of the powder, you can use ping-pong balls. Professional grade balls (not those crap Kmart plastic ones) are made from nitrocellulose and camphor. Go to a sporting goods store and pick up about 30 of them if you can’t get any smokeless powder. Homemade smokeless powder (nitrocellulose) will often work, as well.
- Some acetone. Just regular acetone, like the stuff you use as paint thinner.
- An ignition device. A fuse or a rocket igniter will do.

Equipment:

- A glass jar with a screw on lid.
- A bowl.
- Something to mix with.

Procedure:

(If you’re using ping-pong balls, take a knife or something and cut them up into small pieces.)

1. Mix two parts smokeless powder with three parts acetone in the glass jar. Stir it up a little and put the lid on the jar. Let it sit for about three days. You might want to open it up and stir it once or twice in the process. After three days, you should be left with a paste in the jar.
2. Decide how much acetone peroxide you’re going to use for this. A pile about the size of a nickel is plenty. Put the acetone peroxide in the bowl. Mix it with the paste you made in step 1 until the stuff becomes moldable.
3. While it’s still wet, stick the business end of your ignition device in the putty. Mold it into the shape you want and let it dry for 24 hours. It will become hard and solid when all the acetone evaporates.

The dried AP putty is detonated by the ignition device that’s embedded in it. Either light the fuse or run 12 volts through the rocket igniter.

Effects:

The AP putty will detonate with a little more power than acetone peroxide alone. It is sensitive to heat, flame, friction, and shock, but not quite to the same degree as acetone peroxide. It can be used as-is, but is best put to use as a detonator for high explosives. All the same warnings for AP apply here: Sunlight makes it unstable and could set it off if it’s left in the sun. Contact with metal is bad. Store it in an opaque container. AP putty has a longer shelf life than regular AP.

AP Putty

Classification: Primary / High explosive.
Sensitivity: Fairly high.
Set Off By: Shockwave, detonator, flame, hard shock.

Danger Levels (0-10)

Synthesis: 4
Storage: 6
Detonation: 8

Ignition Temperature: 150 °



Detonation Velocity: 4100 m/sec



Hexamethylenetriperoxidediamine (HMTD)

Hexamethylenetriperoxidediamine (hereafter HMTD) is an explosive peroxide much like AP. On the whole it is more stable and powerful than acetone peroxide, making it a better choice for detonators and blasting caps.

Materials:

- Hexamine. Also called hexamethylenetetramine or methenamine. It's used in fuel tablets for small portable heaters and camp stoves. You can buy it straight from www.cheaperthandirt.com, as well as a slew of other places.
- Hydrogen peroxide. As usual 30% concentration is best, but not a must. The amounts here assume that you have 30% peroxide. If you have the more common 6% or 3% use 5 or 10 times more hydrogen peroxide, respectively.
- Citric acid. You'll want pure citric acid, powdered if possible. I've never used liquid citric acid but it supposedly works just as well. Chemists and lab suppliers have it.
- Alcohol, pure. Ethyl or methyl alcohol will do nicely.
- Clean (preferably distilled) water.

Equipment:

- A glass beaker or container to put the ingredients in.
- A thermometer.
- A filter of some sort. Old T-shirts, coffee filters, or lab filter paper all work nicely.
- A bucket, some ice, and some water to make an ice bath.
- Measuring equipment, stirring implement, &c.

Procedure:

1. Mix and dissolve 15 grams of Hexamine (crushed into powder) into 50 ml of hydrogen peroxide.
2. Set up your ice bath and put the beaker in it. Drop in the thermometer and let your ingredients cool down to 10 degrees or so. You'll want to keep the temperature below 10 degrees at all times.
3. In small increments, mix in 20 grams of citric acid. You want to do this in small amounts because the mixture will begin to react and make heat. You need to keep it below temperature, remember.
4. Once it's mixed in, keep stirring gently. The accepted time limit is 3 hours. Keep it at the right temperature during this time, as well.
5. Once your arbitrary 3 hours is up, take the beaker out of the ice bath and let it sit for a while. Once again, 3 hours is a nice amount of time.
6. You should have noticed stuff precipitating from the mixture during steps 5 and possibly 4. Use your filter to extract the stuff from the solution. This is your HMTD.
7. Thoroughly wash the stuff with clean water to get all the reactants off. If you don't do this properly it will be less stable and will break down and do other undesirable things over time. If you want you can rinse the HMTD with alcohol afterwards. This displaces the water, and alcohol evaporates faster than water, leaving you with dry and ready to use HMTD powder faster.

Effects:

HMTD is sensitive. It will detonate with a hard enough shock, friction, enough heat, or a good spark. Avoid all of these things while handling it. Properly washed HMTD is generally more stable than acetone peroxide and has a longer shelf life. You can keep HMTD around for about a month before the effects of deterioration set in. For long term storage it is recommended that you keep your HMTD immersed in alcohol and dry it out prior to use. Like AP, HMTD is sensitive to sunlight. You should store HMTD in an opaque container and never leave it in direct sunlight. HMTD is also sensitive to contact with metals. If HMTD is in direct contact with aluminum, zinc, antimony, brass, copper, lead, or iron (and iron alloys like steel) it will cause corrosion and decreased stability. In a word, not good. If you must put your HMTD in a metal container first wrap it in a plastic bag or coat the inside of the container with varnish or shellac.

H3

H3 is a low explosive that works on a principle similar to matchheads. It is a reliable and fairly powerful explosive as well, a good substitute for black powder. In addition, it does not require any special equipment to prepare. Next to matchheads it is among the easiest to make explosives, provided you can get your hands on a good source of potassium chlorate.

Materials:

- Potassium chlorate. This is best used powdered. You can get it from most any chemical supplier and is supposedly available in the United Kingdom as weed killer.
- Charcoal, pure. Do not attempt to use barbecue charcoal because this is not pure. Willow charcoal is best. You can actually buy the stuff at art supply stores. It should be powdered.
- Starch. Any sort will do, really. Cornstarch and flour leap to mind.
- Some very hot water.

Equipment:

- A bowl, beaker, or similar vessel.
- A piece of fine window screen or a strainer.
- A mixing implement.
- A mortar and pestle or ball mill, if necessary.

Procedure:

1. If they are not already, grind the charcoal and potassium chlorate into fine powder, separately.
2. Mix 75 parts potassium chlorate, 23 parts charcoal, and 2 parts starch together thoroughly in a bowl.
3. Add hot water slowly and stir until you get a thick pastelike substance. Keep mixing until it cools.
4. Take your mass and work it through the screen. This process is hard to describe, but it is fairly obvious how one should do it and you will quickly figure it out. The aim here is to end up with many vary small pieces of the solidifying mixture.
5. You may have to screen the mixture more than once as it hardens. Spread it out and let it dry. Once it is completely dry it is ready to use.

Effects:

H3 burns rather quickly, like black powder or matchhead powder. It is a good choice of filler for firecrackers, small bombs, salutes, and a multitude of other things. It is sensitive to flame, mildly sensitive to friction, and incompatible with glycerin and phosphorus compounds.

Stuff to Build

Friction Drive Ball Mill

A ball mill is almost indispensable in the world of pyrotechnics and explosives. With it you can quickly and (relatively) safely grind dry ingredients to a very fine powder. Finely ground ingredients are often a requirement for many pyrotechnic mixtures and a ball mill saves you the time and effort of grinding things my hand with a mortar and pestle. Ball mills are used in the preparation of black powder, flash powder ingredients, and a host of other things.

Materials:

- Some wood to make your frame. One inch or $\frac{3}{4}$ inch plywood does quite nicely. You'll need one 2' foot length, one 3' foot length, and two 1' foot lengths. All of these pieces should be around 10 inches wide.
- Two pieces of small diameter ($\frac{3}{4}$ inch, or so) PVC pipe. These should be about 26" inches long.
- Four glue-on endcaps for said PVC pipes.
- Four pieces of metal or plastic pipe. Your small pipes should fit into them nicely, but still be able to move freely. These will be used for your pivot points. Each should be about an inch long.
- Some lubricant for your pivot points. I've found that Vaseline works quite nicely. You'll want something viscous (thick) so it won't drip out of your pivot points and get all over everything.
- Some hockey tape (grip tape).
- A motor. This is the hardest part to find. The optimum speed for your ball mill is around 60 rpm. You'll want a motor that can run for long periods of time, can provide enough torque to move something that weighs about three pounds, and runs at the right speed. A motor with an adjustable speed would be ideal, but often proves even harder to find. If you can't get a motor that runs at the right speed you can use two pulleys and a fan belt to reduce the speed. You'll need a power supply for the motor as well.
- All manner of screws, nails, and whatnot to put your wood together and fasten down your motor.
- A container to put on your ball mill. It should meet these specifications: It needs to be round (cylindrical), it needs to be fairly durable, and it needs to close tightly. Plastic containers are best because in the very unlikely event of an accident they won't throw dangerous fragments everywhere. Lengths of PVC pipe with screw on endcaps work very well.
- Some balls to load your mill with. It's good to have three sets of balls- Small, middle, and large. You can buy ball bearings from the hardware store for this purpose. The point of the balls is to slowly wear down your ingredients into a powder. The small balls should be about .25" across. The medium ones about .33", and the large ones about .50". You'll need enough balls of at least one of these sizes to fill one third of your container. Another excellent source of balls for your mill is steel slingshot ammo. Your local Kmart or sporting goods store should carry it.

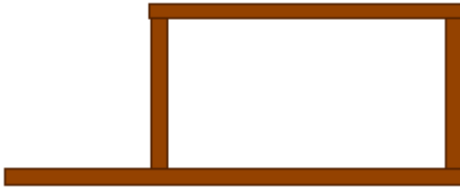
Equipment:

- A drill and some bits. If you have a bit the size of your pivot point pipes you're all set. Otherwise you'll need a rasp or something similar to enlarge your hole, as well.
- A hammer and screwdriver for driving your fasteners, be they nails, screws, or otherwise.
- A saw to cut your wood pieces down to the required sizes.
- Some epoxy.

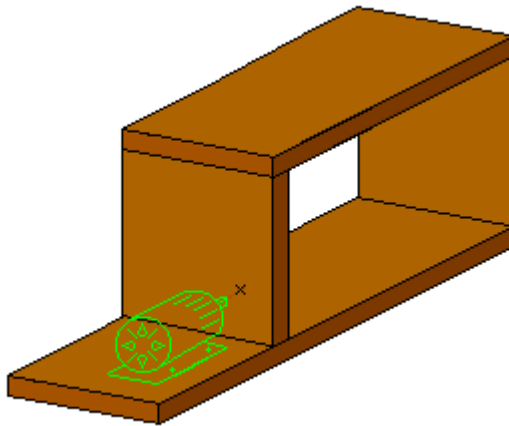
I realize this materials list is somewhat sketchy. However, with the large variation in size and such of these mills I have to leave a lot of specifics out. Once you read through the plans and get a picture of the thing in your mind you'll be able to get more of an idea of the materials required.

Procedure:

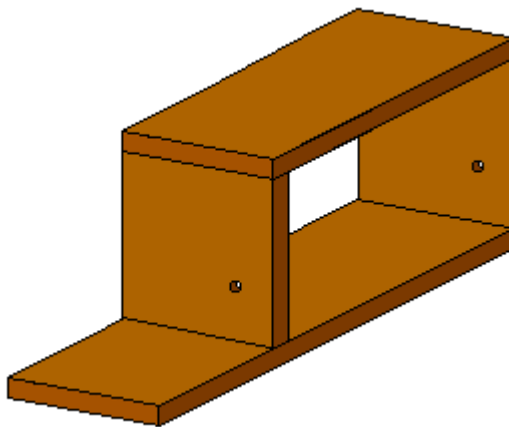
1. Using your wood pieces you will have to build a square frame. The longest piece of wood (the 3 foot) goes on the bottom, and forms the floor of the structure. The small pieces (the 1 foot lengths) form the walls. The middle length (the 2 foot) is the ceiling. You will wind up with a rectangular box with a 1 foot long piece sticking out to one side.



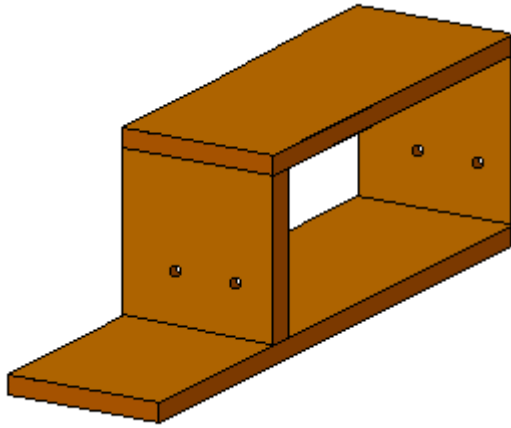
2. Figure out how you're going to mount your motor to the platform. Some motors already have holes for mounting screws built in. If not you'll have to get creative with some woodworking or perhaps some hose clamps. That part is up to you. The drive shaft of the motor should point towards the wall of your wooden frame. Where the drive shaft has to go through the wall of the frame make an X with your pencil. The motor should be off to one side by a few inches, and you'll find out why in a minute.



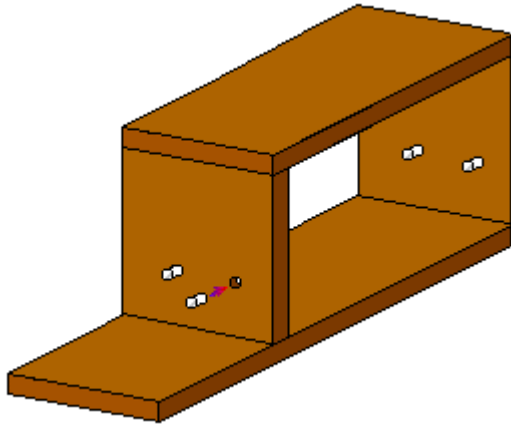
3. Drill a hole on the X the same size as your pieces of your pivot point pipe (the short, larger diameter pieces). Drill another hole on the other side of the box directly across from it.



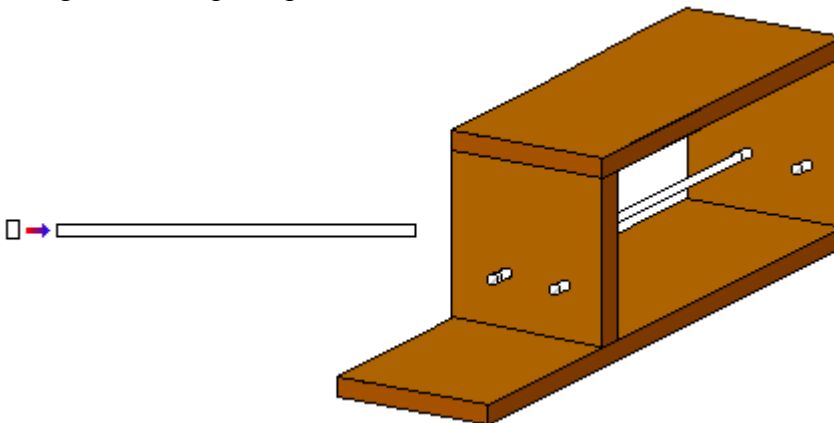
4. Drill two more holes, both of them three or four inches to the side of where you drilled the first two holes. They should also be the same size as your pivot point pipes.



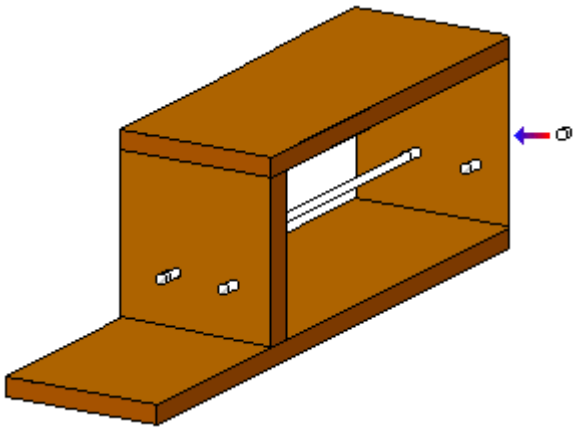
5. Epoxy your pivot point pipes into the holes you just made. Also apply some Vaseline to them.



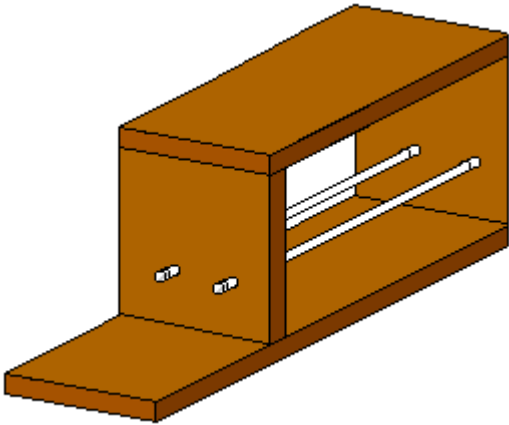
6. Put one endcap on one of your pipes and epoxy it on. Slide it through one of your pivot points (the holes in the side of the frame with the pipe inside). If you lined everything up properly it should also fit right into the pivot point on the other side of the box.



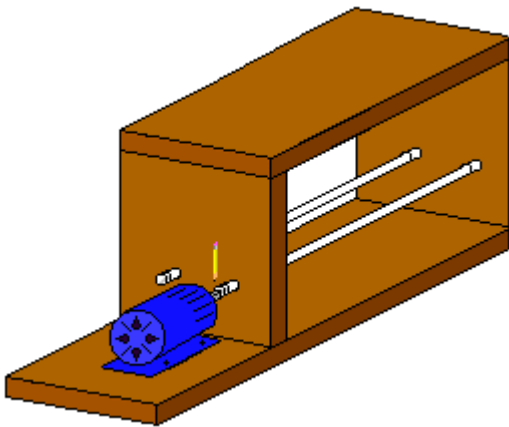
7. Epoxy the endcap onto the other end of the pipe you shoved through the box.



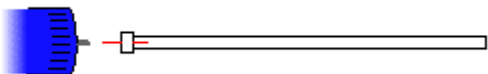
8. Epoxy one endcap onto your other pipe. Push it through but DO NOT attach the last endcap. You'll have to take this pipe out for a minute.



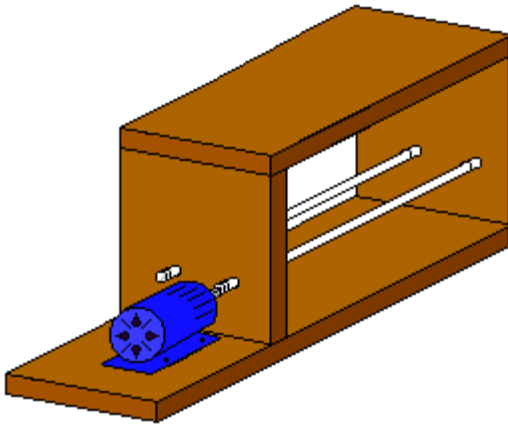
9. Line your motor up so the drive shaft is centered on the endcap of the pipe you were just working with. Make a mark where the drive shaft touches it.



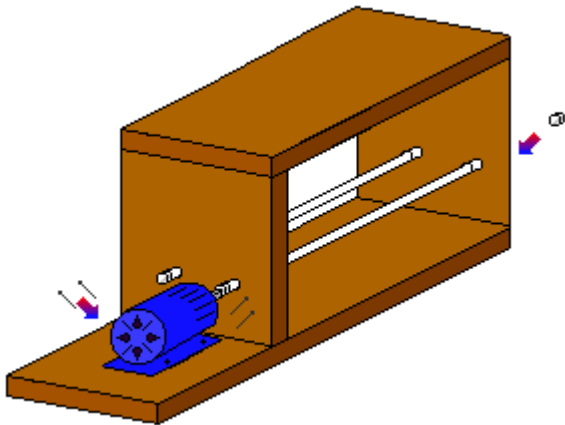
10. Drill a hole (or cut a square shaped hole, depending on the shape of your drive) in the endcap where you made the mark. Your drive shaft should fit snugly into this hole. Epoxy the drive shaft into the hole.



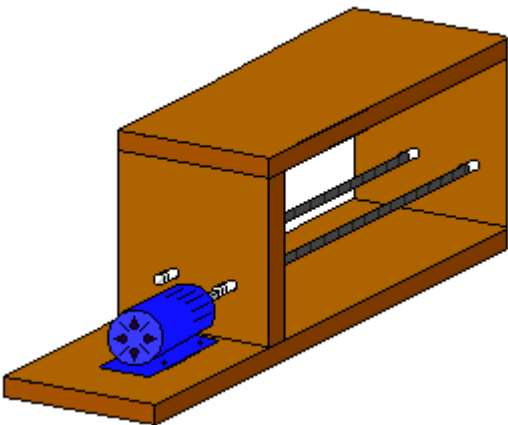
11. If you've got everything lined up properly you should be able to slide the pipe-and-motor assembly back into the hole in the frame.



12. Epoxy the last endcap onto the end of the pipe. Now would also be a good time to nail down your motor. If you turn on the motor now the piece of pipe it's attached to should spin freely.



13. Wrap both pipes in an even layer of grip tape. This will keep your container from slipping. You can wrap your container in grip tape, too.



Your ball mill is for the most part done. Operation is fairly simple. Simply load your container 1/3 of the way with whatever you wish to grind and 1/3 of the way with balls. Place the container on top of the PVC pipes and turn your motor on. As the drive shaft spins, the rotation will make your container spin as well. The balls tumble around inside the container and grind whatever ingredients you've loaded the mill with into a fine powder. Depending on the amount and type of ingredients you load it may take an hour or a few days to grind them.

A word to the wise: Don't grind friction sensitive mixtures in the ball mill. Flash powder, armstrong's mix, and similar mixtures could explode in the mill. This will not only ruin your ball mill but will blast your milling balls all over the place. Instant shrapnel. Also, try not to use metal containers. There is an off chance that steel balls on a steel container could create a spark while the ball mill is spinning. This is obviously bad news.

Applications of a ball mill include: Grinding black powder ingredients, milling black powder, grinding flash powder ingredients, and grinding thermite ingredients. You can save yourself money by purchasing coarsely ground ingredients and making them a fine powder yourself.

Ball Mill Containers

A ball mill is useless without a container to put in it. An effective and durable container can quickly and easily be fashioned from PVC pipe, if one has the inclination.

Materials

- One length of thick wall (schedule 40) PVC pipe, any length you wish between 6 and 20 inches, and any diameter you wish between 3 and 9 inches.
- One glue on (non threaded) endcap that fits said piece of PVC.
- One cleanout adapter (also called an inside thread adapter) and one threaded cleanout cap that fits said piece of PVC.

Equipment:

- Epoxy or PVC cement.
- (Optional) Grip tape, or hockey tape.
- (Optional) A cap wrench is helpful for getting that cleanout cap off. You may want to pick one up. A pair of vice grips works just as well on smaller diameter caps.

Procedure:

1. Epoxy or cement the endcap to one end of the PVC pipe.
2. Epoxy or cement the cleanout ring to the other end of the PVC pipe.
3. If you want your container to grip the rollers on you ball mill better, wrap the outsides of the endcaps and the pipe with grip tape.
4. Once all the glue is dry, screw the cleanout cap onto the cleanout ring. Do not glue it.

To use the container, simply unscrew the cleanout cap, load up your ingredient(s) and balls, screw the cap back on, and place it on the rollers in the ball mill.

Firecrackers (M-80's)

Probably the most sought-after firework on earth, the M-80 is a powerful and compact firecracker. It's been a favorite of juvenile punks and perpetrators of mischief for ages. Sometimes it's hard to get your hands on a bag of these (they're illegal in many states) but you can make your own fairly easily.

Materials:

- An explosive powder. Flash powder, guncotton, black powder, and ground up matchheads will all work nicely. Flash powder is the most powerful, and matchheads are the least powerful.
- A length of cardboard tube. It should be $\frac{1}{2}$ to $\frac{3}{4}$ of an inch wide, and can be as long as you want, as you're going to cut it into 1 $\frac{1}{2}$ inch lengths. The walls of the tube should be fairly thick. You can order these directly from some paper products suppliers. Your local hardware store might offer some insight as well. Ask around. Model rocket body tubes work well.
- Some epoxy putty.
- Some fuse.
- Some cotton balls. (Optional.)

Equipment:

- A nail.
- Some free time.

Procedure:

1. Cut your cardboard tube into one and half (1 $\frac{1}{2}$) inch lengths. The more, the merrier.



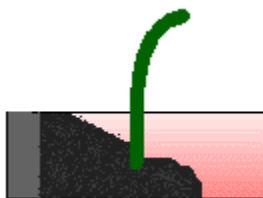
2. Take your nail and poke a fuse hole in the side of each bit of tube.



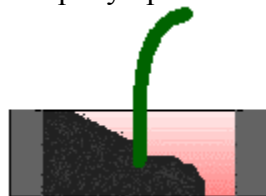
3. Use some epoxy putty to plug one end of each tube. Use about a $\frac{1}{4}$ inch thickness of putty.



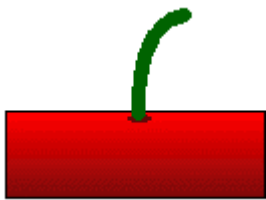
4. Pour in your explosive. Put the fuses through the holes, too. If you don't fill the tubes completely you can use cotton balls to hold the explosive in place.



5. Epoxy up the other ends of the tubes.



Let everything dry for an hour or so. Then, light and enjoy.



Effects:

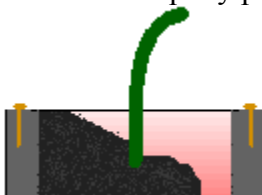
M-80's go off with fairly predictable results. A small flash, a large boom, and a puff of smoke. Shrapnel isn't a concern because the thing uses a cardboard casing. You can use these yourself, but many people prefer to sell them (you can make lots of money that way) and use the cash to buy supplies for larger explosive devices. Think about it: You can sell two M-80's for a dollar. That's enough to get the materials for a batch of 8. Here's a nifty hint: Don't get caught by the cops selling M-80's. It's usually illegal.

Modification:

You can put ground up sparkler material in these for colored flashes, small balls of aluminum for white sparks, road flare material to make them explode red, or zinc to make them green. There's always fun in painting them and stenciling "La Bomba" or something of that ilk on each one.

There are lots of things you can use for endplugs. Some people just use layers of tape, some people like clay, and others use stacked cardboard disks. That's up to you. Performance of various endplugs depends on the kinds of explosive you use.

If you have trouble with your epoxy endplugs falling out and keeping the thing from exploding, you might want to try the nail trick. To do this, you take a small finishing nail and shove it through the side of the tube into the epoxy putty endplug before it dries. The nail will help anchor the endplug in there, like so:



Polumnas (Triangle Firecrackers)

These are small, simple, and easy to make firecrackers. They are common items in Mexico, and are used in celebrations and festivals. There are other uses for these, an I'm sure you can imagine.

Materials:

- Some fine black powder. Matchheads won't work, but very fine matchpowder has been known to. Flash powder will work, as well.
- Some heavy paper. Construction paper works well.
- Some duct tape.
- Some fuse. The fuse is usually short- About one and a half to two inches long.
- (Optional) Paint, to make your polumnas pretty colors.

Equipment:

- Scissors.

Procedure:

1. Cut a long rectangular strip of construction paper, about 12 inches long and 1 inch wide.



2. Fold the corner over to make a triangle.



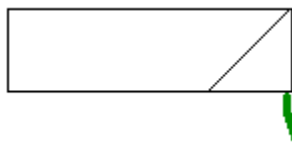
3. Fold it over again, like a paper football.



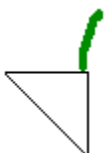
4. Fold it a third time. Now you should have formed a pocket. Fill the pocket up about $\frac{3}{4}$ of the way with your explosive. Stick the fuse in the explosive and situate it in the corner of the triangle.



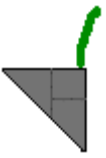
5. Keep folding the paper over until you reach the end of it. Be careful not to spill the explosive out.



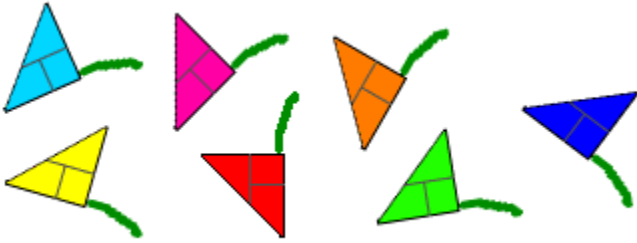
6. When you run out of paper the fuse should be sticking out of the corner, but other than that there should be no gaps in it.



7. Wrap the whole thing up in a layer or two of tape. Leave no place for the pressure of the burning powder to escape- That pressure is what makes it explode.



8. If you want, paint it some hideous color. They look a little more innocent and even a little festive when they're all sorts of bright colors.



Light and enjoy.

Effects:

The polumna detonates with a loud crack or a pop. There is no shrapnel, because the thing is made of paper and tape. If you used flash powder, you'll get a nifty flash with the explosion. They aren't very destructive, but polumnas are useful for pranks and general noisemaking. Don't be an idiot and let one go off in your hand. Polumnas are easily concealed, and it's fun to walk around with a pocketful of them at the mall or some other public place. (Drop one in an ashtray, perhaps?)

Basic Pipe Charges

These devices are a wonderful introduction to the wide world of mischief and explosions. They are relatively safe and simple to make. They also make wonderful loud noises and small amounts of fire and smoke. Portable and reliable, one could use these charges in a variety applications.

Materials:

- A length of aluminum, brass, or copper pipe. This should be about 6” inches long, 1” inch in diameter at the maximum, and ½” an inch in diameter at the minimum.
- A piece of safety or other reliable fuse capable of at least a 3 second delay.
- A low-order explosive, preferably matchheads or black powder.
- Some duct tape, black if you’re style oriented, regular otherwise.
- A tissue.

Equipment:

- Something capable of making a fuse hole in the pipe. A metal cutting drill or a center punch and hammer will do nicely.
- A pair of pliers.
- A good pair of scissors.
- Something to light the fuse with.
- OPTIONAL: A vice or a hammer and hard surface.

Procuring the Equipment:

A trip to the hardware store is in order here. Many stores sell pipe by the foot or yard, and you might as well stock up. Tools and the duct tape can be found here as well. One can find boxes of 1000 book matches at many hardware stores and supermarkets. A box runs anywhere from 69 cents to \$1.99, depending on where you get it from. If you’re intent on using black powder, you can buy it from a gun shop or grind up a model rocket engine. Finally, fuse can be bought from a hobby shop and possibly the hardware store. This is the hardest item to find, so if you stumble across a source stock up, as it is very useful.

(If you are using matchheads as your explosive you will need to cut them off of the matchbooks first.)

Procedure:

1. If your pipe is in long pieces, cut it into 6 or 7” inch lengths.



2. With your pliers, mash one end of the pipe flat.



3. Using the pliers, fold the flat end of the pipe over. This may take a little bit of force, depending on what the pipe is made out of.



1. Using a hammer or pliers, crimp the folded end of the pipe down really good.



2. Tap or drill a hole in the center of the pipe that is just large enough for the fuse to fit into. ALWAYS drill fuse holes in bombs BEFORE you put in the explosive. This goes for all explosive devices.



3. Fill the pipe about two thirds full of explosive.



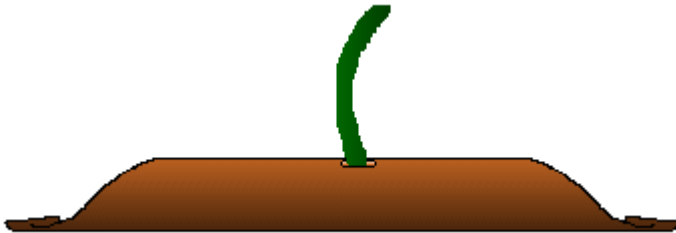
4. If you are using black powder, use a tissue to wipe any excess powder from the open end of the pipe. THIS IS IMPORTANT. If there is powder on the pipe when you crimp it, it may explode. (Not good.) Regardless of your explosive, wad up about half of a tissue and stuff it into the pipe. This will keep your explosive in place while you close the other end of the pipe.



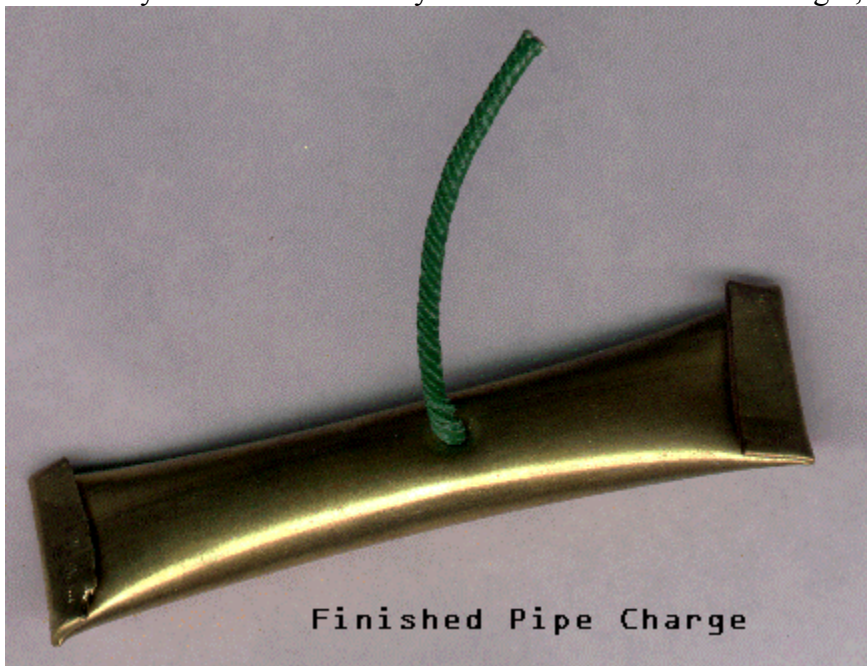
5. Crimp the open end of the pipe with the pliers like the first one. DO NOT use the hammer to crimp the pipe while there is an explosive substance in it unless you think having only six fingers would be a good way to start conversations with people. If you want, you can SLOWLY and CAREFULLY crimp the end of the pipe using a vice. Otherwise, just use the pliers.



6. Stick the fuse in the hole you made in step 5. If you want, wrap the bomb in duct tape. This will sometimes give it a little more power.



And there you have it: Your very own firecracker from hell! Light, and enjoy.



Effects:

Pipe charges generally cleave themselves in two or uncrimp themselves when they go off. They produce a loud bang, much like a rifle shot, and throw flaming matchheads everywhere. Minimal shrapnel is thrown, if any, making them safe from medium to medium-close situations. Be warned, however, that the whole casing usually flies off at a random angle, so keep your eyes open. You can usually see it coming and get out of the way if it decides to fly towards you.

If you do find the casing, it remains in the Bloody Hot category for a few seconds after detonation, so don't do anything stupid like pick it up with your bare hands. Never try to recycle detonated pipe.

Note that black powder charges are more powerful than matchhead charges, but are far more dangerous to make.

There are all kinds of uses for these things. For starters, try these: Stick one in large drainpipe. Stick one in an empty soda can (throws shrapnel). Stick one in a mailbox. Stick one under a car tire. I'm sure you can find other uses. (They rock on New Year's, 4th of July, Mischief Night, &c!)

Modification:

There are all manner of things you can put inside a charge to make it do various things. If you grind up some material from a sparkler, some magnesium, or the material from a road flare and add it to a charge it will make different colored flashes when it goes off. Small balls of aluminum foil added to a charge will throw white sparks when it goes off. There are a myriad of other things you can add as well. Do a little experimentation and see what you can come up with!

Cherry Bombs

Many people have fond childhood memories of these destructive little beauties. Unfortunately, the government decided to make cherry bombs illegal several years ago. Though you can occasionally find a source of cherry bombs, it's easy enough just to make your own.

Materials:

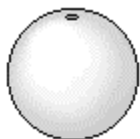
- A ping pong ball.
- Some fuse.
- An explosive. Either black powder, flash powder, or matchheads will do.
- Some epoxy putty.
- (Optional) Red paint.

Equipment:

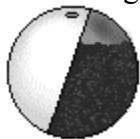
- A nail, or something to poke or drill holes with.

Procedure:

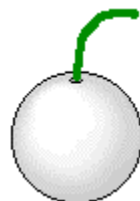
1. Take your holy device of holemaking and knock a hole in the side of the ping pong ball large enough for your fuse.



2. Through the hole you made, fill the ball about $\frac{3}{4}$ full of explosive.



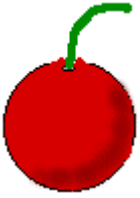
3. Stick the fuse through the hole.



4. Use the epoxy putty to coat the outside of the ball. The coating should be about $\frac{1}{12}$ of an inch thick, and as even as possible. Make sure you seal around the fuse, too. This will make a hard shell for pressure to build up inside the bomb. Sometimes it helps to take the fuse out and roll it around on a table if you can't do it by hand. If you use flash powder for your explosive you can leave out the epoxy putty entirely because it burns fast enough to explode without the extra confinement of the putty.



5. Let the epoxy putty dry and if you want, paint the thing red.



Light and enjoy.

Effects:

Cherry bombs explode. I'm sure you figured that much out. If you used flash powder you'll get a nifty flash with your explosion. Small pointy bits of the epoxy putty may go flying, to keep your distance. Cherry bombs will operate underwater, if you use waterproof fuse. They're great fun to flush down toilets...

Cratermakers

Cratermakers are very loud and very destructive devices made out of empty 12 gram CO2 cartridges. Filling them with explosive is tedious work, but is very rewarding. They behave much like Pipe Charges, but are far more powerful. You will also notice that cratermakers are this author's favorite bomb, and they're used in all kinds of compound devices.

Materials:

- An empty CO2 cartridge (12 gram), of the variety used in BB guns. Empty nitrous oxide carts work as well, but they're a little smaller.
- A length of fuse.
- Matchheads or black powder.

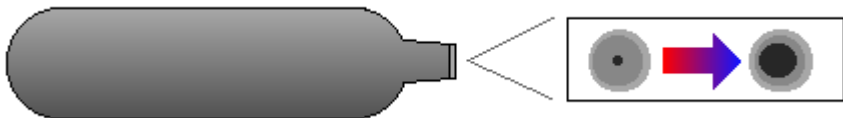
Equipment:

- A drill or center punch and hammer. (A nail works too.)
- Some epoxy putty.

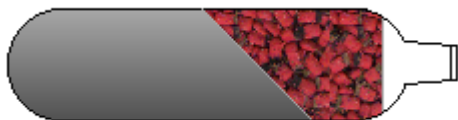
(If you are using matchheads as an explosive, you need to cut them off of their matchbooks first.)

Procedure:

1. The first thing you need to do is enlarge the hole on the end of the CO2 cartridge. You can use a drill if you want, or just a nail and a hammer. (Hint: Don't try to use a full cartridge unless you don't mind watching it explode in your face.) If you are using matchheads, make sure the hole is big enough to fit a matchhead through.



2. Fill the cartridge. If you use matchheads you have to drop them in one at a time. You can fill it with powder a little faster by making a funnel out of a piece of paper and slowly pouring the powder in. Every once in a while, shake the cartridge. When you can't hear the explosive rattling around it's time to put the fuse in.



3. Insert the fuse. If the fuse moves around, falls out, or can be wiggled, use a little epoxy putty to keep it in.



Light, and enjoy.



Effects:

WARNING: Cratermakers often throw shrapnel (sharp bits of metal). Be far away or behind something when you set one of these off.

Cratermakers make a tremendous bang when they go off, and anything they are touching is pretty much shot to hell instantly. They usually leave small craters, thus the name. They can be used as-is, or incorporated into some other larger device. Cratermakers are also the perfect weight for throwing, and make excellent makeshift hand grenades. Just make sure it doesn't go off in your hand.

Cratermakers operate underwater if waterproof safety fuse is used.



This is the recovered casing of a cratermaker that was filled $\frac{3}{4}$ of the way with matchheads. Why only $\frac{3}{4}$ of the way? Because with anything else there isn't anything left to recover. Note that having this flying at your head at fantastic speeds is not good.

DIE's (Direct Ignition Explosives)

Sometimes there are situations where fumbling with a lighter or matches is undesirable. Designed for rapid deployment, DIEs (Direct Ignition Explosives) are cratermakers that have "Pull pin and throw" capability. All you have to do is yank on the tab, and the fuse is lit. With a little creativity, this system can be adapted to any fuse explosive.

Materials:

- A cratermaker. See the article titled "Cratermakers" for more information.
- A book of paper matches.
- Duct tape.

Equipment:

- Scissors.

Procedure:

1. Open the book of matches. A matchbook is made of three parts: The cover, and two strips of matches. Pull out the staple that holds the whole thing together. You only need one strip of matches, so you can use the other one for whatever you want. Keep the cover, as well.
2. Wrap a strip of matches around the fuse of the cratermaker, with the bottom of the strip touching the base of the cratermaker's neck. As many heads of the matches as possible should be touching the fuse. Tape it so it doesn't unwrap.
3. Securely tape the strip of matches to the body of the cratermaker.
4. Take the cover of the matchbook and wrap it around the base of the match strip, with the striker pad towards the bottom. It should be tight enough to strike the matches if you pull it upwards. Tape it so it doesn't unwrap.

To use the DIE, yank the match cover upwards sharply, so the striker lights the matches. As they flare up, the matches will light the fuse almost instantly. You can also just strike the matches on a matchbook strikepad, and omit step 4 entirely.

Effects:

The DIE will explode with the same effect as a regular cratermaker. It throws shrapnel, so chuck it and run. The DIE is most useful in situations where you don't want to try to fiddle with a regular cratermaker. Since you can light it so easily it works well as a defensive weapon, when someone is chasing you, or when you're pressed for time.

Sparkler Bombs

Thanks to Daniel Rutter

Sparkler bombs are an interesting form of firework that produce a lovely white fireball, showers of sparks, and a big singe mark. They aren't very destructive as is, but the enterprising psychopath could easily add something like an aerosol can or perhaps a can of gasoline to produce a little more mayhem. Obviously, sparkler bombs are made from sparklers, those little metal wire things you get during the 4th of July that burn with bright white or yellow sparks.

Materials:

- Many, many sparklers. Usually about 500 does the trick. If you ask around at fireworks retailers you can probably coax them into selling you a shipping crate of them. Any size will do, but 10" sparklers are the most common. (Try to find a crate of 36 inches. That'll get someone's attention when you light it!)
- Some steel or copper wire.

Equipment:

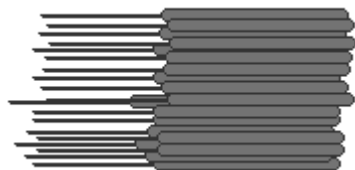
- A lot of free time.

Procedure:

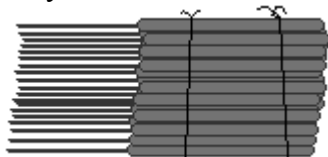
1. You will need to extract all of the sparklers from their packaging. This is very time consuming to do by yourself, but if you can trick a few friends into it things go much faster. While you're doing this, make sure to set aside one sparkler for use as a fuse.



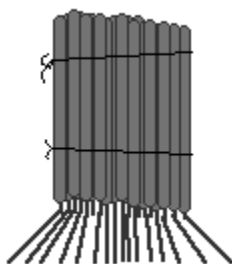
2. Take all of your sparklers and put them in a pile, somewhat like stacking logs. Make sure the bare wire ends all go one way and the ends with the burning stuff on them point the other way.



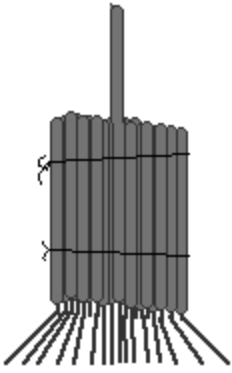
3. Bundle up the stack of sparklers with the wire VERY TIGHTLY. The goal here is to create a very tight cylindrical bundle.



4. Stand your sparkler bomb up. The top of the thing is the end with the burning stuff, the bottom of it is the end with the bare wires. If your bomb is large enough, it will stand on its own. If not, bend the bare ends of the wires outwards to make a foot of sorts for the bomb to stand on.



5. Stick the sparkler you set aside about halfway into the top of the bundle.



To use the sparkler bomb, light the fuse sparkler and casually wander away. It'll take a minute or two for the sparkler to burn down and ignite the bundle.

Effects:

Sparkler bombs are rather ill-named because they do not, in fact, explode. Instead a sparkler bomb turns into a towering 20 foot tall raging white hot inferno of death. Thus, it is not advisable to place the sparkler bomb on any surface that you're particularly attached to. Depending on the size of the bomb, the show will last anywhere from five to thirty seconds.

The bomb will leave a nasty scorch mark on any hard surface it is placed on, and flying sparks may ignite any nearby dry leaves, grass, houses, people, &c.

After it burns out, the sparkler bomb will glow red-hot for several minutes, so don't do anything blatantly stupid like sit on it.



Perhaps a picture is the best explanation.

Modification:

More may not be. There is a cutoff point, generally around 1000 sparklers, where adding more sparklers to the bundle doesn't increase the effect of a sparkler bomb.

It does not take a licensed rocket scientist to figure out that a sparkler bomb is a wonderful booster device for an explosive charge. For added fun and mayhem, try sticking an aerosol can (spray paint is fun) in the middle or on top of the bomb before you light it. Other interesting additions are bottle rockets, firecrackers or small bombs, model rocket engines, and your neighbor's dog.

Be warned that exploding aerosol cans often throw shrapnel and produce very large fireballs. Also, the blast might throw some lit sparklers around. If you modify the sparkler bomb in this fashion, make plans to be very, very far away when it goes off.

Beer Can Firebombs

Common beer and soda cans make wonderful explosive containers. With a small charge and a little creativity that can of beer can go a long way. This recipe will show you how to convert a standard beer can into an instant fireball.

Materials:

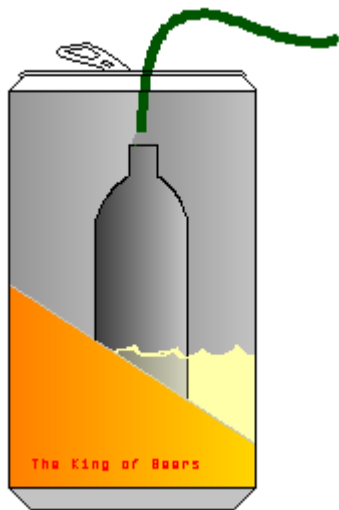
- An empty beer or soda can.
- A cratermaker or pipe charge.
- A bottle of lighter fluid.

Equipment:

- A can opener or sharp knife.

Procedure:

1. Chances are the opening on top of the can is too small for your charge to fit in. Use the can opener to make the hole just large enough.
2. Fill the can about a fourth full with lighter fluid, kerosene, gasoline, or any other flammable liquid. I've found that grill lighter fluid works best.
3. Drop the charge into the can. Make sure an inch or two of fuse sticks out of the can so you can light it. You may have to make a charge or cratermaker with a longer than normal fuse for this.



Though they can be thrown, beer can firebombs work best if they are left standing upright. If you plan to throw the device, do so about one second after you light the fuse to ensure that it explodes as soon as possible after hitting the ground. Also, a little tape over the opening in the can will help keep the lighter fluid inside. Light the fuse, place the bomb, and run.

Effects:

You don't want to be standing anywhere NEAR one of these when it goes off. The beer can firebomb explodes into a fireball with up to a two and a half foot radius. On top of this it throws shrapnel a moderate distance.

Beer can firebombs make great crowd control devices, as they have the wonderful effect of scaring the living hell out of anyone within sight. They work best at night, when they can light up an entire parking lot!

Modification:

For extra fun and mayhem, drop a handful of BB's into the can before you light it for a lot of extra shrapnel. You can vary the amount of lighter fluid in the thing, but if you use too much it won't explode- It will only burn. If fire isn't your bag, some flour or talc (baby powder) instead of lighter fluid will make a really spiffy mushroom cloud of smoke. Likewise, filling the can with black powder has interesting effects...

Pipe Bombs (Endcap Method)

A favorite of both terrorists and the mass media for decades, pipe bombs are powerful and relatively easy to build. With some simple materials you too can have your very own device of death and destruction...

Materials:

- A length of metal pipe, 3" to 6" inches in diameter, 1' foot to 2' feet long, threaded on both ends. The thicker, the better.
- Two endcaps for said pipe. (DEAD GIVEAWAY: Try to buy your pipe at one store and your endcaps at another. If an employee sees you buying obvious pipe bomb supplies he may alert the local constabulary.)
- A large quantity of explosive. Black powder or matchheads work very nicely. Using more sensitive explosives like acetone peroxide or flash powder is rather foolish.
- A length of fuse. Preferably quite a length of fuse.
- Some tissues.

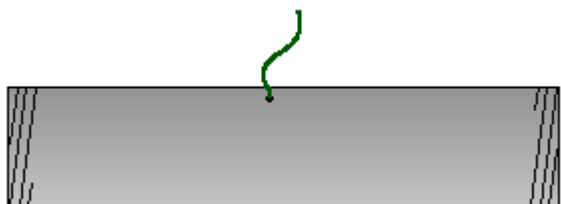
Equipment:

- A drill capable of cutting metal.
- Some super glue, epoxy, or Krazy Glue.
- A death wish.

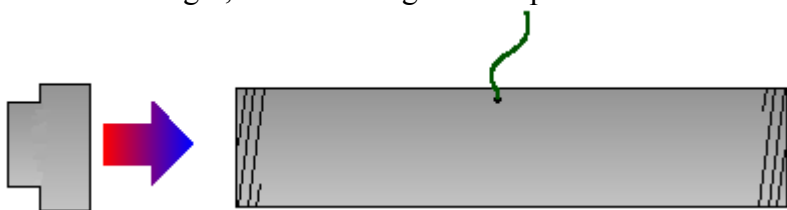
(If you are using matchheads as your explosive, good luck. You're gonna be cutting matchheads off of matchbooks for ages!)

Procedure:

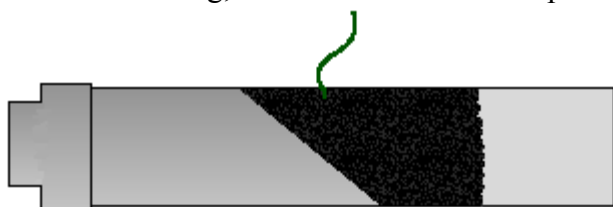
1. Drill a hole just large enough for your fuse in the center of the pipe. Stick a fuse in the hole. You'll probably want a long fuse, because you want to be far away, preferably the next county, when this goes off. ALWAYS do this before adding the explosive.



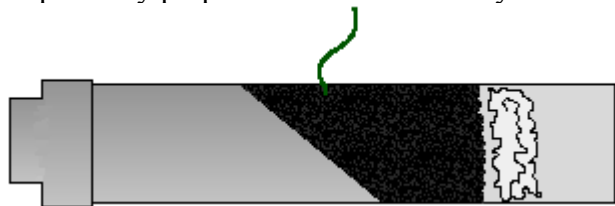
2. Liberally apply glue to the one of the endcaps and screw it on. Make sure it's on GOOD. If the caps aren't on tight, the bomb might not explode.



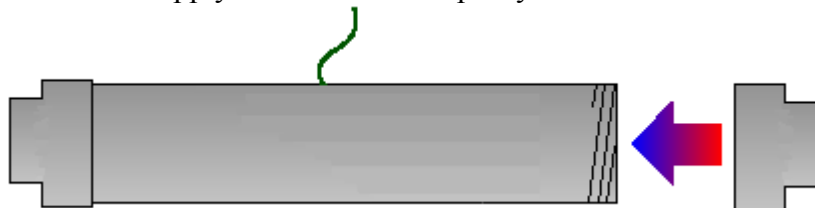
3. Fill the pipe most of the way with your explosive of choice. If you can't scrape up enough black powder to fill the thing, a mixture of 60% black powder and 40% powdered charcoal will also work.



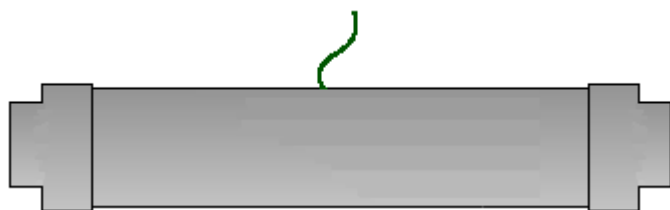
4. **IMPORTANT:** Wipe any excess powder off of the threads of the pipe before adding the second endcap. Powder trapped in the threads when the endcap is screwed on will probably detonate, which in turn will probably perpetuate Darwin's theory. Stuff a wad of tissues into the pipe to hold the explosive in place.



5. Glue and apply the second endcap as you did the first.



Light and enjoy. But not near your house, yourself, or anyone you know or care about.



Effects:

Pipe bombs explode. Pipe bombs explode very well. They also throw large amounts of shrapnel a fantastic distance. Make plans to be hiding behind something when your pipe bomb goes off. Use with caution, and use the Rule of Flying Shrapnel: If you can see it, it can kill you.

A pipe bomb is a sure fire way to clear those pesky people out of streets, parking lots, town squares, and shopping malls.

If waterproof fuse is used, pipe bombs operate underwater. Toss one in the fountain at the art museum if you want to see for yourself.

Modification:

Not good enough for ya, you sick bastard? Alright, have a looksee at this:

Mix in a handful or two of BB's with the explosive for even more shrapnel when the bomb goes off. Likewise, screws, nails, broken glass, gravel, &c will produce extra shrapnel as well. I remind you that getting hit with shrapnel is VERY BAD. However, hitting other people with it is rarely a problem.

Mixing whole sparklers in with the explosive in a pipe bomb makes some neat special effects. Also try aluminum powder, road flare filler, and whatever else you can come up with.

Pipe Bombs (Crimp Method)

Many a young pyro has been killed by trying to make a crimped pipe bomb. More than likely you've seen lots of files on how to do this, and every single one I've seen is wrong. If they're made properly, these bombs are actually quite safe. Until you light them off, that is.

Materials:

- A length of pipe, about 3" to 6" inches in diameter, and 1 to 2 feet long.
- Some fuse.
- Lots of explosive. Matchheads and black powder work fine.

Equipment:

- A drill.
- A hammer. The bigger, the better.
- Vice grips or pliers.
- A piece of paper. Notebook paper is fine.

Procedure:

1. Drill a hole large enough for the fuse in the side of your pipe.
2. Find a hard surface (like your driveway) and pound BOTH ends of the pipe flat with the hammer.
3. Flip the pipe on its end and crimp both ends of it. The pliers may help with this. Take your hammer and whomp it closed real good.
4. Make a funnel out of the paper and fill the pipe up with black powder. Notice that we're putting the explosive in through the fuse hole. This eliminates problems with setting the explosive off when you crimp the pipe. Matchheads can be fed through the hole manually, but it takes ages.
5. Stick the fuse in the hole.

Light and enjoy.

Effects:

The pipe bomb has fairly predictable results. It detonates with quite a bit of force, and throws shrapnel all over the place. The best plan is to hide behind something when this goes off, because shrapnel can be very deadly. Pipe bombs make excellent anti-personnel devices.

Modification:

Mix in a handful or two of BB's with the explosive for even more shrapnel when the bomb goes off. Likewise, screws, nails, broken glass, gravel, &c will produce extra shrapnel as well. I remind you that getting hit with shrapnel is VERY BAD. However, hitting other people with it is rarely a problem.

Mixing whole sparklers in with the explosive in a pipe bomb makes some neat special effects. Also try aluminum powder, road flare filler, and whatever else you can come up with.

Bicarbonate Bombs

This is a bit of a variant on the classic pipe bomb. Instead of using an explosive, this bomb uses an acid/base reaction to make enough pressure to make a pipe explode. It's easy to build, materials are readily available, and it works fairly well. You can make this with endcaps (recommended) or by crimping the pipe.

Materials:

- A length of metal pipe, with a diameter of about 8" inches, and about 1 foot long. Preferably threaded on both ends. If you plan to use the crimp method, the pipe should be longer, about 2 feet.
- Two endcaps for the pipe, only if you plan to use the endcap method.
- Sodium Bicarbonate. (Baking soda.)
- Acetic acid. (Vinegar.)
- A fragile glass container with a screw on lid. It should fit inside the pipe with ease. Jelly jars work, but the thinner the glass the better. Make sure it can hold in a liquid without leaking.
- All manner of rocks. They should be fairly large, 1" to 2" inches. The pointier, the better.

Equipment:

- Epoxy, if you're using endcaps.
- A big hammer and some pliers, if you're crimping the pipe.

Procedure:

1. Fill your glass container with vinegar. Set it aside, you'll need it later.
2. Close one end of the pipe, be it with endcaps and epoxy, or by crimping it.
3. Dump one (1) full box of baking soda in the pipe. Throw in six or seven rocks, too.
4. Place the jar inside the pipe. There should be plenty of room inside the pipe for things to rattle around. You want the rocks to be able to break the glass jar.
5. Close the other end of the pipe. If you're crimping it, DON'T BREAK THE JAR! If you do, all of the baking soda will foam and shoot out of the half-closed end of the pipe, and you'll have to start over. That is, unless you finished crimping it and then break the jar. Then you're in trouble.

To use it, smack it against something hard enough to bust the jar open. The vinegar and baking soda will react and make lots of CO₂. After about a minute the pressure builds up...

Effects:

Obviously, this is nowhere near as powerful as a regular pipe bomb. However, it makes a hell of a noise, and it sometimes throws those rocks everywhere. Standing too close to this is more than likely a bad idea. It sends foam all over the place, too.

If you're not sure the jar broke, common sense dictates that you should stay the bloody hell away from the thing for a few minutes to make sure it isn't going to go off in your face.

Modification:

You can make this more powerful by using a stronger acid and base.

Aerosol Can Bombs

Often described as the lazy man's pipe bomb, aerosol bombs are simple devices that result in some pretty spectacular effects. Any kind of spraycan lying around the house will do, but butane, spraypaint, and WD-40 produce the best fireballs.

Materials:

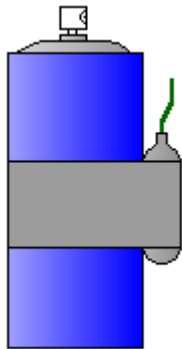
- An aerosol can. Anything that has flammable contents will do.
- A cratermaker. See the section titled "Cratermakers" for more information on how to make them.
- Some duct tape.

Equipment:

- A desire to see something go boom.

Procedure:

1. Securely tape the cratermaker to the side of the can. Keep the two objects as close to parallel as you can. Was that so hard?



Light fuse and get away. Far away.

Effects:

An aerosol bomb will explode with a loud bang! Followed by a whoomph! Followed by flying shrapnel and a large fireball. Since they cause so much expansion of hot gas, they work very well in medium sized enclosed areas such as cars and small rooms. Used outdoors they often cause an interesting mushroom cloud of flame. Also, if a spraypaint can is used a large colored mark is left in the general area of the detonation. Repaints houses in a jiffy.

A moderate amount of shrapnel is thrown, so beware. Usually a sizable chunk of the can goes flying off in a random direction, so be on your toes for that as well.

Aerosol bombs can be thrown, but they work best when standing upright.

Cratermaker Mortar (Go on. Say it ten times, fast.)

Does your arm get stiff from trying to throw cratermakers all day? Here's a handy gadget that will launch an ordinary cratermaker a good 50 to 75 yards. It's actually quite accurate, once you get the hang of aiming it. It's great fun, too.

Materials:

- A piece of heavy metal pipe, about two feet long, preferably threaded on one end. It should be just big enough for a CO2 cartridge to slide down it with no difficulty, but there should be as little extra space around the cartridge as possible. If there is too much space around the cratermaker in the barrel, it won't launch at all. Bring a cartridge with you to the hardware store to test out different pipes. **DO NOT USE PVC (plastic) PIPE!** PVC pipe is not suitable for withstanding the heat and pressure generated by the mortar and will melt or explode, depending on the circumstances.
- An endcap for said pipe.
- Several cratermakers. (See the section titled "Cratermakers" to find out how to make them.)
- Some black powder. If you can't find any, grind up a model rocket engine. **MATCHHEADS WILL NOT WORK!** Flash powder is just plain suicide.
- Strong epoxy glue.
- Materials for a stand. Stands vary according to preference, so I'll leave most of that up to you.

Equipment:

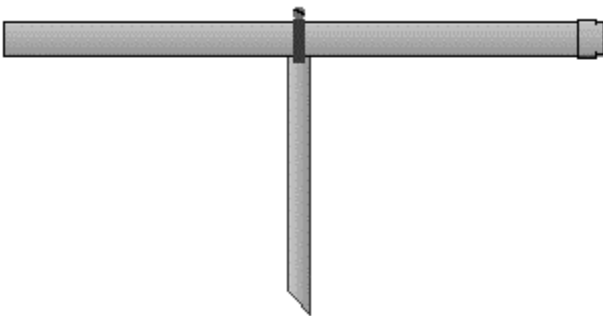
- Measuring spoons.
- OPTIONAL: Tape measure, chart for recording distances.
- OPTIONAL: Large protractor for measuring firing angle.

Procedure:

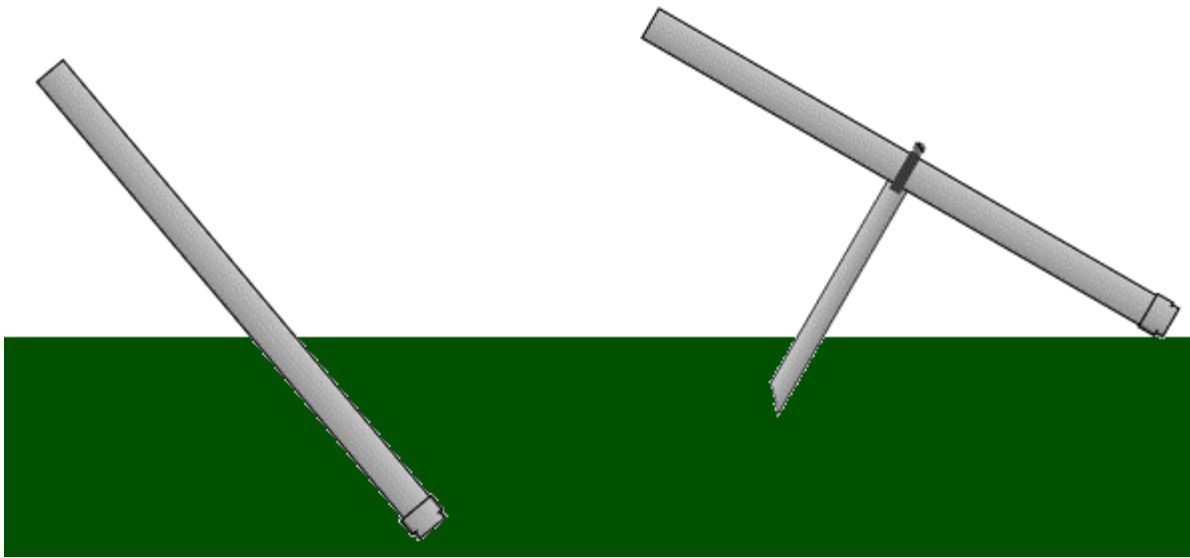
1. Liberally apply epoxy to the threads of the end cap. Screw the cap on to the end of the pipe.



2. Affix the pipe to the stand of your choice. You can make a simple stand by wrapping a band clamp around the middle of the pipe and running it through a smaller piece of piping. The smaller pipe can be affixed to a wooden block (for use on hard surfaces) or shoved into the ground (for use on sand or soil). You may want to cut a point into the smaller pipe to make it stick into the ground a little easier.



To use the mortar, first drive the stand into the ground. If you don't have a stand, you can dig a hole, put the mortar about halfway in it, and then fill the hole back in. Measure out a spoon or two of black powder and dump it in the pipe. Light the fuse on a cratermaker and drop it in, fuse end down.

**Effects:**

If there is enough powder in the mortar, the burning fuse on the cratermaker will ignite the powder, and send it (the cratermaker) flying. If there is too little powder in the barrel, the cratermaker won't get enough force behind it to go anywhere and will eventually detonate inside the barrel. If there is too much powder in the barrel the mortar might explode. Never use more than 3 tablespoons of powder in the mortar.

It is a good idea to make a few "blanks:" CO2 cartridges with a fuse in them but no explosive inside. Use these to test the amount of powder in the mortar without risking your life in the process. Once you have a suitable amount that works well, write it down. (That's what the measuring spoons are for.) You can measure how far it goes too, if you don't mind wandering all over Creation with a tape measure. You can vary the range of the mortar by changing the amount of powder you put in it.

Never, EVER hold the mortar in your hand unless you've got a good set of gauntlets or you don't mind losing an arm or two. If something goes wrong, it takes you with it. Bury it halfway in the ground or build a stand for it. Period.

Modification:

There are all manner of stands, rigs, and aiming devices to use with this. If you affix a protractor to the stand of your mortar you can record the angle that it is fired at. This can indeed be very useful. Try a little experimentation. Just be sure that your rig is sturdy enough to hold the mortar in place properly. Remember: It wants to go backwards as much as the cratermaker wants to go forward.

Molotov Cocktails

A perennial favorite of rioters and inhabitants of oppressed third world countries for ages. These things are dead simple to make, and great fun to boot.

Materials:

- A glass bottle.
- Lighter fluid, kerosene, gasoline, or other flammable liquid.
- A rag that you don't mind never seeing again.

Equipment:

- A good throwing arm.

Procedure:

1. Fill the bottle about halfway full of the flammable liquid of your choice.
2. Soak the rag in some of the liquid, then stuff it in the end of the bottle.



To use it, light the rag on fire and throw it against a hard object like a road, car, or marauding German tank.

Effects:

Contrary to some twisted popular belief, molotov cocktails do not explode. They do cause whatever they hit to erupt into a large burst of flames, however. The flammable liquid splashes all over the target when the bottle breaks, and the burning rag sets it alight instantly.

The fire will usually suck all the oxygen out of a vehicle, making short work of the occupant. Useful for when someone cuts you off on the highway. Watch out for glass shards if you use it at close range. It will probably ignite any nearby underbrush or flammable material, so beware.

Potato Cannons

The technical term for a potato cannon would be “ignition-compression cannon,” since they can be made to fire things other than potatoes. Designs for such devices vary greatly according to the intended ammunition, physical size of the user, and whether or not you intend to fit the thing in your car. This plan is a general guide for building a potato cannon, and parts of it can be modified.

Materials:

- A piece of PVC pipe for the combustion chamber. This should be at least 7” inches in diameter and 15” inches long, larger if you want more power.
- Two inside thread rings for said combustion chamber pipe. These are large rings that fit snugly onto the ends of the pipe and have threads on the inside of them. If you can’t find anything like this, regular outside threads will do.
- One threaded endcap that will fit the rings. These are disk shaped objects with threads on their outside edges and a square protrusion in the middle, allowing you to grasp them. There is a tool designed for gripping these, which may come in handy. You will need to repeatedly affix and unscrew this cap to use the cannon.
- A long piece of PVC pipe out of which to make a barrel. Your intended projectile should fit snugly into this pipe, with as little space between the projectile and pipe as possible. Make sure it doesn’t fit TOO snugly, though. You don’t want the projectile to get stuck.
- An adapter piece that is the diameter of your combustion chamber on one end and the diameter of your barrel on the other. Usually you will be able to fit this to both of your pipes without any rings or threaded pieces. If not, pick up the necessary hardware to do this.
- A replacement grill igniter. This is a plastic cylindrical object with a big red button on it. When you click the button, it makes an electric spark.
- A can of fuel. The traditional fuel is hairspray, but aerosol butane and sometimes even WD-40 will work. If you use hairspray, make sure you get the cheapest kind— Non-scented, regular hold, with no fancy pro-vitamins or additives. Additives in the hairspray will eventually build up in side the combustion chamber and will annoy you.
- A small piece of PVC to use as a handle. About 2” inches in diameter and 8” inches long should do the trick.
- A band clamp. This is a flexible metal strip bent into a ring with a screw on top of it. When you tighten the screw it makes the loop of metal smaller.
- Some strong epoxy glue.
- Epoxy putty.
- Two smallish pointy screws, around 1 inch in length.

Equipment:

- A hacksaw.
- A good drill with an assortment of bits. (A Dremel or similar rotary tool will work as well.)
- A screwdriver, suitable for tightening said band clamp.

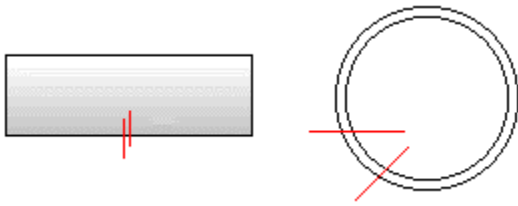
Procedure:

1. The grill igniter should have come with two wires. Hook the wires up to the terminals on the igniter. If you hold them close together and click the igniter you should get a nice, fat spark between the two ends of the wires.



2. Drill two small holes in the center of the combustion chamber pipe, at opposing angles. The holes should be just large enough to get the two screws through. If you touch the igniter wires to the screws

and click it you should get a spark between the screws. Drill along the red lines, as indicated in the diagram.



3. Epoxy the threaded ring on to whichever end of the combustion chamber pipe you want to be the back.



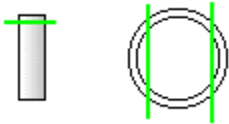
4. Epoxy the larger end of the adapter piece to the front end of the combustion chamber pipe.



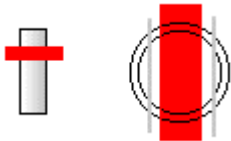
5. Epoxy the barrel onto the other end of the adapter.



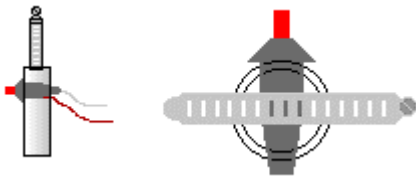
6. Using the hacksaw, cut two horizontal slots into the handle pipe, about a third of an inch from the top. Line the slots up with each other on opposite sides of the pipe. Cut along the green lines in the diagram.



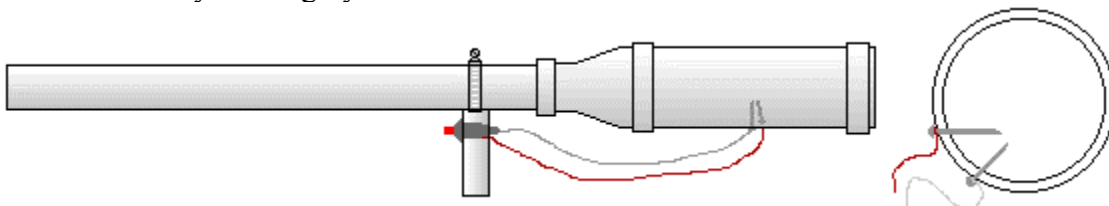
7. Drill a hole all the way through the handle pipe that is just large enough to fit the igniter through. The igniter should be parallel to the two slots. Drill as shown by the large red line in the diagram.



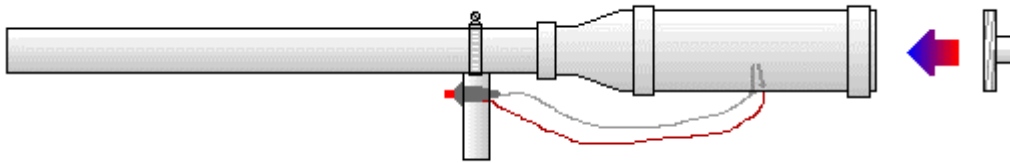
8. Shove the igniter through the hole, and thread the band clamp through the slots. Strap the handle to the back end of the barrel.



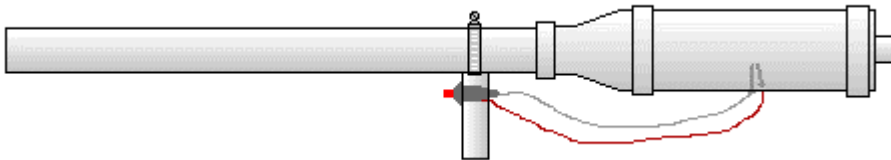
9. Wrap the wires under the screws you put in in step 2. Tighten the screws all the way and epoxy putty them in very thoroughly on both the inside and the outside.



10. Screw the endcap on to the combustion chamber. DO NOT epoxy it on, or you're gonna have a little bit of trouble when you try to load your gun.



To use your new toy, shove a suitable projectile down the barrel. Unscrew the endcap, and spray some hairspray inside the combustion chamber. You don't need much—Usually a 2 to 3 second squirt will give you all the power you need. If you use too much it will fail to ignite and the cannon won't fire. Put the endcap back on, take aim, and click the igniter.



Effects:

The cannon should fire with a loud THWAMP! And send your chosen projectile flying in the general direction you aimed at a fantastic velocity. If you just get a woosh and a hissing sound, there is a leak somewhere. Check all of the places where you applied epoxy, look for loose parts, and make sure your projectile fits snugly into the barrel. The ONLY way the expanding gas can escape should be by pushing the projectile out the barrel. Check all of your seals every so often, just to be sure.

Ignition-compression cannons usually have quite a bit of kickback, so be prepared. The larger the combustion chamber and barrel, the more recoil the cannon will have.

Modification:

Designs for cannons such as this vary greatly. Some are large, and fire whole potatoes or tennis balls. Some are smaller and fire golf balls. There are pistols, rifles, bazookas and wheeled cannons. You can deck out your cannon however you wish, as long as the basics are present: A barrel, an ignition system, and a combustion chamber.

Generally, the longer the barrel, the more power and accuracy the cannon has. Also, the longer the barrel, the harder it is to keep the bloody thing pointed in a straight line. If you have a 6' foot or longer barrel, you've gone a little bit too far...

The fuel you use can vary performance quite a bit. Hairspray is the least powerful, but most common fuel. Butane and propane work well, as does a small amount of gasoline. Doubtless, there is some bright spark that will try to use acetylene in a cannon. This is not very smart and is a wonderful way to reinvent the PVC hand grenade.

You can vary the ignition system as well. Grill igniters, fireplace starters, spark plugs, and Aim 'n Flame style devices work quite well.

Cork Guns

These are variations of potato cannons, but at a much smaller scale. My nephew and I discovered this one day, whilst messing around with butane and a grill igniter.

Materials:

- A 2 liter plastic soda bottle. We used a Sprite bottle, but most of them are all the same.
- A grill igniter, with attached wires. It should be set up to spark between the stripped ends of the wires.
- A bag of wine bottle corks. If you're ever at a fancy dinner or something, ask if you can keep the corks. You can probably also wheedle some out of a bartender. If you or someone you know drinks a lot of wine, your work is cut out for you.
- Some hair spray.
- Some epoxy putty.

Equipment:

- Something to punch a small hole in the side of the bottle. We used a finishing nail.

Procedure:

- Punch two small holes in the side of the bottle. They should be about half an inch apart.
- Push the wires from the igniter through the holes. Click it to make sure the wires spark.
- Use the epoxy putty around the wires to make the holes airtight.

Let the epoxy putty dry and then squirt a little hairspray inside the bottle. Shove a cork into the neck of the bottle, and click the igniter.

Effects:

Provided there are no leaks, there will be a loud pop, and your cork will fly away. The bottle gets rather warm after firing, so let it cool off for a few seconds between shots. After ignition, there is almost no oxygen left inside the bottle. Squeeze it a few times to get some fresh air in there before reloading.

Cork guns are actually fairly safe. The corks are soft enough that you can shoot someone at near point-blank without any real harm done. Of course, this doesn't keep them from beating the snot out of you for shooting them with a cork. Even if the bottle ruptures (and they sometimes do after 50 shots or so), it just splits down the seam and you have to find yourself a new bottle.

Never, of course, try this with a glass bottle.

Basic Rocket Launchers

Be honest. How many times have you wished you had your very own bazooka? Maybe the last time some asshole almost ran you over on the highway. Maybe the last time that squirrel tore up your birdfeeder. Well, now you can make your own dumbfire (non guided) missile launcher.

Materials:

- One long piece of PVC pipe, 3 to 5 feet long, with a diameter of about 6” inches.
- One piece of thin pipe, like drainpipe, that fits inside the larger pipe, and will slide freely down it. It should be as close to the size of the larger pipe as possible.
- Some sheet metal, suitable for making fins.
- Several model rocket engines. C or D class engines are the best. If you really feel like going extreme, you can make you own, larger engines.
- The proper equipment for igniting model rockets. An igniter switch, plugs, and wire will be needed.
- Some strong tape.
- Some epoxy putty.

Equipment:

- Tin snips, a bandsaw, a Dremel, or something that can cut sheet metal with reasonable accuracy.
- A saw for cutting PVC pipe.

Procedure:

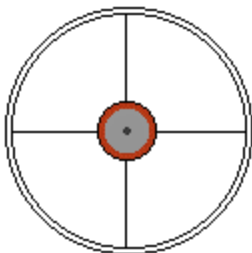
1. Making the launcher is dead simple. Securely tape the model rocket igniter to the side of the pipe. Tape the wire to the pipe as well, so it isn't swinging around when you try to aim the thing. Tape the end of the wire with the alligator clips on it to the end of the pipe so that it has about 6” inches of play.



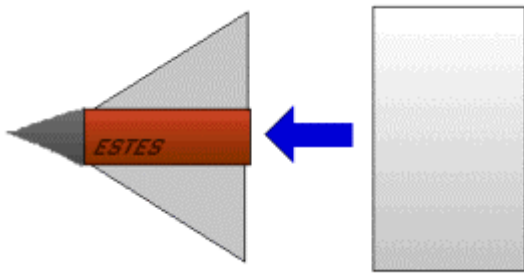
2. Making the ammunition for said rocket launcher is a little bit trickier. First, use some epoxy putty to make a nosecone directly on the end of a model rocket engine.



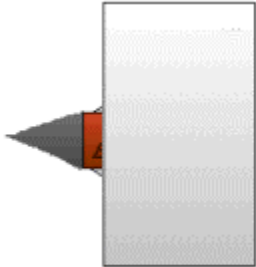
3. This will take a little measurement. Cut four triangular fins out of the sheet metal. Epoxy putty them to the sides of the engine. Make sure you cut them the right size for you to fit the assembly inside the smaller piece of pipe and be able to affix the ends of the fins to the inside of the pipe. The diagram on the right is a head on view of this assembly.



4. Cut a piece of the smaller pipe off, about 2” inches long. Epoxy putty the fins of the rocket to it. This will ensure that the missile travels straight down the barrel without tumbling, changing direction, or getting stuck.



5. Repeat steps 2 through 4 to make as many missiles as you want, or have the materials for.



To use the missile launcher, first insert the missile nose forward into the back of the launcher. Put the igniter plug in the engine, and attach the alligator clips to the plug. Make sure that you hold the launcher over your shoulder with a foot or two of it extending behind you. Trust me, the last thing you want is rocket smoke in your face. Aim, and press the button on the igniter.

Effects:

The rocket will fly off in the general direction that you aimed the launcher. Its accuracy depends on how well the ring part of the rocket fits into the launcher, how straight your fins are, and how balanced the rocket is.

Unfortunately, reloading the launcher takes some time. Make sure that you have a good supply of igniter plugs if you plan to fire the launcher more than once.

Modification:

The most common cause of misfires with this launcher is the alligator clips touching. If the clips touch, they short circuit and the rocket doesn't ignite. This can be easily remedied by insulating the clips with some electrical tape.

As usual, the sky is the limit. Longer pipes will generally give you more accuracy. Larger engines will increase range. Scopes, crosshairs, and laser sights all help you hit those lonely cans on the fencepost.

The rockets outlined here do not explode. If this is your desired result, you can tape a cratermaker to the front of your rockets instead of a nosecone. Scrape the clay out of the end of the rocket engine and make sure the fuse touches the fuel inside. Alternatively, you can add a percussion cap to the nosecone of the rocket so it will explode on contact with a solid object.

The Loudest Noise in the World

Although it probably doesn't compare with, say, fifty sticks of dynamite, this device makes quite a bit of racket. It's destructive power is limited, but it's worth the effort to make.

Materials:

- A piece of steel or iron pipe, about 6" in diameter.
- Two endcaps for said pipe.
- A cratermaker.
- Lots and lots of duct tape.
- Some epoxy.
- Some hydrogen and oxygen. See the article "Fun with Hydrogen" for an explanation of how to make some.

Equipment:

- A drill.
- Ear and eye protection.

Procedure:

1. Drill a hole in one of the endcaps just large enough to fit the neck of the cratermaker through. Epoxy the cratermaker in very well.
2. Screw on and epoxy one endcap on the pipe. Put epoxy on the threads of the other endcap, but don't screw it on yet.
3. Hydrogen is lighter than air, therefore it floats upwards when it's released. Hold the pipe with the open end down, and empty the balloon on hydrogen and oxygen into it.
4. IMMEDIATELY screw on the other endcap. Keep the open end of the pipe pointing down until the other endcap is on all the way.
5. Wrap every inch of the thing in duct tape. Use several layers.

The goal here is to keep the hydrogen inside the pipe. It will most likely slowly leak out anyway, so use the thing in the next day or two. Light and enjoy.

Effects:

A very, very loud boom. The hydrogen ignites, and the cratermaker adds even more pressure. The pipe splits down the middle usually, and about 500 cubic feet of hot gas explodes from a pipe that only has a volume of half a cubic foot. There is a chance of shrapnel, but the duct tape usually prevents that.

Now, exactly how loud is this? Why do I keep hyping it? Well, I once set one of these off in an open area, and several panes of glass that were about 25 feet away cracked when the thing went off. I could feel the shockwave through by body 150 feet away. Be careful and wear ear protection unless you want to go deaf.

Modification:

There are some that claim using acetylene produces a louder boom than a hydrogen/oxygen mix. One could use other gasses, like butane, propane, or even gasoline fumes, I suppose. Try it and tell me what happens.

Smoke Bombs

Smoke bombs are useful as diversions, for covering escapes, and for generally having fun. Good smoke bombs are usually hard to find, but you can easily make your own instead.

Materials:

- Potassium nitrate (KNO₃), also known as saltpeter. You can order it in increments of 1, 5, and 10 pounds from <http://www.pyrotek.org/>.
- Sugar. Just regular old table sugar.
- OPTIONAL: Some matchheads. One pack of matches should do it.
- A suitable container such as a film canister, a small piece of pipe, or a cardboard tube.
- Some good fuse.

Equipment:

- OPTIONAL: A heat source something to stir with, and a metal pot that you don't mind gunking up. Better than the metal pot is a double boiler, which is safer.

Procedure:

There are two ways to make a smoke bomb. For a faster burning bomb that makes less total smoke, follow this recipe:

1. Mix 2 parts potassium nitrate with 3 parts sugar. Pack this mixture into the container.
2. Push a fuse into the powder and cap the container. If you don't have a cap, a piece of duct tape with a hole poked in it for the fuse works quite well.

To make a slow burning bomb that produces more smoke, follow this recipe:

1. Mix 2 parts potassium nitrate to 3 parts sugar.
2. Turn your stove on low and melt the ingredients in the pot. Stir it well. I have heard many reports of people who apparently can't go this step right and wind up igniting the stuff while it's still on the stove. Keep a watchful eye on the ingredients- If you see any signs of discoloration, smoking, bubbling, or the mixture drying out you should cool the mixture off quickly. The best way to do that is to dump some water in the pot. If you're really worried about accidental ignition you can use a double boiler to melt the stuff and help regulate the temperature of the mixture. Keep it below 150°.
3. Once it is mixed and melted, pour the gunk into a container. Obviously the stuff is hot, so be careful. Also, don't use a container that will melt when you pour the stuff in.
4. While it is still warm, push a fuse into the gunk. Also push in a few matchheads around the fuse to insure the stuff ignites properly. Let it cool before you use it. Since it hardens into a solid cake, you don't need a lid for a slow burning bomb. You can, in fact, take it out of the casing completely and it will remain intact and functional. You can recycle the casing to cast another bomb.

Light and enjoy. Outdoors, please.

Effects:

The smoke bomb will produce thick, opaque clouds of white smoke when it goes off. Slow burning bombs will release a steady stream of smoke. Fast burning bombs will go off with a whoosh and quickly cover an area with smoke. A one pound slow burning bomb will cover a medium sized city block with smoke to the point of near zero visibility. A tuna fish can filled with the stuff will fill up a house. Fast burning bombs produce about half the total volume of smoke.

Although the smoke isn't particularly poisonous, it can mess up your lungs, just like regular smoke. Try not to breathe it in, and don't stand in the middle of the smoke cloud unless you feel like suffocating. If you plan to stick around, don't use it in an enclosed area like the room you're standing in.

Once they are lit, slow burning bombs can be safely picked up, waved around, and thrown. Be warned that the burning end is classified as “hotter than hell,” so don’t touch that part of it. Never hold a fast burning smoke bomb in your hand.

For fun and laughs, throw one into someone’s car. Also try mailboxes, empty houses, drain pipes, air ducts, or tool sheds. Can also be used in school for an instant inservice day. Be creative and don’t get caught.

Hell in a Can

These things explode into raging fireballs and throw flaming gunk all over the place. Essentially homemade napalm grenades, they're great fun to use and easy to build.

Materials:

- A can of Stern-o. This stuff comes in an aluminum can with a yellow label. You can buy or rip some off from any supermarket or a Kmart.
- A pipe charge or a cratermaker. Pipe charges are usually easier to fit in the can, but cratermakers make it more powerful.

Equipment:

- A drill or a center punch.
- A plastic knife or something you don't mind gunking up.

Procedure:

1. Peel the label off of the can of Stern-o. Pop the lid off.
2. Punch a hole in the side of the can. It should be just large enough for the fuse on the charge.
3. Scrape some Stern-o out of the can. You need to make some room in there for the pipe charge. Notice that the stuff is pink. Weird.
4. Stuff the charge in the can and thread the fuse out the hole. Easier said than done, but you'll figure it out.
5. Put the lid back on the can. Take a marker and write "Satan's Hand Warmer" on the side of the thing.

Light and enjoy. Just not on your local putting green.

Effects:

Explodes into a raging inferno. The resulting bonfire can last anywhere from 30 seconds to five minutes. Depending on how powerful your charge was, the flaming gunk will fly anywhere from three to ten feet. Keep your distance. They work best when thrown at something. The Stern-o will stick to whatever it hits, as well. Shrapnel danger is negligible.

Nailbomb

Yes, that's "nailbomb", not "mailbomb." This thing takes the idea of fragmentation to an extreme. More suited to taking houses apart than putting them together, however.

Materials:

- A cratermaker.
- Many nails. Finishing nails, framing nails, whatever.
- Duct tape.

Equipment:

- A death wish, possibly bulletproof armor.

(Warning: These things throw shrapnel a phenomenal distance, and more than likely will kill you. Use with caution. Or not at all.)

Procedure:

1. Didn't listen to the warning, did you? Ah, well. Here goes: Shove a whole bunch of nails through the duct tape. You'll need enough to wrap around the cratermaker.
2. Tape the strips of nails around the cratermaker. You should wind up with a thing that looks like a metal porcupine with a fuse sticking out of it.

You're not really planning to use this thing, are you? Well, it's your funeral. Light and enjoy...

Effects:

A loud bang. Nails everywhere. I mean everywhere. Nails from this thing can and will fly 100 feet, likely more. I say a hundred feet because I once found one buried halfway into a tree about that far away from the blast site. Here's a hint: Getting hit with a nail is bad. Very bad. Set this off somewhere where you can hide behind a solid object. Don't even think about trying to throw this. Trust me, you can't throw far enough.

Napalm Bomb

Napalm bombs are fairly crude devices that are designed to throw a burning substance (napalm) over a large area. This is a plan for a small napalm bomb, but one could easily make a larger version with a minimum of effort.

Materials:

- A tennis ball.
- Some napalm. See the article called “Napalm” to read about napalm.
- A cratermaker or pipe charge. M-80’s and similar things work as well.
- Some tape.

Equipment:

- A sharp knife.
- Tennis racquet optional.

Procedure:

1. Cut a hole in the tennis ball that is just large enough to put the cratermaker in.
2. Fill the ball most of the way with napalm.
3. Stick the cratermaker in the ball with the fuse end sticking out. Tape it in securely.

Light and enjoy.

Effects:

Napalm bombs scatter flaming napalm everywhere, lighting everything in the vicinity on fire. The napalm will burn for quite some time, anywhere from 20 seconds to 5 minutes. Napalm bombs can be thrown or left on the ground. If you really want some distance, one could employ a tennis racquet, or even fire one from a potato cannon.

Phoenix Device

These are rather impressive bombs that use the material from road flares as a filler. They're a surefire way to get someone's attention, to say the least.

Materials:

- A glass jar with a screw on lid. Peanut butter, baby food, and pickle jars work very nicely.
- A cratermaker.
- Several road flares. You can buy/borrow these from a hardware store or local Kmart.
- Some black powder or ground up matchheads.

Equipment:

- A drill or center punch.
- A sharp knife.

Procedure:

1. Cut the cardboard off of a road flare. Usually there is a strange brownish powder inside. Dump this into the jar. If you get a flare with solid innards, grind it up first. Mix it about 50/50 with black powder or matchheads. Fill the jar most of the way.
2. Knock a hole in the lid of the jar for the fuse of the cratermaker. Thread the fuse through the hole.
3. Stick the cratermaker into the middle of the powder. Screw the lid on really good. If you want, try taping it shut.

Light and enjoy.

Effects:

Explodes into a bright red raging fireball. Lights up a sizable area, throws flaming red stuff all over the place. Has an uncanny tendency to light nearby things on fire. It may also throw the lid and sharp bits of glass, depending on the size of the jar.

Since they're made out of glass, throwing them is rarely a good idea.

Modification:

I've seen people try to use pipes and cardboard containers for these, but they don't work nearly as well. Stick with glass. You can add some broken up sparklers or maybe some rocket engines with the paper stripped off for some interesting pyrotechnic results.

Rocket Engines

If you've ever wanted to make your own rocket engines, here's your chance. These work the same way as Estes model rocket engines, but you can make them any size you want. Use them for extreme rocketry, missile launchers, or maybe giving your car a little extra power...

Materials:

- Black powder.
- Rubbing alcohol.
- A tube of some sort.
- Duct tape.

Equipment:

- Bowl, mixing implement.

Procedure:

1. Dump a bunch of black powder into the bowl.
2. Pour in alcohol while stirring the mixture until you have a paste with a fairly uniform consistency.
3. Plug up one end of your tube with duct tape. Fill it with the black powder paste and pack it in.
4. While it's still wet, make a small hole in the black powder for the fuse or igniter.
5. Let it dry. This could take up to 24 hours or more, depending on the size of the engine.

Once it hardens, stick a fuse in the hole you made, attach it to something that you want to see fly, and light it...

Effects:

These are fairly simple, medium-efficiency rocket engines. The larger the engine, the more expanding gas is produced, and the more thrust the engine generates. They make a lot of smoke, making your rocket easy to follow as it blasts into the upper ionosphere.

Modification:

If you put a nozzle on the end of your engine you can increase your power tenfold, and beyond. The usual rule of thumb is to have a nozzle $\frac{1}{4}$ the size of the engine tube. Making a nozzle out of cardboard has predictably dismal results. Plastic, epoxy, and metal work best.

Genie In a Bottle (Chemical Firebomb)

This is a bit of a variation on the Molotov cocktail. Instead of using a burning rag, the chemical firebomb uses the reaction between sulfuric acid and potassium chlorate. It's portable, easy to use, and very reliable.

Materials:

- A glass bottle with a screw on lid. Plastic lids work best.
- Sulfuric acid.
- Potassium chlorate.
- Gasoline.
- A paper towel. (1 square sheet.)
- Sugar.

Equipment:

- A pot.
- A heat source.
- A plastic or glass cup.
- Some tape.

Procedure:

1. Fill the bottle up about halfway with 2 parts gasoline, 1 part sulfuric acid. Cap the bottle and wash the outside very thoroughly. If there's any acid left on the outside of the bottle you're gonna be in trouble.
2. Heat up some water in the pot. Get it boiling good.
3. Mix 2 teaspoons of potassium chlorate and 2 teaspoons of sugar in the cup. Pour in enough hot water to dissolve the mixture in the cup fairly well.
4. Dunk the paper towel in the potassium chlorate / sugar mixture. Let it sit in there for a few minutes to get nice and saturated. Take it out and let it dry.
5. Wrap the towel around the bottle and tape it into place.

You set this off by throwing it at something hard enough to break the glass.

Effects:

The sulfuric acid mixed with the gasoline reacts with the potassium chlorate on the paper towel. This makes a nice hot flame and ignites the gasoline. The gas goes flying everywhere and bursts into a raging fireball. **WARNING:** If there is any acid left on the outside of the bottle it will ignite the paper towel. Also, if the cap leaks you're in deep trouble.

Phyre crackers (Miniature Firebombs)

I will be the first to admit that the name of these things is absurdly stupid. Regardless, these are small and portable bombs that explode into spectacular fireballs. Preparation is simple, and results are fairly consistent.

Materials:

- An empty film canister. You can collect all the ones that you use, or raid a pharmacy or photo shop. I suppose a cardboard tube would do in a pinch.
- A plastic bag.
- Some black powder.
- Some gasoline, lighter fluid, or better yet, napalm.
- A fuse.
- Some glue.

Equipment:

- A nail.

Procedure:

1. Poke a hole in the side of the canister, near the bottom. Stick the fuse through it.
2. Fill the canister about $\frac{1}{4}$ of the way with black powder.
3. Take the bag and pour a little bit of gas or napalm into it, just enough to fill one of the corners. Tear the corner off and tie it so the gas doesn't leak out.
4. Drop the bag filled with napalm/gas on top of the black powder.
5. Glue the lid on the canister.

Light and enjoy.

Effects:

Goes off with a pop and a fireball. I've seen flames reaching as high as 6 feet. It likes to set nearby things on fire. If you used napalm, a fireball will usually fly out of the canister and land several feet away. It works best when standing upright.

Pen Grenade

These are useful James Bond-ish gizmos that are disguised as pens. You can carry a few around in your pocket and not have to worry about getting caught carrying explosives. They're more fun in school than I could ever tell you.

Materials:

- A Papermate FlexGrip pen. These work best because the tip and endcaps of them unscrew. Bic pens will work in a pinch.
- Some fuse.
- An explosive. Black powder and flash powder are best. Acetone peroxide putty could be used, though it is very unsafe, and smoke compound would be interesting as well.
- Some epoxy or Krazy glue.

Equipment:

- A drill and a small drillbit.

Procedure:

1. Unscrew both the endcap and the metal tip of the pen. Take the ink cartridge out and discard it.



2. Take the tip of the pen, where the point of the cartridge used to go, and thread the fuse through it. Chances are the fuse is too big to fit through the hole, so you'll have to drill out a larger one.



3. Screw the tip back onto the pen. Put some epoxy on the threads to make sure it stays there.



4. Fill the pen with the explosive of your choice.



5. Glue and screw the endcap to the pen on.



6. If you've got the lid to the pen, put it on to hide the fuse.



To use it, just take the cap off and light the fuse. Throw it, roll it, or leave it somewhere where it'll do some damage.

Effects:

The pen grenade explodes with a varying force, depending on the explosive you used. They make a loud bang, and send the metal tip, the endcap, and plastic shrapnel all over the place. Smoke pens make clouds of smoke, obviously. They also fly around like rockets, because the metal cone shaped tip of the pen acts as a nozzle.

You can carry a pen grenade in your pocket as long as you keep the lid on (to conceal the fuse). You can clip it to your shirt pocket or leave it in your trapper keeper. Just don't lend it to someone thinking it's a regular pen. Nobody ever takes a pen from you if you get searched, so use this to your advantage.

Good uses for pen grenades include fun during school assemblies or at the cafeteria, self defense, pranks, and high security buildings. They're great because you can keep one or two with you until you find a good time and place to set them off.

Exploding Pens (Traps)

If you've ever wanted to assassinate someone, these are your ticket. These pens explode as soon as the victim takes the cap off. Useful for revenge and covert operations, and those losers that are always asking to borrow a pen.

Materials:

- A Papermate FlexGrip pen. These work the best because all the parts easily unscrew. You'll need the cap to the pen, as well. Click pens won't work.
- The charge from a party popper. These are small cylindrical objects that are found inside those little party poppers that explode when you pull the string.
- Some explosive. Black powder is the usual, though flash powder and smoke compound will work nicely. Acetone peroxide putty can be used, though this makes the pen very unsafe- Almost as much for you as for whoever you give it to.
- Some epoxy putty.
- Some Krazy glue.
- (Optional.) A small piece of tape and a marker.

Equipment:

- A drill with a small bit.

Procedure:

1. Unscrew the endcap and metal tip of the pen. Take out the ink cartridge and throw it at someone.



2. Thread the string of the popper through the hole where the tip of the cartridge used to go. Screw and glue the tip back on the pen.



3. Drill a very small hole, just large enough for the string of the popper, in the top of the pen lid.



4. Thread the string through the hole in the pen lid. Put the lid on the pen. Pull the string tight, and tie a knot in it so it can't slip back through the hole.



5. Cut the excess string off. Take a small dab of epoxy putty and cover up the knot. This serves two purposes: It makes sure the string stays there, and it conceals it so the victim isn't wondering what the hell this string is doing on his pen. Make the putty as even as possible so it doesn't attract attention. If you feel like going extreme you can paint it the same color as the cap.



6. Fill the pen up with the explosive of your choice.



7. Glue and screw the endcap back on the pen.



8. (Optional.) Take a small piece of tape and wrap it around the pen. Leave a tab hanging off so you can take it off easily. Write "BOMB" on the tape. This keeps you from uncapping your own pen bomb after it's been sitting in your coat pocket for a week and you forget which is the real pen and which is the bomb.

Take the tape off the pen and leave it in some place where someone will pick it up, like on a desk. Wait for them to take the cap off.

Effects:

When the victim takes the cap off the pen it pulls the string on the popper, which sets off the explosive. The end result is a boom, followed by everyone in the room shitting their pants, followed by the victim losing several fingers.

If you just load the pen with a popper and leave out the other explosive it makes a nice prank. It'll scare the bejesus you of anyone who tries to use the pen.

Pens packed with something a little more dangerous are good for revenge on people, covert operations, diversions, and being a plain old sick and twisted bastard. May I remind you once more that the federal government generally frowns upon such activities.

Lightbulb Bombs

Lightbulb bombs are effective pranks and/or booby trap devices. If you want to kill someone, or just scare the pants off of them, lightbulb bombs are a good way to go. Construction is relatively easy and installation is dead simple.

Materials:

- One ordinary, everyday lightbulb.
- Some black powder, flash powder, smoke powder, or if you're really sadistic some acetone peroxide.
- (Optional.) Some BB's, ball bearings, or other shrapnel.
- A piece of tape, clear is best.

Equipment:

- A lightbulb socket that's on a switch. Lamps work, as well.
- A drill with a 1/8" inch drill bit, or thereabouts.

Procedure:

1. You'll have to drill a hole through the glass on side of the lightbulb, near the base. The trick here is to drill at a steady speed and avoid pressing down too hard on the drillbit. With a little practice, you'll get it figured out. Don't crack the glass or harm the filament inside.
2. If you want to kill or wound the victim, feed in enough shrapnel material to fill the lightbulb up about 1/8 of the way. Then fill the rest of the lightbulb up to the beginning of the narrow neck with explosive. If you just want to use it as a prank, just fill it up with explosive to the filament and leave out the shrapnel.
3. Put a small piece of tape over the hole you drilled to keep your explosive from leaking out while you're carrying it around.

So, how many pyromaniacs does it take to screw in a lightbulb? Make sure the socket where you're going to put this is turned off, for obvious reasons. Then all you have to do is wait for someone to turn on the light.

Effects:

When the light is turned on the filament glows white hot (that's what makes lightbulbs light) and sets off your explosive. The lightbulb detonates, and throws glass shards and shrapnel all over the place. The lightbulb bomb works best in an overhead (ceiling) light fixture. If it is used in a lamp there is a chance the victim might notice the bomb before he/she turns it on. Black powder lightbulb bombs tend to be quieter and make large amounts of smoke and flame. Flash powder bombs detonate with considerably more force, and bombs containing acetone peroxide do a spectacular amount of damage.

Possible applications include revenge and assassination by installing the lightbulb in a bedroom or in a house. Installation in a classroom has interesting results, as does an outdoor porch light. ALWAYS make sure the light that you replace with the bomb is turned off.

Stuff to Do

Match Rockets

This is rather useless, but it's fun nonetheless. All you need to make a miniature rocket is a book of paper matches, some aluminum foil, and a soda bottle.

Wrap the top half of the match in aluminum foil, as tightly as possible. Twist the part that hangs off the top of the match. Stick the match in the open end of a soda bottle (Preferably empty. Phosphorus and Sprite do not mix well.) and hold another lit match under the tip of the thing. After a second or two, the match wrapped in foil ignites and takes off like a rocket. It's not very powerful, and it only goes 12 feet at the most, but it's kind of entertaining. If you're bored, you and a friend can make a stock of these things and have miniature artillery battles...



Fun With Hydrogen

As anyone who was paying attention in science class knows, water can be split into hydrogen and oxygen with an electric current. With a little creativity, you can put these gasses to use.

Cut the wire from a DC converter (Like the thing you use to plug in your walkman. 6 to 18 volts is best.) and separate the two wires. Strip them. Knock two holes in opposite sides of a 2 liter soda bottle, and push the wires through. Epoxy putty the holes to make them air and watertight. Fill the thing up to the brim with water, dump a teaspoon or two of salt in it, rubber band a balloon to the top, and plug it in. You should notice small bubbles coming from the stripped ends of the wires.

The balloon will slowly fill with hydrogen and oxygen. When you think it's full enough, take it off and tie it. Now, what could we possibly do with it?

Remember that hydrogen is very flammable, and the oxygen in there with it makes it even more so. Jab the balloon with a lit cigarette. Watch it go boom. (Go to a party and switch a few with the helium balloons. Get some drunks into poking the balloons with cigarettes. Watch what happens.)

If you're brave, inhale some and breathe fire, with the aid of a lit match. If you're unlucky, watch it all ignite and singe the inside of your lungs.

If you save your balloon, you can use it in the Loudest Noise in the World device. Take a look at the plans for that in the Build Stuff section.

The Flaming CO2 Cartridge of Death

This is kinda stupid, but here it goes anyway. You can turn a regular old empty CO2 cartridge into a small flamethrower. Not very useful, but fun nonetheless.

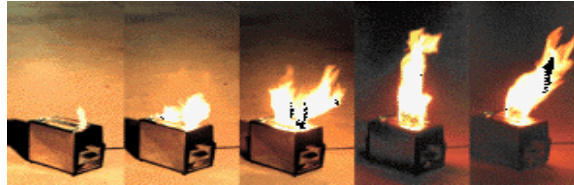
You'll need a butane lighter refill. It's a skinny little can with a narrow nozzle on the end of it for refilling lighters and stuff. You can buy or borrow one from a supermarket or a smoke shop. Use a hammer and a nail to enlarge the hole on the end of the CO2 cartridge to be just large enough for the nozzle on the butane can. Hold the cartridge in your right hand (left hand if you're left handed) and the butane can in your left. Push the nozzle of the can into the hole on the cartridge and fill the it with butane. It takes about three seconds. Take the nozzle off and put your thumb over the hole on the cartridge real quick or you'll lose all your butane. Now drop the can on the floor (no use trying to do a juggling act here) and spark a match. Hold the end of the cartridge up to the match and take your thumb off of it.

Did you do this inside? I certainly hope not. If you do it right it makes a 7 or 8 foot flame out the end of the cartridge. Nifty, eh? Its tactical use is kinda limited because you have to keep your thumb on it until you fire, but it's great fun to use this to mess with people.

Pop Tarts

Kellogg's has unwittingly given us a wonderful source of fun and entertainment with their strawberry Pop Tarts. The amazing quality of Pop Tarts turning themselves into flaming toaster treats of doom was reported several years ago by Dave Barry, of all people. (Gee, isn't he glad he got mentioned in this document? I'll bet his reputation is ruined forever!)

All you need is an old toaster, some bailing wire, and a box of strawberry Pop Tarts. Frosted strawberry Pop Tarts are even better. Stick one or two in the toaster, and take it outside. Set it to "Dark," and push the handle down. Wrap the wire around the handle on the toaster and secure it to the bottom of the thing so the handle can't pop back up. Anywhere from 3 to 7 minutes later... FWOOSH! Big fat flames leap out of the slots of the toaster. Did I mention that this toaster will never be used in the kitchen again? Well, at least it was entertaining, right?



For some reason only the strawberry Pop Tarts really go up in flames. The others just kind of smoke and singe, and maybe give you a few lighter-sized flames. It's best not to do this indoors, for obvious reasons. Maybe you can use the fire to heat up a skillet and make some eggs?

Fun In School

Yes, we all hate school. Yes, we've all seen the "School Stoppers Textbook." And yes, I have more random illegal and entertaining acts for you to do in school. You'll need the basic equipment from the Anarchy Bag article, as well as a few other tools for some pranks. Some of this stuff is rather obvious, and some of it is not. Use your head, and don't get caught. Now pay attention, stop drumming on that desk, take out your pencil and get to work!

Watch it. Sometimes schools have cameras. They're usually in hallways and stairwells, and are fairly obvious. There are almost always a set of cameras watching the parking lot. If you're on camera, don't pull any tricks. If you want to smash a camera, make sure you can't be identified, as it will film you up until the point it meets your crowbar.

This article assumes your school doesn't have security checks and metal detectors. If you have to bring questionable equipment to pull a prank (tools, knives, etc.) then don't risk it. If you can find another way to get your stuff in the building, then by all means go ahead. A good tactic is to pass your bag off to someone you can trust through a classroom window. Or you can also just chuck your bag through the open window of your homeroom and get to the classroom as fast as you can to get your bag.

Why do any of this? Well, that's up to you. I've gotten lots of criticism for this article, and it seems people have some sort of problem with the practicality of this. Well, if you don't like it, don't do it! Otherwise, if you're bored, you want a day off, or you just hate anything that has to do with school, and you've got the balls to do this stuff, here you go. If not, just read it, imagine it, and laugh. Whatever.

Pull the fire alarm. Well, it's not always that simple, is it? Modern fire alarms have little capsules of ink that spray on your hand when you pull them, and you can see it when you shine an UV light on your hand. The cops will check people's hands if it's a false alarm, and if they find you with ink on your hand, you're screwed. Try a fishhook and some line to set the thing off while you're on the other side of the hallway. Better yet, use a bent nail or two to hold the line down near foot level to make a tripwire that'll set off the alarm. If you want to go low-tech, I suppose wearing a glove would work, too. Hide or dispose of the glove afterwards.

(Dis) Assembly. Take a screwdriver or some pliers and take all the screws and bolts out of a desk. The only thing holding it up should be it's own weight. Then wait for some poor fool to sit down there. Also try dismantling the teacher's computer (tricky), stairway railings (time consuming, get a pass during class to do this), door hinges (easier said than done), heating grates, cafeteria stools, and anything else your screwdriver will fit. The chairs in the auditorium are almost never checked and half of them are falling apart already. Why not help them along? It'll be loads of fun on parents' night.

The paperclip trick. This one is old, but it usually works. Take a paperclip and bend it into a U shape. Stick it into an electrical socket just far enough to get it to stay there. Now take the eraser end of a pencil and push it all the way in. This will short circuit the electrical outlet. You get sparks, smoke, and a blown fuse. The power for at least the room you're in will go out. It may take a whole day for the custodian to go down there and replace the fuse or flip the circuit breaker. This attracts attention, so do it when no one else is in the room. Also, don't use your finger to push the paperclip in. It stings just a bit.

Instant ice skating rink. Drop a whole pint box of BB's on the floor in the hall, preferably those Daisy silver ones, as they're harder to see than copper. Glass beads are damn near invisible and do the trick nicely, though they're expensive. Vaseline will work too, but you've got to spread it around first.

Do I smell gas? Turn on all the gas jets in a science room (those things you plug the bunsen burners into) just enough to put out gas, but not enough so you can hear it hissing. There are a multitude of opportunities here, including coming by three periods later and throwing a match. The gas jets are usually locked or turned off unless there's a lab that day that uses bunsen burners. If you can get the key to the shutoff switch, you're really in business...

Fun with chemistry class. If you're using the bunsen burners in class, find one that's unoccupied, preferably in the corner. Turn it up all the way, and then pry the handle off of it. Stick the handle back on in

the wrong position so it looks the valve is off, even though it's really on. This will help keep other people from messing with it. Use it to fill the room, or just make a four foot flamethrower. Likewise, you can fill a balloon up with gas and then throw it at a lit bunsen burner for an interesting fireball.

What an ass. Take some paint that's the same color as the plastic seats on the desks and apply liberally to a few random chairs in the room. Wait for someone with brand new white pants or something to sit on one. See how long it takes for them to notice that their ass is some hideous color.

Milk it. Does your school have those little plastic pouches of chocolate milk? Take one out in the hallway (or the carpeted band room) and discreetly stomp on it. If you poke a hole in it, it works even better. Or you can just jab a few holes in one and throw it at somebody. Inflate empty pouches and cartons and pop them. Juice boxes make an incredible bang if you pull all the tabs out, inflate them, and stomp on them.

Fore! Bust a pencil into six or seven pieces. Make a seesaw out of a ruler and the edge of a book. Load up a pencil piece, aim, and open fire. Juvenile, but entertaining.

Native schoolboy tribe blowgun. Hollow out a pen and use it for a spitball launcher. That's pretty simple, right? Try using BB's instead of spitballs. Shove a pin through the end of a shoelace (the part with the plastic thing on it) with some of the frayed threads hanging off the back to make a dart. Shoot someone in the back of the neck with one of those puppies!

Straw darts. If your school uses those straws with the pointy ends to puncture milk pouches, you're in luck. Pull the pointy end of the straw off about halfway and leave the plastic hanging off the back to make a fin. Throw it at someone, just like a dart. If you're coordinated you can get one to sail all the way across the cafeteria. They sting when they hit people, too.

What's that noise? Take a regular drinking straw (not those really skinny ones) and cut it into a shape that looks like the tip of a flathead screwdriver (cut it so it's tapered, but with a flat end). If you hold the two flaps of the cut straw between your lips and blow it makes a rather loud whistle. The shorter you cut the straw, the louder and higher pitched the sound will be. One and a half inch long straws make the most irritating noise you've ever heard.

Boing. Take a bouncy ball and slam it against a wall or the floor as hard as you can. Works best in the gym or in a hallway. Got a slingshot? Use that instead. Have contests with your friends to see who can get the most bounces and still hit someone.

What the hell? Bring in a small (and cheap) remote control car. Set it behind the door, closet, or somewhere hidden before class starts. About halfway into class, discreetly take the controller out under your desk and run the car around the room. Look amazed like everyone else, and try to hit the teacher's feet. You can tape some sharpened nails to the front of the thing for some interesting results. If you don't want to be that obvious about it, push up a ceiling tile and put the car up there. It'll make nifty noises as it careens around up there. Sometimes you can even get it over another classroom!

Pointy. The thumbtack on the chair has been overdone. Instead, find a teacher that has a cushion on her chair. Shove a few pins through the back of the cushion so only the very tips of the pins are sticking out. They're almost invisible, but they'll hurt like anything when the teacher sits on them.

God is in the TV. Get a universal remote, the kind that you DON'T have to program. Bring it in and mess with the TV's in the library. Usually the school has cable, so put it on MTV or something. See if they get any porno channels or anything interesting.

Eek. Let loose some live rodents in class. For some reason people are afraid of small fuzzy things. If you can get your hands on a skunk, they'll probably evacuate the school.

No smoking. Or else. Got a bathroom where people like to smoke? Take a propane tank for a camp stove in there and empty it into the air. Use two or three just to be sure. Close the door. Wait for some jackass to spark up a cigarette. That or conceal a smoke alarm somewhere like behind a toilet. The noise from that will attract someone's attention.

When it rains, it pours. Hold a lighter up to a fire sprinkler. The heat is more than enough to set it off and start a small rainstorm all over the school. You might even get a day off.

Things that go boom. Put explosives in interesting places. Trash cans, desk drawers, lockers, mailboxes, the list goes on. Use a cigarette fuse so the thing will go off several minutes after you've left. Likewise, a cigarette fused explosive in the bathroom is always a winner. Unless some jackass finds it and smokes your cigarette. Put a dry ice bomb made out of a soda bottle in the cafeteria trash can. The trouble

with all this is you've gotta get the materials into the school. Also, clean off any fingerprints on your bombs. In post-Columbine America, things like this are a sure fire way to get yourself in trouble. Be careful.

The flaming toilet. Bring in a soda bottle filled with kerosene. Dump it in a toilet (the kero will float to the top of the water) and drop a match in there. Casually wander away and wait for someone else to use the bathroom.

Krazy, man, Krazy. Krazy glue things everywhere. Glue coins to the floor, stickers to windows, and rocks to ceilings. Try gluing all the pages of someone's book together. Squirt glue into locks, glue the teacher's phone to the hook, glue someone's pencil to their desk. Be creative.

The vanishing test. You can buy stuff called flash paper at magic shops, and you can order it from some novelty companies. Get an 8 1/2" by 11" sheet of flash paper (Broadway Magic sells this size, as well as many other outfits). Steal a copy of a test beforehand, and scan it in on your computer. Print the test out on the flash paper. Hollow out a pen and put a rocket igniter through the tip. Keep the batteries and switch in your pocket and run the wire through your sleeve. In class the next day, hide the real test paper and put the flash paper on your desk instead. When the teacher isn't looking directly at you, but is looking in your general direction, touch the igniter to the paper and hit the switch in your pocket. The igniter will glow red hot for a second and ignite the flash paper. Your paper will burst into flame and quickly burn into nothing. Not even an ash on the desk. Instant heart attack. See how long it takes the teacher to pick herself up off the floor.

Fountain pens. If you shake a fountain pen a lot of the ink goes flying out the tip. Ink the back of people's shirts, ink the teacher's papers, and ink the windows. Ink whatever else you want to.

That's disgusting! Print out some hardcore porno and glue it somewhere usually hidden like the roll down map on the blackboard, the inside of a textbook, the inside of the closet door, or a curtain that's usually open. Wait for the teacher to use the map, close the curtains, open the closet, or use the textbook.

Got a spare? Put tire spikes all over the parking lot. If you haven't got any spikes you can risk flat out slashing people's tires. If you can get at a school bus show it no mercy. Keep an eye out- Most schools have cameras on the parking lot.

Autoexecuted. If your school uses PC's, you're in luck. Find the autoexec.bat file if they run Windows 9x, or autoexec.nt if they run Windows NT. At the top, enter the following:

```
@Echo Off
:TAG
Echo This is a juvenile prank.
Goto TAG
```

The next time the computer is rebooted, the screen will display nothing but "This is a juvenile prank." It's not very destructive, but it pisses people off. If there's no one around that knows the first thing about computers there will more than likely be an "out of order" sign on that computer the next time you see it. Also, if you take out the third line entirely the computer will just freeze on bootup.

Null Modem. Speaking of computers, take a lighter and hold the flame under a wire from a computer. Keep the top of the flame just below the wire, don't touch it to it. It only takes about a second for this to screw up the inside of the wire. With a little practice you can do it without visibly burning the wire. End result: Whatever wire you fried ceases to function, along with whatever it's hooked up to. Thus, no keyboard, mouse, modem, network access, or whatever else you toasted. Note that this only works on data type cables with thin stands of wire inside them. Power cables aren't affected by this.

Something screwy. Take every single screw out of as many school computers as you can. Sounds stupid, doesn't it? Wait for someone to try to pick up and move the computer.

The Wall. This only works if a classroom door opens outwards (and most of them do). It works if the door opens inwards, but you need another way out of the room, like a window. Drag the teacher's desk in front of the door. Then build a wall out of tables, chairs, and whatever else you can find that's big and heavy. It goes a little faster if you get some friends to help.

Aunt Tillie's mayhem recipe. Next time you're in home economics class, find yourself bottle of vinegar, a funnel or a cup, some plastic wrap, and a box of baking soda. I'll bet you can guess what's coming next, can't you? Line the funnel with the plastic wrap. (This keeps the plastic wrap in one place. Omit this step if you have three hands.) Fill the thing with baking soda and wrap it up. Stuff the plastic wrapped ball of baking soda in a half full bottle of vinegar. Screw the cap on, shake it up to unwrap that

plastic, and get rid of it. Roll it across the floor, throw it in someone's sink, I don't care what you do with it. You've got about 5 seconds before the thing shoots the cap off with a bang and spews foam all over the place. Hint: If it foams before you shake it, chuck it!

Your attention, please! Ever notice that Koss speakers have microphone jack on them? Some of them can be run with batteries, too. Hook up a mike to your speakers, crank 'em up, and hide them in your backpack. Point the backpack at someone and yell into the microphone. I think you can figure out a few uses for this handy little gadget.

Instant inservice day. Make a smoke bomb out of one of those small soda bottles. Put it in a locker (not *your* locker) and light it. It should have a rather long fuse, by the way. If it makes enough smoke, they'll evacuate the school and send you home. Not to mention the fun of watching the fire trucks, bomb squads, newspaper reporters...

Class dismissed!

The Ashtray Trick

Don't you just hate people who smoke? If you want a little revenge, then this is for you. It's a prank that'll give some unlucky smoker a really nasty surprise when they go to snuff out a cigarette.

You'll need a public ashtray like in a hotel lobby, a toothpick, and something flammable. Black powder, smokeless, flash powder, AP powder, or powdered smoke compound will do wonders. (The smoke compound is good.) Find an ashtray and dump your powder of choice into it. Take your toothpick and mix it up with the ashes in there so it looks normal. Now all you've gotta do is sit back and wait for someone to stick a lit cigarette into it. Depending on what you put in there, our lucky mark will either get smoke in his face, an instant handwarmer, some third degree burns, or his arm will fly across the room.

<<EOF, for now.>>