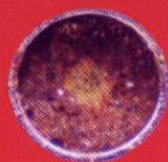


THE
ULTIMATE
DO-IT-YOURSELF

PRIMER COOKBOOK





PLEASE CHECK AND COMPLY WITH ALL LAWS



**PLEASE CHECK AND COMPLY
WITH ANY AND ALL LAWS PRIOR
TO CONSTRUCTION OR
OBTAINING ANY MATERIALS OR
APPARATUS DETAILED HERE.**

**ONLY FEDERALLY
LICENSED
INDIVIDUALS CAN
MANUFACTURE
PRIMERS.**

**PLEASE CHECK YOUR LEGAL
STANDING BEFORE ATTEMPTING
ANYTHING DETAILED HERE.**

***Science has brought us a long and easy life.
Ingenuity has brought us the primer.***

An indispensable part of the cartridge case that we have taken for granted for over 100 years. Without the primer we would still be napping flint for a flint lock or soaking lengths of hemp in saltpeter solutions for our match locks.

I am not a chemical engineer, all thought I wish I had undertaken that branch of study in my early life. Chemical engineering occupies an intermediate position between chemistry and mechanical engineering, and it is the function of the chemical engineer to cooperate with the two other sciences in transferring to a manufacturing basis the laboratory results obtained by the research chemist. It is a common occurrence for the laboratory chemist with little or no knowledge of engineering, to work out a process of manufacturing which is theoretically perfect in the laboratory, but which can never be commercially valuable, either because large scale apparatus for carrying out the process cannot be designed, or because it is intrinsically uneconomical. There are in existence today many processes which give, outside the laboratory, high yields of excellent and valuable products, yet they have never been exploited commercially owing to the fact they are simply unstable chemical combinations, 'compounds' or the high cost of constructing equipment which will withstand the corrosive chemicals employed, or because of some similar difficulty of an engineering nature.

On the other hand, under survival conditions, an industrious individual can "scrounge" up the necessary materials to construct a small basic chemical laboratory to combine chemicals into the compounds necessary to your survival. It should be noted here that you must follow the directions and use the materials described. Never use iron or even a stainless steel pan when instructed to use glass, this will, in every instance present a totally different compound from the one you were intending to make.

All compounds described here are proportioned to produce an end product of high purity, but most important, to produce a small quantity, encase of accidental mishap. I know it is just common sense but I'll say it anyway, never produce, store or handle primary explosives. Aside from the dangers of injuring or even killing yourself and others there are the legal ramifications to consider, like twenty years to life in a federal prison? The compounds detailed here are not your firecracker verity, they have extremely fast reactions, are the most effective to combine into compounds in the field, easiest to acquire after a disaster and they all work extremely well.

**!Offered For Academic
Purpose Only!**

Federal Regulations on Reloading

Exactly as Printed in:

"Your Guide To Federal Firearms Regulations 1988-89
Department of the Treasury Bureau of Alcohol, Tobacco
and Firearms. (ATF P 5300.4 [6-88])"

**Is One who reloads ammunition required to be li-
censed as a manufacturer?**

Yes, if he sells or distributes the reloads. Industry Circular 86-15

No, if he reloads only for his own use.

[178.41]

The manufacture of Primers Requires Licensing and Tax Responsibilities.

IMPORTANT

**UNDER NO CONDITIONS CAN YOU, as a citizen,
MANUFACTURE or POSSES EXPLOSIVES or THEIR
CHEMICAL CONSTITUENTS or APPARATUS TO COM-
BINE or CREATE SAME WITHOUT PRIOR TAX PAY-
MENTS AND APPROVAL OF FEDERAL STATE AND LO-
CAL GOVERNMENTAL AGENCIES.**

**The manufacture or possession of Primers AS DE-
TAILED HERE can be a federal offense. Punishable by
a \$250,000 fine and or imprisonment of up to 20 years.**

**Always Check and Comply With All Federal, State
and Local Laws**

WARNING

UNDERSTAND CLEARLY, THE PICTURES IN THIS MANUAL WERE ALTERED OR CREATED DIGITALLY ON A STATE OF THE ART GRAPHIC COMPUTER TO ALLOW THE READER TO UNDERSTAND THE PROCEDURES DETAILED HERE. NO LAWS HAVE BEEN VIOLATED IN THE CREATION OF THIS MANUAL. FIRING THE GUN WITH ANYTHING OTHER THAN FACTORY AMMUNITION COULD RESULT IN DAMAGE TO THE WEAPON AND OR POSSIBLE PERSONAL INJURY.

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The manufacture or the handling of Primer Compounds as detailed here is inherently Dangerous and Illegal without licensing and Tax Responsibilities.

PROCEED AT YOUR OWN RISK!

INTRODUCTION

The mystical, secret chemical formulas and methods to make reliable primers is known only to a select few. The manufacture of the primer material is tried by even fewer. But the key to true self reliance lies in the ability to manufacture the necessary life saving materials in a time of limited resources.

In today's world is anything certain? Recent years have seen increased gun control measures, along with erosion of the liberties and freedoms we have taken for granted for so long.

Political gun control advocates have proposed regulating, registration, taxing, and out right ban's on the sale of firearms and ammunition to citizens followed by house to house weapons seizures. The first actions by any concurring army is to immediately disarm the civilian population. This action is called CIVILIAN DISARMAMENT by the government officials who plan endless scenarios for every possible variable! Many self-sufficient survivalist have begin to avoid the expensive commercial ammunition and the resulting paper trails and have learned to reload, using readily available everyday components. In the future conventional reloading may be difficult for many and impossible for most without the commercially available components like primers, propellant powders and tooling.

Is this an explosive manual? I admit it does cover the manufacturing of primer material as used in firearms primers, and there is nothing wrong with that in my opinion! Should I be prohibited from anything because of the actions of another? In a free country the answer would be an immediate NO! In fact there are lots of good reasons to detail the information given, I'll name just a few. You collect antique firearms but cannot get ammunition for them. Or suppose you believe there will be a biological or nuclear war and many items will cease to exist. The global socialist government oversteps there power and restricts primers. You are reloading an wish to learn everything involved. Recycling primers is much less expensive than buying them.

***Please check and comply
with any and all laws.***



PLEASE CHECK AND COMPLY WITH ALL LAWS



HISTORY

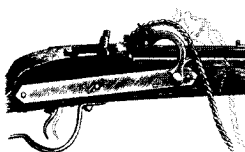
In 1842 the British government financed experimentation on ways to set off charges of propellants within a firearm by means of percussion. Match Locks and Flint Locks both created a "Fire" source to a flash pan. See top of page 11. Both match Locks and Flint Locks were successful in there design but they were plagued by weather, etc..

Dr. Alexander John Forsyth lead the British backed experimentation into the New initiator, Mercury Fulminates became the primary explosive that proved it would react reliably under a wide range of conditions. The manufacturing methods are actually very simple to perform as evident by it's early discovery. History details the use of metallic explosives, which were documented as far back as 1663. There just wasn't any application for this dangerous uncontrollable explosive at that time. The dangers involved in the manufacture of these Fulminates was evident by those early Alchemists who ended their experimentation with a sudden blast.

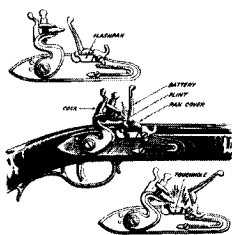


Mercury Fulminate will travel through it's mass at a speed of more than 5 miles per second, producing an astounding 400,000 pounds per square foot of pressure. Just so you have a reference point; Black powder will produce a maximum of 18,000 psi and smokeless powder will produce up to 190,000 psi and both will travel at only a small fraction of Mercury Fulminates speed. The temperature of burning Mercury Fulminate reaches well over 6000 degrees!

There is no metal made today capable of withstanding the explosive performance of a large quantity of Mercury Fulminate.



The Matchlock



The flintlock



The Percussion Cap

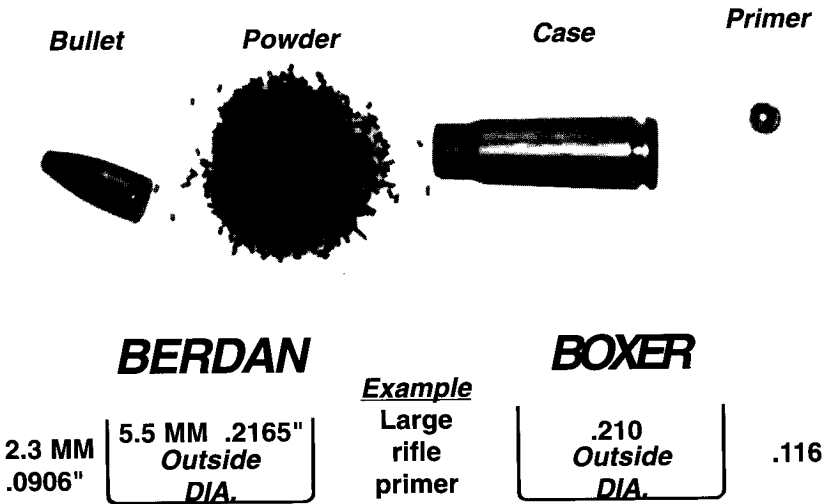
However, there are disadvantages associated with Mercury Fulminate, it is extremely corrosive and it is chemically reactive especially to brass (it causes brass to crystallize and become overly brittle) it also requires immediate cleaning of the firearm to prevent corrosion.

As brass cartridges and reloading became common, Mercury Fulminate was soon replaced by Potassium Chlorate compounds which ended the brass brittleness problem. Unfortunately, the residue left after burning was hygroscopic (to attracted air born moisture) and raised immediate corrosion on iron and steel parts. When you burn Potassium Chlorates you get Potassium Chloride, which is a common salt. Again an immediate cleaning was needed to remove all traces of the Potassium Chloride.

As chemistry matured, today's discoveries of chemical combinations of Lead Styphnate used as the initiator, tetracene used as a sensitizer, Barium Nitrate for oxidation, and other ingredients used as booster fuels for the oxidizer, such as binding glues, and bulk powders among other ingredients which are kept a guarded secret by the manufactures. These new noncorrosive primer compounds are not as sensitive to shock and slow deformation as there earlier Fulminate and Chlorate primers were, and therefore are much safer to handle.

THE FOUR BASIC COMPONENTS THAT MAKE UP A ROUND

If you are an experienced reloader, everything here, the safety procedures, the materials and tools will all be familiar to you. I have also tried to retain a level of simplicity in my descriptions and tooling used so that a novice can easily understand the procedures without expensive tooling or a background in chemistry. To reduce any chances of reader confusion I'll take a minute to label the important basic components.



As you can see above all primer types are not interchangeable. In fact, the Berdan case primer pocket dimensions are .215 allowing a .001 interference fit, (Press Fit). The Boxer case primer pocket dimensions are .209 also allowing a .001 interference fit. This means that a Boxer Primer will *drop* into a Berdan Case primer pocket but a Berdan Primer *will not* fit into a Boxer primer pocket, (The higher .004 press fit will require a force that will deform the Primer cup, setting it off).

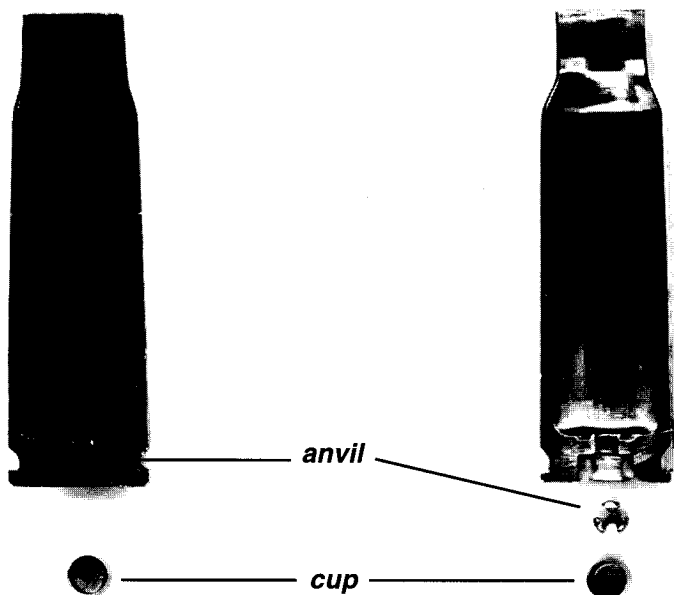
THE TWO TYPES OF PRIMERS

BERDAN

The anvil is an internal part of the *Cartridge Case*. Therefore, there is only one component that makes up a Berdan Primer, the Primer cup. Berdan Primers are mainly used by civilian and military forces of lesser nations.

BOXER

The anvil is a separate part of the *Primer Cup and the Case*. There are two components that make up a Boxer primer, the Anvil and the Primer Cup.



BOXER PRIMERS

Boxer primers come in two diameters and two types: Small Pistol and Small Rifle primers are .175 inch in diameter . Large Pistol and Large Rifle primers are .210 inch in diameter.

Additionally, Primer manufacturers offer a standard load and a Magnum load. This offers us a choice of 16 different primer possibilities for our reloads.

I'll explain this advantage:

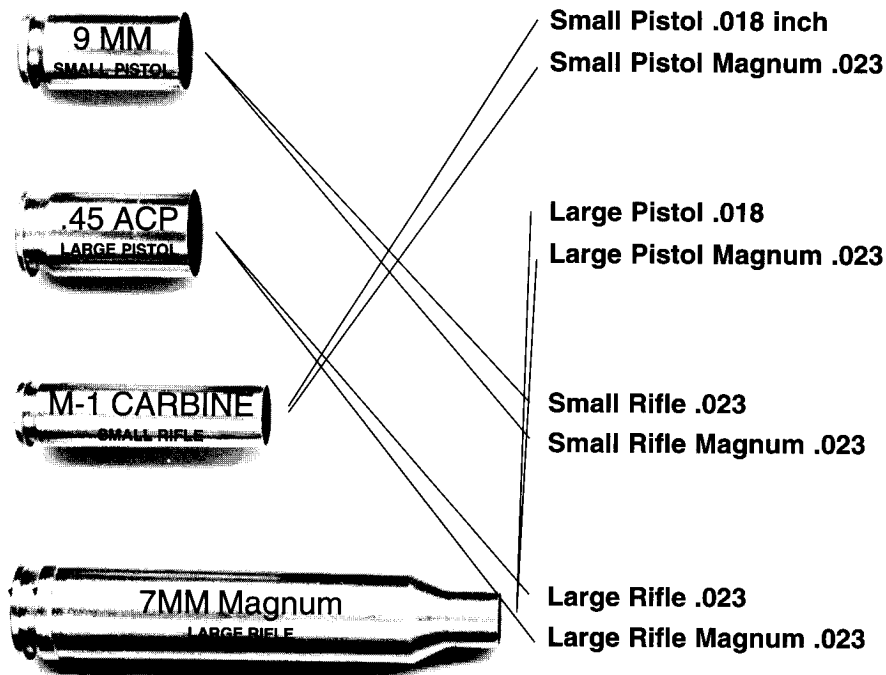
Small Pistol primers and Large Pistol primer cups are made from a thinner or sometimes softer metal alloy. Many manufacturers use a softer metal alloy in small pistol and small rifle primer cups. The reason for this is because pistols are much smaller than rifles which reduces the size and weight allowed to their designers for the internal parts. This translates to a weak firing pin impact upon the primer and therefore the reasons for a thinner or softer metal alloy used.

Small Rifle and Large Rifle primers are sometimes slightly thicker, to allow for the much higher propellant pressures experienced in large rifle cartridges. They may also be manufactured from a less malleable metal alloy, a harder metal. This additional primer cup strength of a rifle primer over a pistol primer can be easily overcome by the rifles stronger firing pin impact. In addition to the above, primers manufacturers also produce a Magnum Primer in both sizes of pistol and rifle primers. Magnum Primers were created to set fire to the most reluctant modern day coated propellants.

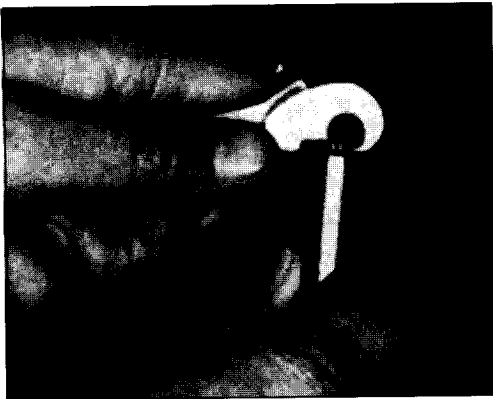
That's a pretty basic explanation of the 16 primer possibilities but it also gets across, that in a life or death survival scenario, you could, (at your own risk!) interchange Small Pistol into a Small Rifle case and vice-a-versa. This also holds true for a Large pistol into a Large rifle primer. You will give up (or gain) a fractional amount of strength by interchanging rifle for pistol or pistol for rifle.

In an emergency can
be interchanged with

Average Cup Base
Thickness

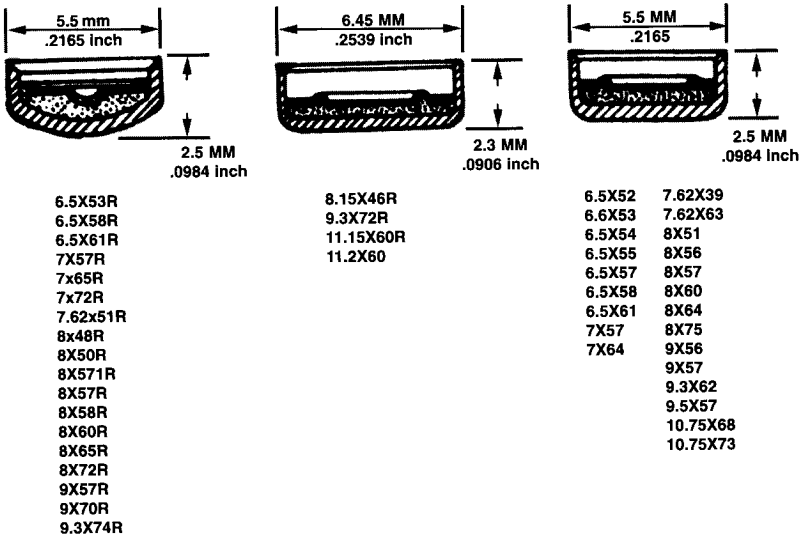


BERDAN PRIMERS



Reloading the Berdan primed ammunition is as common in Europe as reloading Boxer is in America. They use the de-capping tool shown above. This tool has a sharp spike that pushes right through the soft metal primer cup to give a

strong perch to lift the primer cup out of the case.



The above dimensions are given, metric on top and converted to thousandths of an inch on the bottom. Only the 3 most popular sizes are shown. There are 9 popular sizes of Berdan primer. The chart above is a industry recommended guide for Berdan primers as printed for the European commercial market.



PRIMER CRITERIA

Regardless of the composition of a primer it must possess the below listed criteria to be considered a perfect primer.

1. It must be noncorrosive
2. It must be operable at temperatures of -100 to +250 degrees
3. It must store at the above temperatures for long periods of time.
4. It must be stable from shock or impact detonations.
5. It must detonate reliably when deformed by the firing pin.
6. It must produce a large flame front without a large pressure spike.
7. It must be able to withstand an environment of radio waves, micro waves, electro magnetic waves, laser, particle beam contact without detonating.
8. It must be compatible to intimate contact with propellant powders.
9. It must be environmentally safe.
10. It must be efficient and profitable to manufacture.

THE PERFECT PRIMER?

The perfect primer does not exist. But, manufacturers all advertise they have the best available primer. Researchers constantly experiment on new and different combinations of basically the same primer material.

Most important, a primer must never drive the bullet from the case by its force. Instead, it must light the powder and the powder will take over. Too much primer material will insure a good powder ignition and greater reliability but, will completely destroy the accuracy and possibly your fire-arm because of premature bullet blow out. In a perfect primer material the primer should ignite the powder by blasting pieces of burning material into the powder charge. It must not erode or act abrasively on the barrel or the case, and it cannot react chemically with the powder or cartridge case.

Misfires and hang fires are inevitable. These flaws are experienced by reloaders much more often than by factory ammo shooters simply because of the rigidly controlled environmental conditions used by commercial factory ammo producers, something the reloader can't achieve in his basement or back room. Commercial ammo producers typically use Lead Styphnate as the primary explosive material in modern primers. Lead Styphnate is very sensitive to rapid impact but far less sensitive to slow deformation, this leads to misfires in older firearms with weak springs or on very cold days when the lubricating oil congeals into a thick grease slowing mechanical function.

1906, 30-06 military specifications. The cup consists of 0.46 grains of non fulminate composition composed of, tersulphide of antimony, potassium chlorate, and sulphur, a disk of shellac paper is placed to protect from moisture and electronic action of the powder and brass case. The anvil is of brass and is assembled onto a moist primer compound allowed to dry and assembled into the case with a coating of shellac to water proof.



In days long past, (around the turn of the century), it was expected that a small bore firearm would be shot out much earlier than a large bore. The reasons were because the early primers need Potassium Chlorate to BOOST the Mercury Fulminates explosive reaction. Unfortunately Potassium Chlorate is reduced into a common salt when burned and that salt lined the bore of the firearms with every shot. Smaller bore firearms like the .22 long rifle used almost the same amount of primer material as the larger bore firearms like the popular .45-70 but with far less powder to dilute the corrosive salts. Therefore small bore barrels corroded at a much faster rate than their big bore counterparts. Water was used to clean immediately after shooting up until the 1920's when manufacturers marketed light oils that were touted to eliminate salt corrosion, they did not. They dramatically reduced corrosion but improperly cleaned firearms corroded right under the oils film on the metal. But when compared to the earlier means of setting off a firearm (with a burning string), these early primers were a true GOD send.

During the hey days of the .30-40 Krag, primer material was formulated to these government prescribed standards.

Fulminate Mercury.....60%
Potassium Chlorate.....22%
Ground Glass.....16%
Meal Powder.....2%

(Meal Powder is a finely ground Black Powder)

This formula changed dramatically in the 1920's to the famous Frankfort Arsenal No. 70 which was specified.

Potassium Chlorate.....53%
Antimony Sulphide.....17%
Lead Sulpho-Cyanide.....25%
Trinitrotoluene (TNT).....5%..

In 1927 Remington swept the market with there Kleanbore Primer. A priming material that actually prevented rust and pitting. Since Potassium Chlorate was eliminated there is no salt formation. If greased, graphite or wax bullets were used it was not necessary to clean your firearm immediately after use. Ads stated cleaning your firearm was a thing of the past! Remember they were cleaning their firearms with buckets of warm water and lots of elbow grease before this.

The competition soon analyzed Remington's primer material and discovered it was a combination of Fulminated Mercury, Barium Nitrate, Lead Sulpho-Cyanide and gum which acted as a glue, and here is the bad part, about 30% crushed glass. Most informed reloaders stuck with the old Frankfort Arsenal No. 70 because the Mercury crystallized the brass cases and the glass ruined barrels in a hurry.

Today's advances in science have allowed chemical compounds unknown just 50 years ago to create the perfect primer. Most manufactures around the world use a variation of Lead Styhnate, Tetracene, Antimony Sulfide, Calcium Silicide, Barium Nitrate, and Potassium Nitrate.

To make most of the above listed chemical ingredients requires a specially trained chemist and a very well equipped lab.

While other chemicals are available right off the shelf, like Barium Nitrate, it's the same stuff used in hospitals .Here is a little free warning, when your doctor says he want to look at your lower intestines using barium, what he really means is that he's going to stick a garden hose up your ass and pump you full of diluted Barium until it really hurts then walk you down an endless hallway with a hose sticking out of your ass to wait silently for them to expose you to deadly X-RAY RADIATION! @*^%

Primer manufacturers use a variety of "Primary Explosives" that are sensitive to compression friction, these primary explosives are difficult, if not impossible to obtain and extremely dangerous to manufacture and even more dangerous to handle.

There are a number of published methods for improving or home manufacturing primers, unfortunately they all have serious draw backs. One of the simplest states that the tips of strike anywhere matches can be used by scraping the tip from the match and packing it into the primer. However, these matches are increasingly difficult to find and the results are often less than satisfactory.

Other methods call for the maker to "COOK" chemicals, these chemical combinations are called "Primary Explosives" which are poisonous and subject to explode spontaneously and seemingly without cause. Still other chemical combinations have a limited storage life, some are hygroscopic (They absorb moisture directly from the air) resulting in duds and misfires a plenty. Many other methods are very unstable chemically (a weak molecular bond), and most are highly corrosive.

The first repriming method I am detailing here is also the safest Primer that could be manufacture at home, for less then 1/4 of a cent each. That's less then \$2.50 per 1000 or about 1/10 the cost of factory primers! The benefits of "Repriming your Primers" are plenty; freedom from government regulations, low cost, self sufficient, expanding on your reloading hobby, and if you remember the primer shortage of 1994 you'll need to include availability.

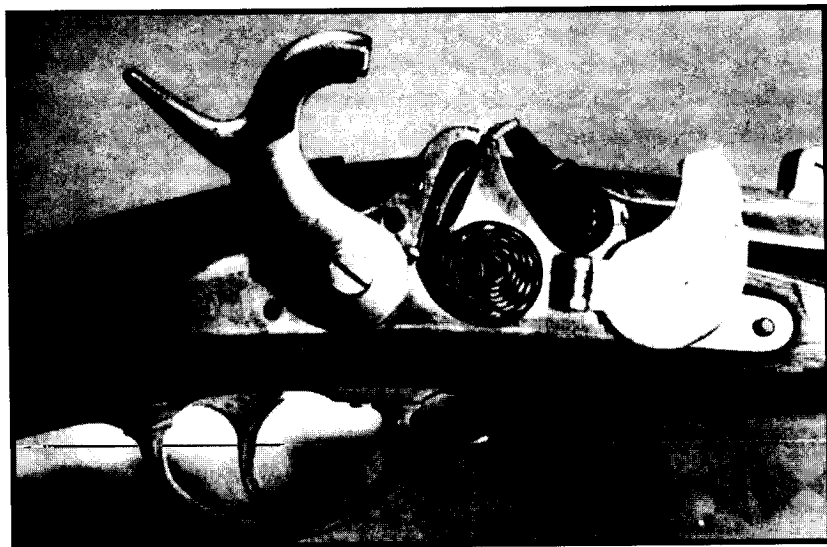
The first repriming operation details the installation of common caps, but, the procedures detailed are basically the same for HMTD or Mercury Fulminates.



With a couple of readily available, everyday items and a few common inexpensive tools you can turn your fired brass into ready to reload primed brass in just a few easy steps. Also you can reload both Boxer and Berdan & Shot Shell primers. These primers should have an extremely long shelf life and they are relatively safe to make.

These toy cap primers are reliable and will function all semi or full auto firearms.

99% reliability



In 1850 a dentist by the name of Edward Mayard applied for a patent on the Caplock shown above, *which gives me an idea?* But first lets cover the basic tooling and supplies before we get into the actual Repriming of primers.

MATERIALS NEEDED

1. CAPS, the same kind you used in your toy cap guns when you were a kid. There is a difference in quality, I found some manufactured in China which were of such low quality they were unreliable, cheap But Unreliable! The 8 shot STAR CAPS seem to be custom made for small rifle and pistol primer repriming, I detail Star Caps later.



BULLETS, you can cast your own like I do or buy them commercially they must match your cartridge and firearm.



SMOKELESS POWDER, There are hundreds of different kinds and they all perform differently. Look up each cartridge in a reloading manual to be sure of brand, type, and amount you will need for each cartridge. M&M ENGINEERING offers a manual on the exact formulas and methods to manufacture smokeless powders and their different variants, order **THE ULTIMATE DO-IT-YOURSELF SMOKELESS PROPELLENT COOKBOOK** Item # MM-9548 \$14.95



2. BLACK POWDER (FFF) or PYRODEX (P) or similar product. This "booster" will not be mandatory for small pistol primers, but it sure helps in larger cartridges. M&M ENGINEERING offers a manual on the exact formulas and methods to manufacture Black Powder, order **THE ULTIMATE DO-IT-YOURSELF BLACK POWDER COOKBOOK** ITEM # MM-9547 \$14.95

TOOLS NEEDED

A. **1.2 mm Punch** - If you're going to reload Berdan primed brass a punch this size is small enough to fit through the two or four "Flash Holes" to drive out the spent primer cup.

B. **1.8 mm Punch** -- This larger punch will be used to deprime Boxer Brass.

C. **Large Punch** - It must fit inside the primer cup, you will use it to flatten out the indentation made by the firing pin. You can use a nail that you filed flat on the end or even a screw driver you have flattened the end on.

D. **Hammer** - A good 1/2 pound ball peen hammer is about the right size but you can use anything you may have laying around.

E. **De-capping Fixture** - When De-capping or removing a primer cup from the brass case, you'll need to support the base of the case while allowing the primer clearance to drop free. I have used a 1/4" & 1/2" drive socket from a tool set with great results.

D. **An Anvil** - Anything allowing you to flatten the firing pin dent in the primer cup will do, like any scrap of flat steel.

F. **Hole Punch** - A standard hand held single paper punch used to put the holes in the paper for ring binder notebooks. This can be found at most office supply stores or at department stores.



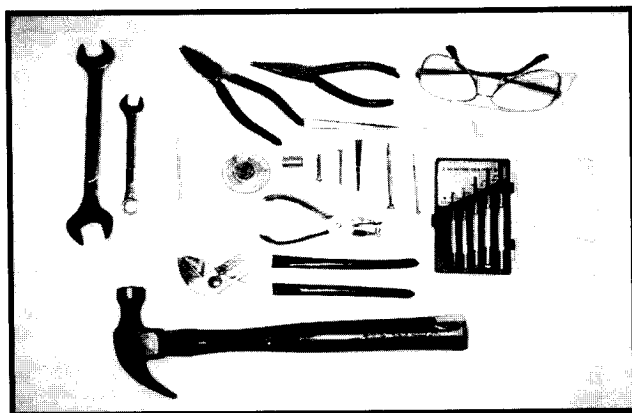
G. Channel lock or slip grip pliers - A primer can be seated simply by placing the mouth and case head (with primer cup started into place) against opposing plier jaws and slowly applying pressure until your primer is seated evenly in the case. Caution: Some primers will unavoidably go off, Safety glasses, gloves and other protective devices should be used.

H. Needle Nose Pliers - Used to remove and insert the anvil from fired primer.

I. Tweezers - Very useful in picking up small primer cups and primer anvils.

J. Small wooden Dowel - A match stick, Japanese Chop sticks whittled down or similar non metallic item used to press your caps, HMDT or Mercury Fulminate into the primer cup.

K. Safety Glasses - This manual will not focus on teaching you the proper and safe reloading guidelines. If you are exposing yourself to this type of operation you must protect your self in case of mishap. Safety glasses, ear plugs, gloves, fire extinguisher and breath filter to name a few mandatory safety devices.

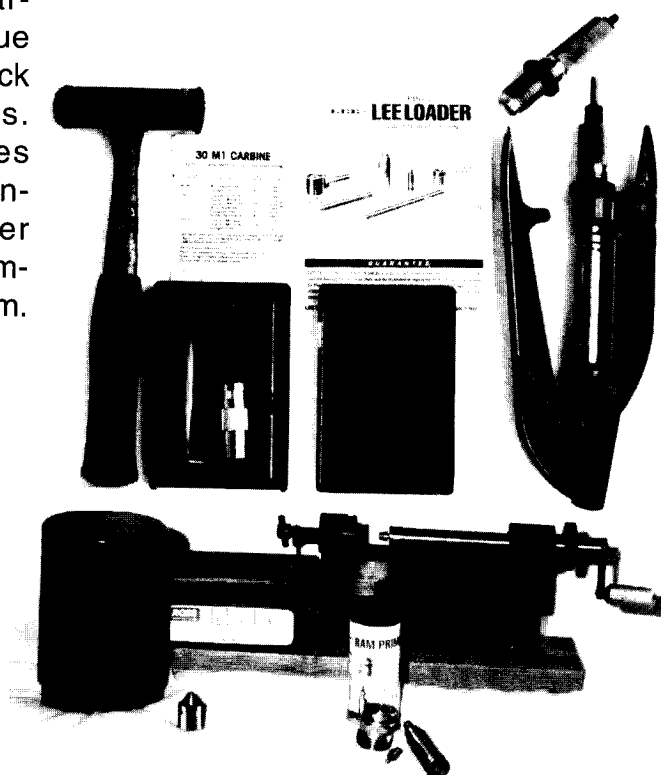


RECOMMENDED TOOLS

I. **Single Stage Reloading Press & Die Set** - This tool should be the first tool beginning reloaders buy. Many brands are available and considering the job they perform for their low cost it should be your first purchase. LEE RELOADING presses are the finest made, these small survival presses (shown below), make an excellent reloaded cartridge without great expense.

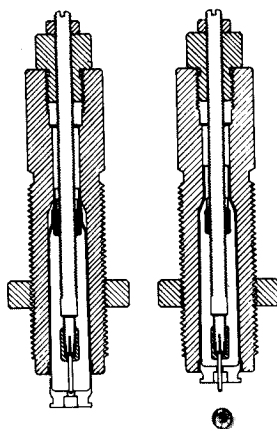
II. **Chamber Tool** - This little work saver will clean out and resize your primer pocket in your brass case, this tool makes making it much easier to install the reprimed primer, this is especially true for military brass.

III. **Case Trimmer** - After a few reloadings your brass will stretch out. This will result in jamming, misfires and more. This is particularly true of bottle neck rifle cases. Lee makes an inexpensive caliber specific trimming system.

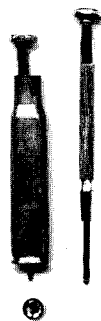


STEP-BY-STEP INSTRUCTIONS

1. Remove the old primer from your fired brass. This can be done with a reloading press and the die set for your caliber or with a simple punch . I have even used a screw driver with it's tip filed down, as a punch and a socket from a tool set as a base to remove primer cups from spent cases. Even though you can get by without a reloading press and die set I highly recommend you consider buying them.



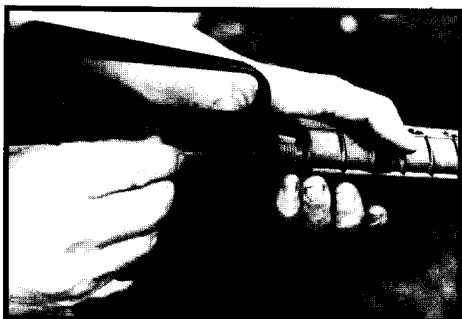
2. You should wash your brass if it is dirty or if you have used corrosive primers. Even though it can make a hell of a racket, and upset your wife greatly (if you chose to tell her?) you can put your brass in a tightly tied cloth bag into your washing machine. I have also washed my brass in a cloths dryer (no heat) in a plastic jug with crushed corn cob.



When I am in a hurry I drop my spent cases into a pan of boiling water with ten teaspoons of liquid dishwasher detergent per quart, then rinse in hot water and allow the cases to dry.

TO RESIZE A CASE IN THE CHAMBER OF A GUN

3. Rub lubricant on the outside of the empty case and insert it into the chamber of the firearm you intend to shoot it in and close the bolt. A case resized this way may only chamber in the firearm that you resized them in. Be sure to clean all remaining lubricant from both the firearm chamber & and the cases before firing.



RESIZING IN A RELOADING PRESS

For Boxer Cases there is no special operations simply lubricate the outside of the case & the inside of the neck. Run the brass through the sizing die.

For Berdan Cases you must deprime by hand using a punch, now remove the de-capper pin from your resizing die. Resize your lubricated case in your sizing die as you normally would.

Ok, you've learned to:

Remove your primers from spent cases

Wash your cases

Resize your cases

Now lets reprime some primers!

REPRIMING BOXER TYPES

Left

***Rear view detailing the
Primer pocket and vent
hole.***



Right

***Cut away view detailing
the vent hole.***

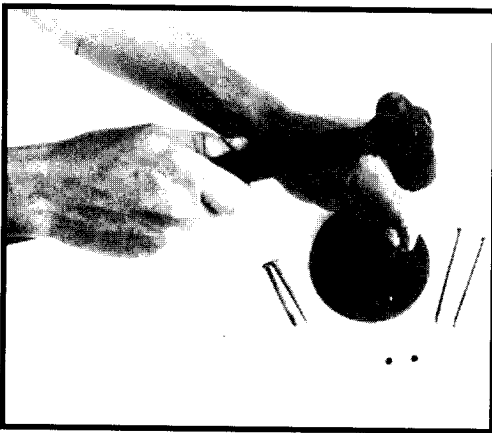
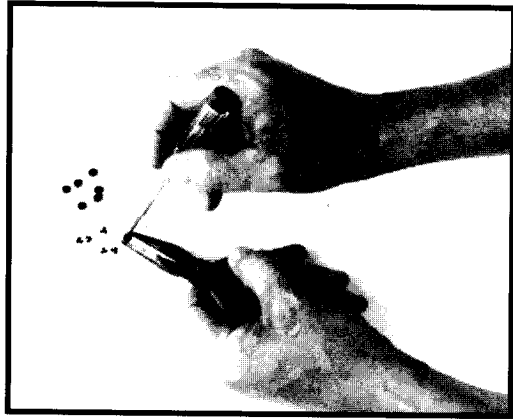


Center

***Cutaway view of
case showing
internal structure.***

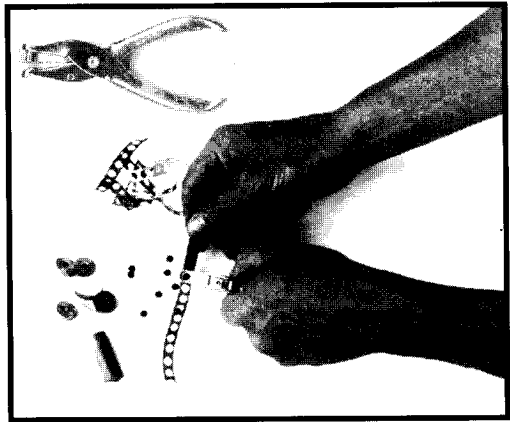


Using needle nose pliers grip the primer cup and use your small punch (or a filed down screwdriver tip) to pry out the anvil. Now clean out the primer cup & the anvil of any burnt residue.



Take the primer cup and place it on a flat steel scrap (or any flat hard surface). Using a punch or a nail with the tip filed down flat, pound out the indentation made by the firing pin. Be careful not to distort the primer cup by using too much force.

Next take a roll of caps, make sure to center your hole punch on the area of the paper that contains the primary explosive powder, cut out the primary explosive. As shown later in my manual reloaders of antique cartridges wishing to

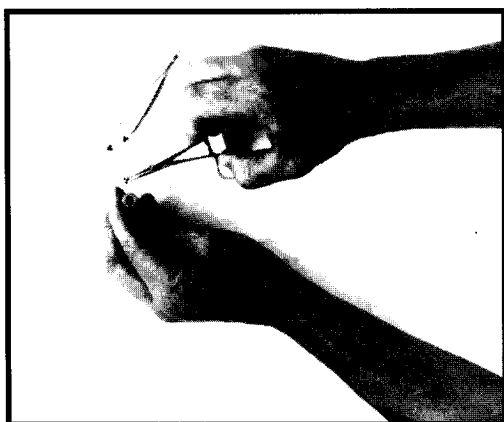


retain the cartridges authenticity, will use wax paper to cover the Fulminated Mercury mixture in the primer cup as a moisture barrier. Shot shell reloaders will use wax paper to seal off the Battery cups flash hole from the propellent charge.

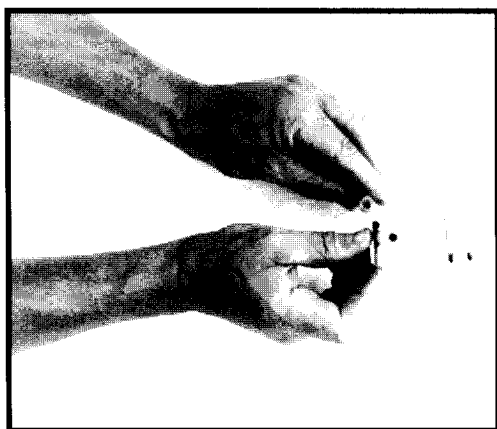
Take two punched out cap circles and press them into your primer cup using a wooden or plastic dowel, (a wooden match stick). Carefully press your cap circles down completely, the circles must be pressed flat against the base of the primer cup for best results. Be sure to center the raised portion (the part with the most explosive material) in the cup so the tip of the anvil will make contact when it is reassembled.



For the next step invert your brass case. Carefully insert the anvil into the brass case, centering it over the flash hole. Be sure the anvil's high center is pointing up.



Now press a cap in the primer pocket over the anvil, so it holds the anvil in a centered position over the flash hole. Again be sure the primer material is located directly over the tip of the anvil. If the cap and anvil don't want to stay in place use a very little Elmers glue around the rim of the primer hole and reinstall the anvil and cap.

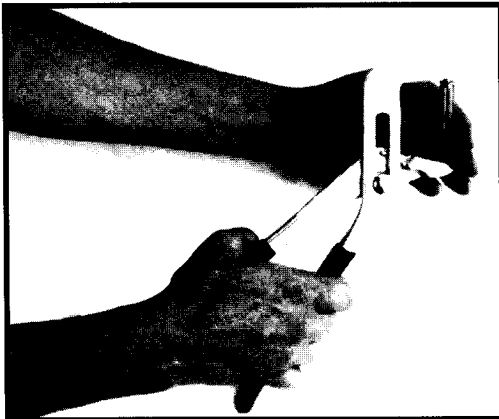




Now take a small amount of black powder or pyrodex and fill the primer cup not quite full. Small pistol primers don't seem to need the extra boost the black powder provides, they seem to work quite well with 3 cap circles alone

pressed into the primer cup. This booster is not necessary with HMTD or Fulminated Mercury.

As a last ditch effort to reload in a no tools survival environment, you can reinstall the reprimed primer into the case by careful compression with a pair of pliers, C-Clamps, vice, arbor press, etc.. As suggested earlier it is always best to



use a quality reloading press. You will experience more accidental detonations of primers using this field expedient method.

REPRIMING BERDAN TYPE

Left
Berdan type case showing the primer pocket and Anvil, Cut away view detailing the flash holes inside the case.



Right
A popular four vent hole Berdan case internal view, and rear view of a four hole case detailing primer pocket and anvil.



Center
Cut away case showing internal structure.

Berdan Type - Berdan's are a little easier because you only have to clean out the primer cup. The anvil is an integral part of the brass case. In the following instructions it is assumed you have removed your primers and resized your cases as shown for Boxer type primers, cut your caps, etc..

First let me give you a little hard to find info:

Lachmiller Engineering offers the 2 prong type Berdan de-capper.

RCBS carries a line of tools for seating the various sizes of Berdan primers.

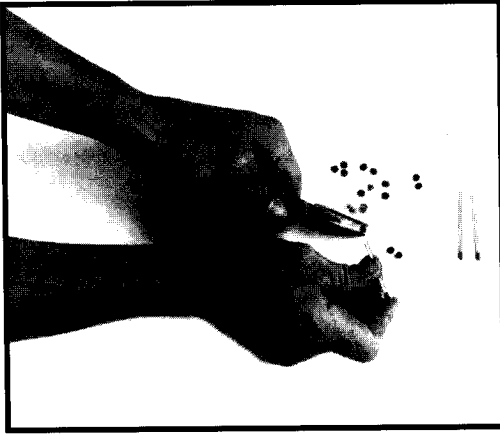
Smith & Wesson Ammunition Company of Alton, Illinois is one of the only sources of new Berdan Primers.



PLEASE CHECK AND COMPLY WITH ALL LAWS

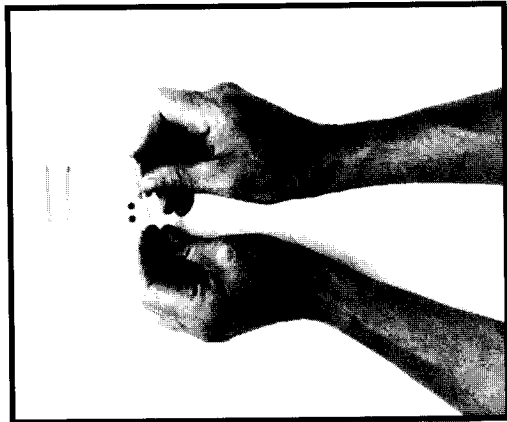


Press two cap circles into your primer cup using your wooden or plastic dowel. Carefully press the cap circles down completely, the cap circles must be pressed flat against the base of the primer cup for best results. Be sure

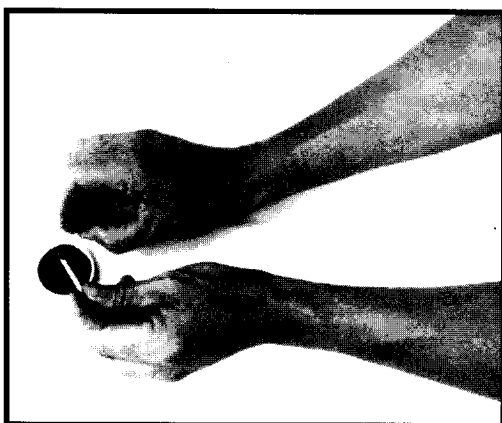


to center the raised portion (the part with the most explosive material) in the cup so the tip of the anvil will make contact when it is reassembled.

Now press a cap in the brass case over the anvil in a centered position. Again be sure the primer material is located directly over the tip of the anvil. If the cap and anvil don't want to say in place use a very little Elmers glue around the rim of the primer hole and reinstall the cap circles.

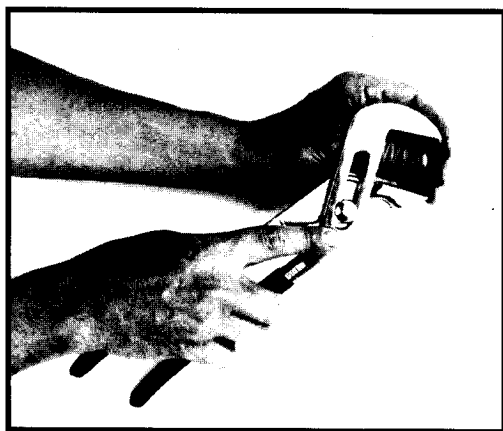


Take a small amount of black powder or pyrodex and fill the primer cup not quite full. Note the caps already in place pressed to the bottom of the cup as outlined previously. Small pistol primers don't seem to need the extra boost the



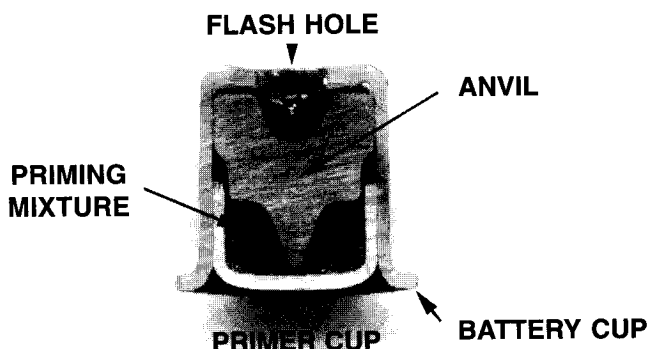
black powder provides, they seem to work quite well with 3 cap circles alone pressed into the primer cup. Black powder is not needed as a booster with HMTD or Mercury Fulminate Primers.

As a last ditch effort to reload in a no tools survival environment, you can reinstall the reprimed primer into the case



by careful compression with a pair of pliers, C-Clamps, vice, arbor press, etc.. You will experience more accidental detonations of primers using this field expedient methods

REPRIMING SHOTGUN PRIMERS



The basic design of the shotshell primer is very different from the Boxer and Berdan primers. The largest difference lies in the fact that a shotgun shell hull will not support the primer cup without the aid of the battery cup and most important, the shot shell primer contains about twice the priming material of Boxer & Berdan primers. In fact you can see in the above cut away photograph that the primer cup is actually filled with priming material.

The various brands of shotshell primers differed in shape and materials used in their construction, but they all possess basically the same structural and operating means.

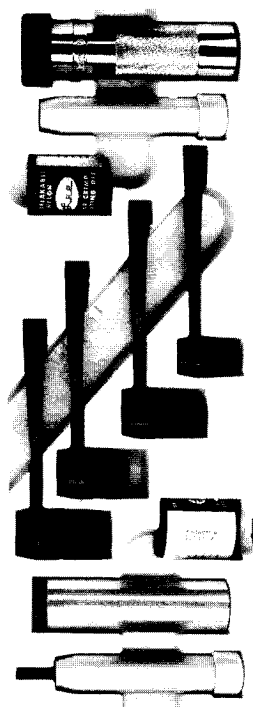
A lot of information on reloading is available from other sources and I encourage you to investigate the shot shell more thoroughly before you reprime your primers for a shotgun. The problem lies in the fact that a shotgun is very sensitive to primers of different brands, and also to the vast variety of powders and endless shot weights. I can't go into this more thoroughly because this is a primer book, not a shotgun reloading book. Under a survival scenario, repriming and reloading shotshells is entirely possible and in fact easy.

ORIGINAL LEE LOADER



NOW INCLUDES
FULL LENGTH WAD STARTER
6 & 8 SEGMENT
CRIMP STARTERS
AND 3"
SHOT MEASURES

LEE



I keep presenting you with the hand operated LEE LOADER reloading system because it is without a doubt the best design in portable, reliable, survival reloading systems. This is the 2 3/4" 12 Ga. which as you can see is a totally complete system. Included are multiple powder measures, multiple shot measures, multiple crimping dies, basic easy to follow instructions

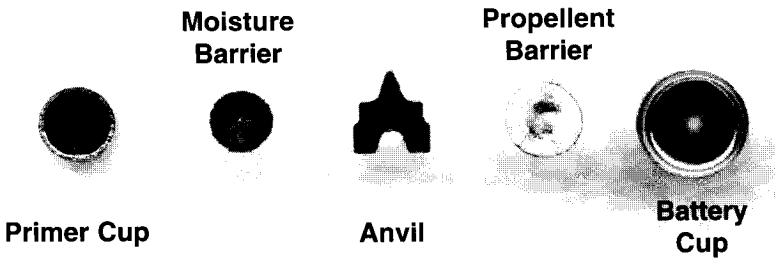
and loading data. Over twenty years ago I paid \$11.95 and have reloaded thousands of shot shells of every type listed and it still looks and works like new, if you are a beginner survivalist this is a super smart starting point.

There can be no greater over all weapon then a large bore shotgun! And if the gun control restrictions of lesser nations are analyzed it is clear the shotgun was the last class of weapon to be totally outlawed. There can also be no doubt as to the importance of the shotgun in self defense, national defense, and food gathering. Hunters have long demanded a good shot gun. I would rather have a pump 12 ga. shotgun, if I could have only one "survival" gun.



PLEASE CHECK AND COMPLY WITH ALL LAWS





A typical commercial primer dissembled in sequence. The importance of the above photograph is to illustrate the paper and plastic coated paper which act as moisture and propellent barriers, protecting the primer.



Begin by removing the primer assembly, de-capping the shot shell. A screw driver with the end filed flat will substitute as a improvised primer extractor.

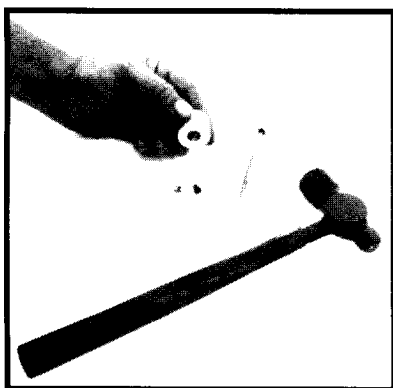
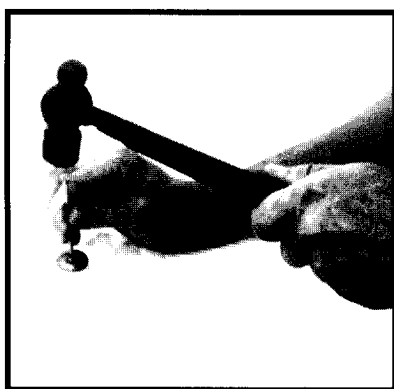
That's not just a plastic faced hammer, it's center is hollow and filled half full with powdered lead dust! It is a necessity in any machinist tool box, it's called a dead blow hammer. But you can use any hammer you may have for this operation.





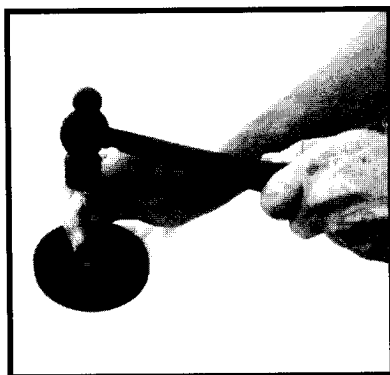
Usually the primer assembly pops right out, without any damage. But sometimes the noncorrosive primers will have corroded the primer and shotshell so badly that removal is difficult. It really helps to remove the spent primers right after firing.

Using a punch and improvised De-capping die, drive out the primer cup and anvil from the Battery Cup.



Inspect and clean the disassembled primer assembly. Different manufacturers use different design styles in the construction of shotshell primers, so don't get different sizes or brands mixed up, they usually will not interchange with each other.

Using a nail with it's tip filed flat, remove the firing pins dent from the primer cup.



Using needle nose pliers or tweezers install the anvil back into the battery Cup. The point of the anvil should be pointed out of the battery cup. I recommend the use of a wax paper disk to seal off the primer from the propellant, place it in the battery cup before the anvil, and centered over the flash hole.

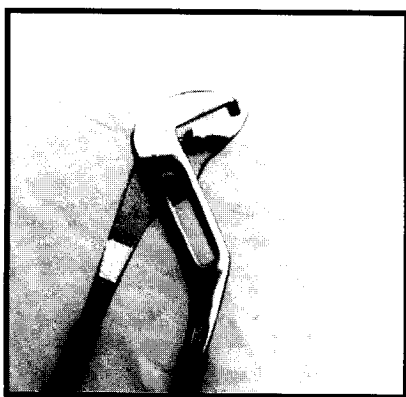
Filling the primer cup with the primary material is going to use up far more priming material than used in Boxer and Berdan primers, two to three times as much in fact! The ratio of Boosters and additives should be increased too:

Fulminate Mercury 40%
Potassium Nitrate
or Potassium Chlorite 40%
Glass 10%
Black Powder
or Smokeless Powder 10%

HMTD 65%
Potassium Chlorate 20%
Glass 5%
Black Powder
or Smokeless Powder 10%



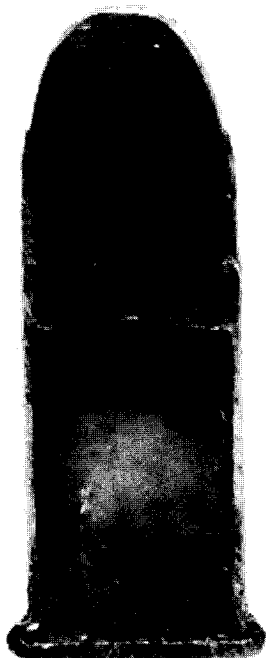
Take one last look at the anvil to make sure it is centered in the battery cup. If you have used a wax paper disk to seal off the battery cup from the propellant powder it should be centered over the flash hole. The primer material should be slightly moist, install with a wax paper disk to protect the priming material from falling out when it dries.



Now take pliers, a C-clamp or an arbor press to compress the primer cup into the battery cup until the face of the primer is even with the top of the battery cups flange.

If using caps: Disassemble the shotshell hulls as shown earlier and insert 5 caps in the cleaned primer cup. You should use a wax paper disk to cover the flash hole in the battery cup otherwise the black powder booster will fall out. Now insert the anvil in the battery cup and fill the battery cup with fine black powder. Very carefully compress the primer cup into the battery cup.

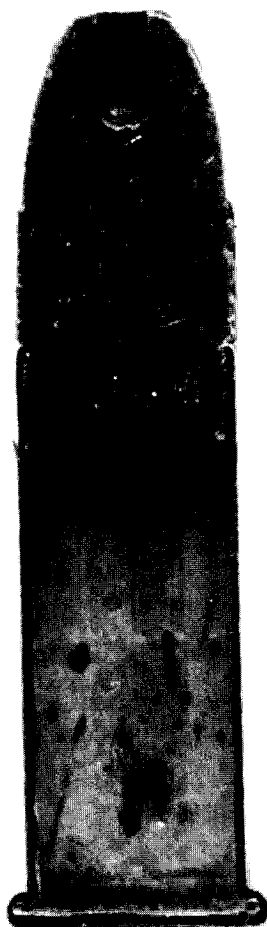
REPRIMING THE .22



.22 SHORT



.22 CB LONG

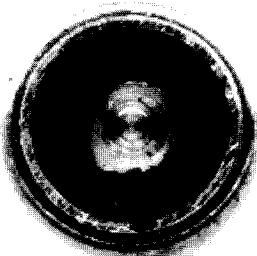


**.22 LONG RIFLE
HOLLOW POINT**

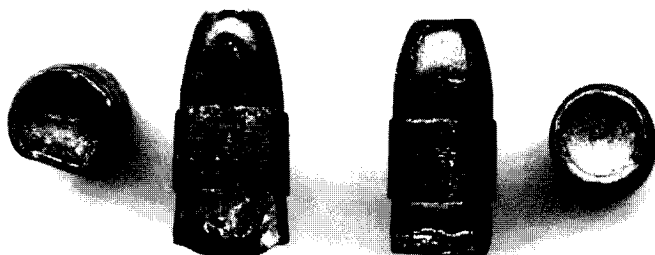


**Looking at the back
side of a unfired .22
Long Rifle Bullet.**

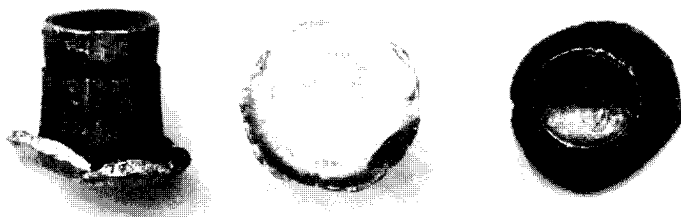
**The inside of a cut
off .22 Long Rifle,
showing the primer
material intact. No-
tice the swirl
scratches made in
the center of the
case.**



NOTE: It would be difficult to explain the proper mechanical procedures involved in the repriming of the .22 without a complete overview of the entire reloading process.



These examples were recovered from a sand bank at the local rod and gun club. The sample on the left has a damaged base and would never balance properly. The example on the right is a perfect candidate for a .22 reload.



I recovered these reloaded .22 bullets from a ballistic water tank. They were standard hollow points originally recovered from a sand pile back stop and reloaded using 2.3 grains of 3031. These examples are too badly deformed to reuse again, good only for the lead recycling pot. An excellent example of proper expansion, wouldn't you say?

The home made reloading tools needed are shown below and are constructed from everyday items. Starting on the left with a chop stick sanded down to fit snugly inside the .22 case. The chop stick will be used to force the priming material into the edges of the .22's base.

Next is the powder measure, a .22 shell filed off to 1/2" long and soldered onto a brass welding rod for the handle. The .22 will hold approximately 1.5 grains of 700X smokeless powder, or Red Dot or fine black powder.



The Resizing die was crafted from a small block Chevy V-8 push rod. A push rod is manufactured from super hard steel and is perfectly straight with a hole through the center that is just slightly smaller than a .22. Drill or ream out the push rod using a number 2 drill (or a .223 reamer) to a depth of 1".

The extraction rod was cut from an old Swedish mauser cleaning rod, anything available like a welding rod will do.

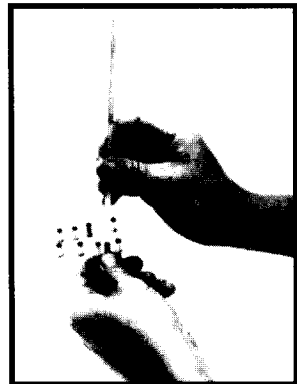
Next is the neck resizer which is a number 4 drill with it's chuck end rounded to ease the insertion into the .22 case mouth, drilling out an old broom handle makes a great handle.

Start by Resizing the case mouth with a #4 drill bit. Try to keep the smooth rounded end of the drill bit aligned with the .22 case. It usually requires a pair of needle nose pliers to remove the case from the drill once it has been pushed down into the case



The primer material can be any form of primer mix detailed here with one exception, raise the crushed glass percentage to 20 or 30 percent. A small plastic food coloring bottle is perfect to form the small drop of primer material needed.

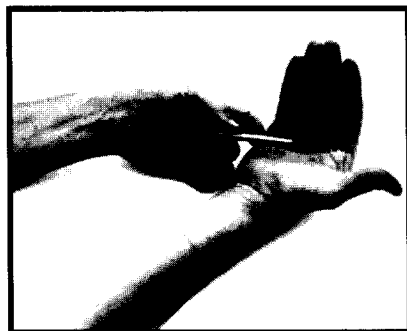
While the priming mixture is moist, insert the chop stick and rotate several times to distribute the priming mixture into the base folds in the case. Put the primed cases aside until dry.





While your priming mixture dries you can reform your bullets. Insert your best recovered bullets into the drilled out push rod Resizing die.

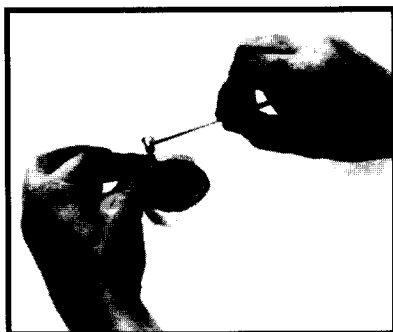
Push down using the extraction rod until the bullet is completely inside the push rod. Don't ram the bullet past the drilled area in the push rod.



Your primed cases should be dried completely before you insert the propellant powder. Any smokeless powder will work but 1 (sub-sonic) to 2.3 (hyper sonic) grains of 700X works best. If using home made black powder, fill the case 3/4 full.



Flip the push rod over and push the resized bullet back out.



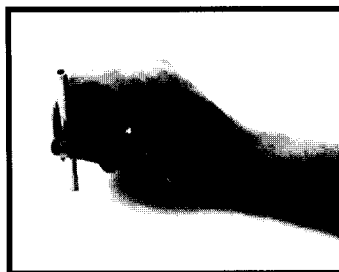
Install the resized bullet back into the case, making sure it is fully seated.



Place the bullet on a flat surface and push the Resizing rod onto it.



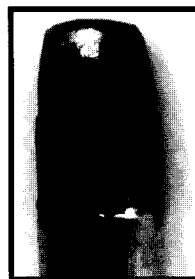
Push until the case is completely inside the resizing rod.



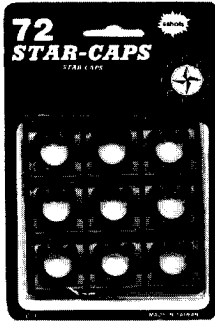
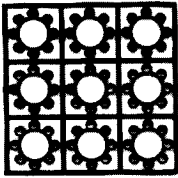
Flip the Resizing rod over and push the reloaded .22 back out.



As you can see the lead swagged itself down over the case indicating a proper and very secure bullet to case attachment and seal.

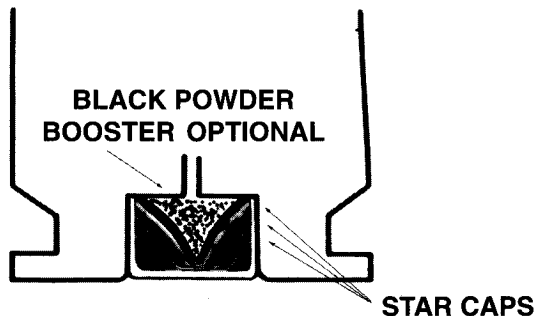


EASY SMALL RIFLE & PISTOL REPRIMING



These STAR-CAPS are the easy way to reprime all small rifle and pistol primers. I will assume you have deprimed and resized your cases and also reshaped the firing pin dent, etc..

Using all proper safety equipment, in case of accidental mishap. Use a long pin to remove the white primer paper, be careful to keep the powder that is under it together. The powder will usually stick to the paper but it may help if you added a very small amount of 90 percent rubbing alcohol. (Use a wet Q-Tip) .While moist insert three Star Caps with paper and powder into your primer and load primer into case as earlier directions illustrate, allow to dry overnight, load as usual. These Star Caps proved to be the most reliable and easiest repriming system I discovered, unfortunately they were also the most expensive method tried.



PERCUSSION CAPS

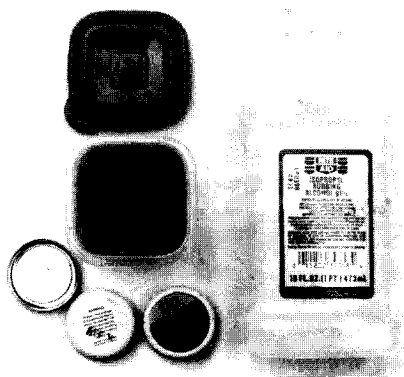
These were the original style of copper container for the first primary explosives (Mercury Fulminate) developed in 1842 for black powder firearms. The development of the percussion cap was the greatest single leap in firearms advancement.



Modern Percussion caps are noncorrosive. Of the various manufactures I researched, Percussion caps contained only about one half as much primary explosive material by volume as their Boxer and Berdan primer counterparts. It is possible to recover the explosive material inside and reinstall it into a Boxer Berdan or what ever type of primer.

If you have ever tried to find antique cartridge cases for your collection to shoot, you know they are harder to find than a honest politician and just as expensive. By carefully recovering primer material you can replace an exact copy of the original cartridge to shoot over and over.

RECLAIMING PRIMER MATERIAL



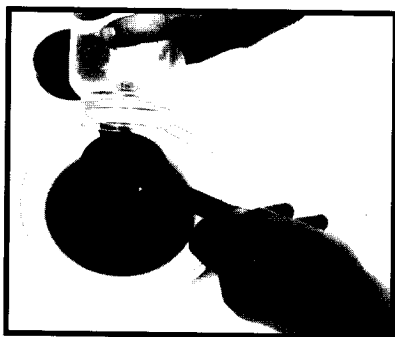
You'll need 2 tins (200) Number 11 Percussion Caps, some acetone (fingernail polish remover) or drugstore rubbing alcohol that is 90% pure, some screening, (a tea strainer) and a small poker, (a sewing needle).

Percussion Caps have a priming material inserted into the copper cup and a paper wadding is then pressed into the cup. This paper wadding will secure the priming material from falling out when dry and provides protection from moisture. It stands to reason that if you started poking inside any primer cup to scrape out the primary material you would have many explosions. The first task is to wet the priming material with acetone, alcohol or water if that's all that is available. This will allow poking and scrapping with much less chances of mishaps.

Use a small plastic container with a cover to hold the 200 No. 11 Percussion Caps. Now add enough acetone to cover the primers completely, put the cover on and allow to soak for a couple of hours.



Take a second small plastic container and one by one scrape the paper and priming material from the wet Percussion caps. It usually only take a couple of scrapes to remove the paper wadding and then toss the copper caps in your acetone container, now dump the remaining acetone from the first soaking container into the second recovery container. Cap the container and agitate gently to draw any remaining priming material from the percussion caps.

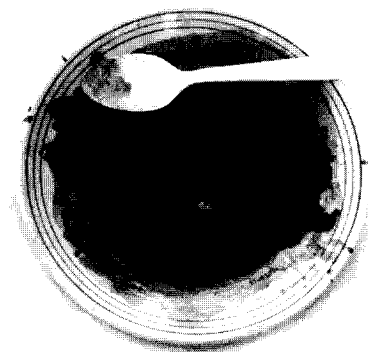
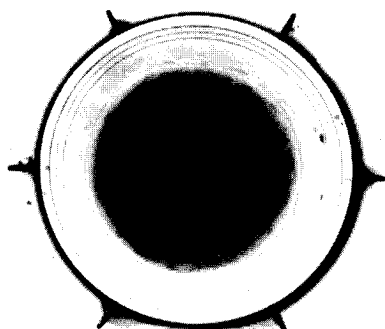


Obtain a screen that will stop the cooper Percussion Cap and the paper wadding from going through. Hold the screen over a coffee cup saucer and pour your alcohol primer solution into the screen.

Be aware if an amount of priming material of this size detonates, it will really do some damage. Allow evaporation at room temp. Use Extreme Caution!

Don't be fooled by it's puny size or it's pissy color, this is some wicked kick ass stuff when it's dry. Don't use anything that could cause a spark when recovering this material.

The recovered priming material is susceptible to detonation by heat, electrical charges like static electricity, friction, compression, impact, etc.



CHEMICAL SUPPLY HOUSES

There are still a few chemical supply houses in business that cater to the home experimenter, fireworks and rocket builders chemicals and hardware supply needs. One of the best is;

G&E SUPPLY CO. 1473 CHELSEA AVE. BETHLEHEM, PA. 18018 there telephone number is 610 - 882 - 9592.

Other than supplying hundreds of chemicals to the home fireworks builder. They also stock a large assortment of Experimenters laboratory glassware. Graduated Cylinders, Condensers, Glass Tubing, Flasks, Beakers, Stoppers and lots more. This company provides the raw materials to manufacture an endless verity of pyrotenitic 4 of July fun. Everything from heavy duty paper tubing for rockets and firecrackers to the training books and videos. Plus every chemical you could possibly need to expand your fireworks show.

If you want to shop around the classified section of Popular Science, Popular Mechanics and other magazines that cater to the "Thinking Person" will provide you with a huge selection of suppliers.



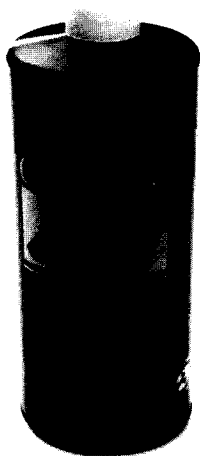
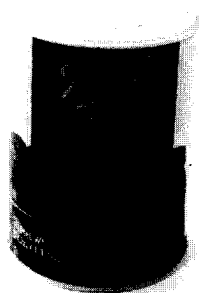
FORMULA #1

3 INGREDIENT PRIMERS

FORMULA #1

CITRIC ACID

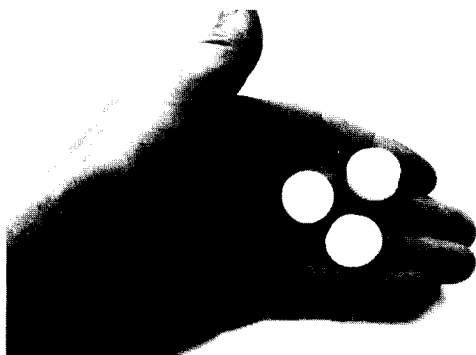
Used to preserve home canned foods, About \$3.00 in the local supermarket. Vitamin C is a suitable substitute, read the ingredients on the bottle, look for ascorbic acid.



HYDROGEN PEROXIDE

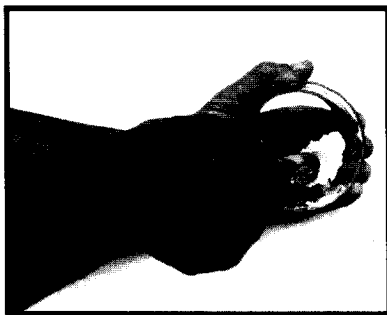
40% PURE (Used to color hair in beauty salons), about \$2.60 a quart at beauty supply wholesalers.

Caution: Drugstore medical hydrogen peroxide is only 3% and may contain other incompatible chemical ingredients. Look at the ingredients label, it should contain Hydrogen Peroxide and water.



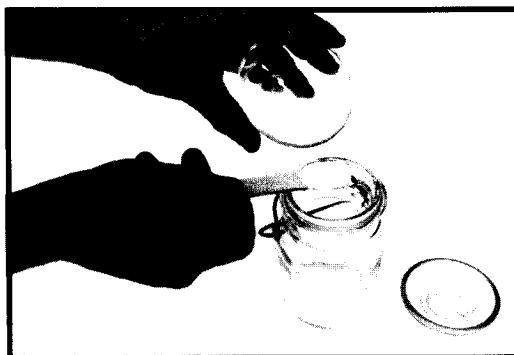
HEXAMINE

Military food heating tablets, Under \$1.00 at camping stores, army navy stores, drug stores, etc. Also listed as Hexamethylenetetramine, Urotropine, methenamine.



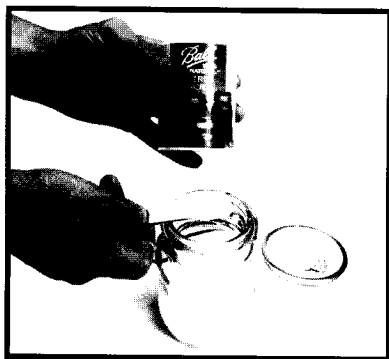
Begin by grinding two or three tablets or 2-1/2 teaspoons of Hexamine with a mortar and pedestal as well as you can, a fine dust should be achieved.

Carefully measure 2-1/2 level teaspoons of powdered Hexamine into a one pint canning jar.



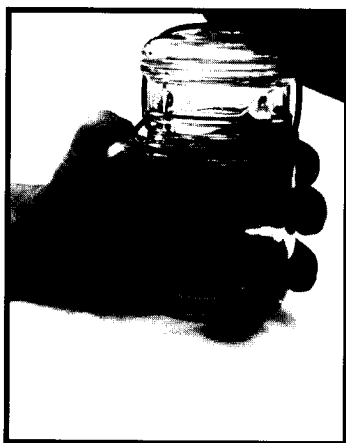
Add to the powdered Hexamine, 9 teaspoons of 40% Hydrogen Peroxide. Do not cover the jar, keep in a well ventilated area, preferably outside. Do Not Breath Fumes.

The reaction will begin to generate heat, which must be kept under 100 degrees for 30 minutes. Do this by placing the canning jar containing the solution in a cold water bath, use ice cubes to maintain the temperature.



Remove from the ice bath and immediately add 4-1/2 teaspoons of powdered Citric Acid. The Citric acid must be added gradually, constantly stirring until crystals are completely dissolved.

Permit the solution to stand at "room temperature" or colder until solid particles form at the bottom of the canning jar (This is the primer material or HMTD Crystals), total reaction time is 8 to 24 hours, depending on chemical purity and temperature, lower temp is better. This is now a primary explosive, Do Not Allow To Dry! Spontaneous detonations are possible. Heat, Friction, Compression, electrical, etc. will cause detonation



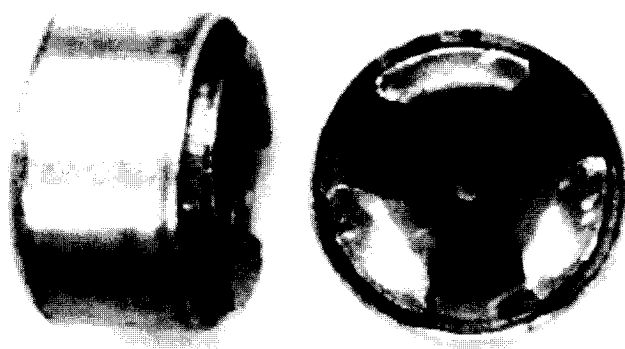


Filter the material through a coffee filter or paper towel into a disposable container. Wash the crystals collected in the coffee filter with 6 teaspoons of clean water by simply pouring the water over the crystals. Discard the liquid. The crystals are the primary explosive compound, Do Not Allow To Dry! Spontaneous detonations may occur!

Do Not Allow To Dry! Spontaneous detonation can occur. Remoisten with water if necessary. Using the cleaned primer cup, scoop the HMDT crystals into the primer cup until 1/2 full, insert a wax paper wadding using a wooden match stick. (Wax paper waddings are punched out as the toy caps were).



Do Not Allow To Dry! Reinsert the anvil into the primer cup, load primer into the case as soon as possible. Allow to dry overnight then add propellant powder and bullet. Stores best at 50 degrees. Use within 1 year.



A recycled primer using HMTD.

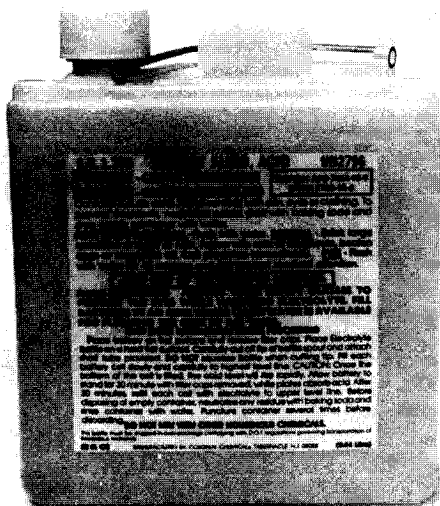
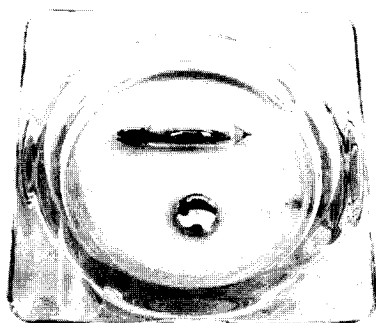
FORMULA #2

FORMULA #2

3 INGREDIENT PRIMER MATERIAL

Mercury

Used in electrical switches, old radio tubes, thermometers, etc..



BATTERY ACID

Readily available at most auto parts stores, garages, motorcycle shops, farm equipment shops, at about \$5.00 a quart. Or as a last resort drain an old discarded car battery.

POTASSIUM NITRATE

Drug stores, chemical supply houses, or make it yourself from dirt, wood ashes and then reagent the Potassium nitrate out with drug store alcohol! It's easy. M&M ENGINEERING details the manufacture of Potassium and many other easy to make backyard chemicals in THE ULTIMATE DO-IT-YOURSELF BLACK POWDER COOK-BOOK. MM -9547



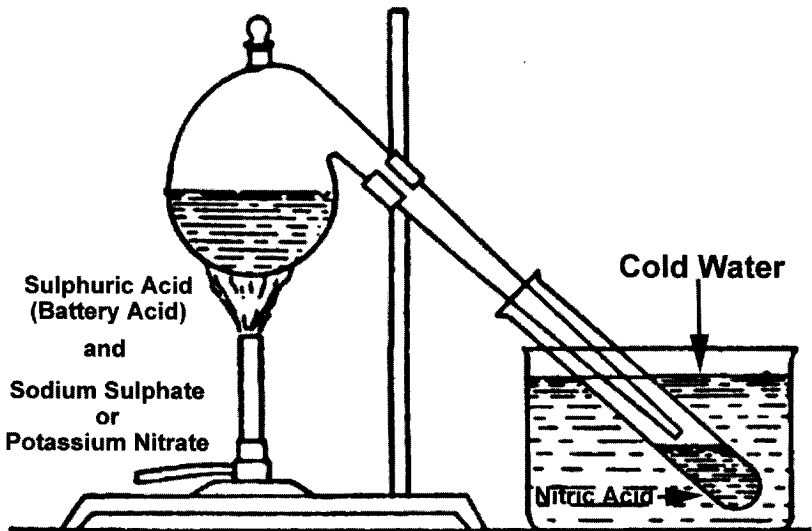
OFFERED FOR INFORMATIONAL PURPOSE ONLY



NITRIC ACID PRODUCTION

The first step in the production of Fulminated Mercury must start with the production of the base chemicals needed. Which only a short time ago were readily available for very little cost. I will make no effort to explain the reasons for this and other registration, restrictions and taxes imposed by our rulers, suffice it to say these chemicals are no longer available. And if you know what is good for you, don't even ask for them.

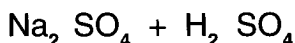
In a chemical lab a Retort is used regularly to reagent many chemicals.



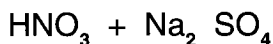
That glass ball with the downward tapered vent tube is a retort, inside the retort is Sulfuric Acid and either Potassium Nitrate or Sodium Sulfate, below the retort is a common Bunsen burner, the test tube is submerged in an ice water bath and will catch and condense into a liquid the pure Nitric Acid vapors. Nitric Acid has been manufactured for over 400 years in one way or another.

If you are a talented glass blower this picture of a retort will get you through. (The retort tube is above the Nitric Acid only for picture clarity, it should be submerged).

The Sulfuric Acid and Potassium Nitrate or Sodium Sulfite as defined below:

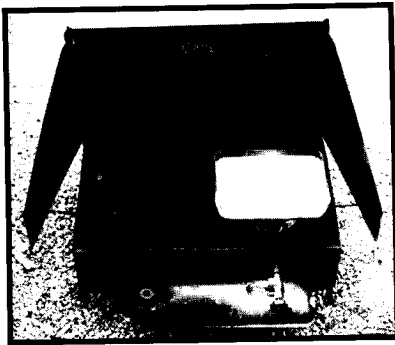


will react with heat to produce:



The Nitric Acid passes off in a vaporous state from the retort containing the Sulfuric Acid and Potassium Nitrate or Sodium Sulfate and will condense into a liquid upon entering the cold atmosphere of the ice bathed test tube. The reaction will produce a quantity of nitric acid generally equal to the amount of Potassium Nitrate or Sodium Sulfite added to the Sulfuric Acid. Other by products of the reaction are un-reacted Sodium Sulfate which can be returned to it's solid state by evaporating the solution left in the retort after the reaction which produced Nitric Acid.

As shown in the proceeding pages it is not necessary to purchase the high priced lab equipment needed to manufacture Nitric Acid. In fact I discovered that Nitric Acid was originally manufactured in primitive ceramic clay vessels and very little truly pure Nitric Acid was ever produced before the early 1780's. Nitric acid's importance in the production of many important chemical products is evident by it's ability to release chemicals of their electrical charges. Do not expose yourself unnecessarily to any vapors or solutions when manufacturing chemicals or chemical compounds. Please dispose of waste in a suitable approved recycling station. As with all chemical waste Do Not Flush Waste Down Your Toilet, it will kill bacteria in your septic tank and can be traced directly to your home later by?



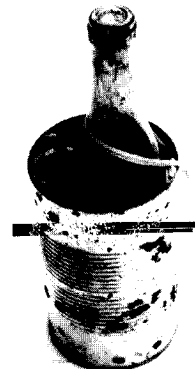
Start by making high grade pure Sulfuric Acid. Fill a large flat glass dish with your quart of battery acid. Simmer, Not Boil, the acid until white fumes appear. This remaining honey or oily liquid will be pure Sulfuric Acid and must be treated with respect!

You'll need to make Pure High grade Nitric Acid from the Sulfuric Acid. Do this by adding 10 tablespoons of Potassium Nitrate into a wine bottle as shown. (Any clear heavy glass bottle will work)

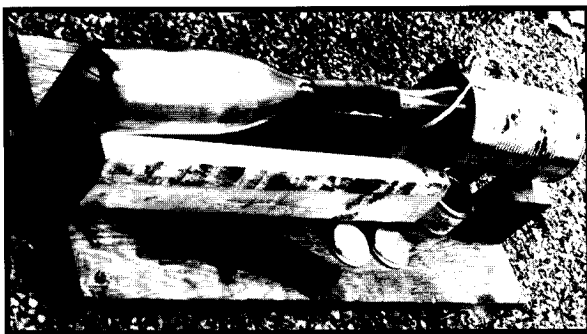


Now measure out 5 tablespoons of Pure Sulfuric Acid into the wine bottle. Don't breath the fumes. For 10 table spoons of Nitric Acid use 10 tablespoons of Potassium Nitrate.

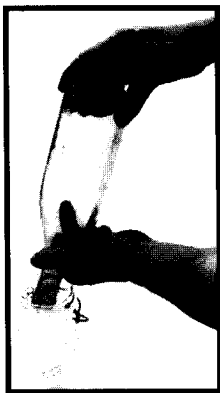
Place the acid mixture bottle into a large tin can. Pushing the bottle to one side and pour in small gravel, dirt, sand, etc.. This will insulate and distribute the heat. Use a wire to secure the bottle into position.



Build a stable holding fixture similar to the one shown. Duct Tape another wine bottle onto the first or cut the center out of a bicycle tire



tube and use the elastic rubber tubing to secure the bottles as shown. A tire tube will allow you to slip the bottles apart at any point in the process. Now heat the acid bottle with stereo or some other heat source. Look into the acid bottle for red fumes to begin, immediately pour cold water over the receiving bottle and the nitric acid will begin to condensate. This will take some time and quite a bit of cold water.



Very carefully separate the bottles. The nitric acid storage container must be air tight and made from glass.



You now have the magic ingredient Nitric Acid! Extremely hard to get commercially, and without it you can't make Mercury Fulminate primers.

MERCURY FULMINATE

Mercury Fulminate must be prepared, on a relatively small scale by the action of *alcohol* on *mercury* in a *nitric acid* solution.

The raw materials required are common metallic mercury, nitric acid, and ethyl alcohol (common drug store grain alcohol of 90% strength or higher). All of these materials must be of high purity in order to produce a satisfactory product.

Manufacturing is quite simple:

(1) About 1/2 teaspoon of pure mercury is measured carefully, added to a carefully measured charge of 30 teaspoons of nitric acid in a suitable bottle or acid pitcher. Allow to stand until completely dissolved, giving a solution of mercury nitrate in the excess of nitric acid. A small number of such charges are usually prepared and allowed to stand overnight or longer, until dissolved.

(2) The acid solution of mercury is then poured into about 40 teaspoons of 90% alcohol which has previously been measured into a large glass flask about 1 pint capacity and supported in a suitable stable rack under an open shed or in the open air. A strong reaction results, usually within 2 or 3 minutes, the mixture in the flask appear to be boiling violently as a result of the evolution of great quantities of vapors and fumes. These vapors, at first white, become brownish red in color toward the end of the reaction as the heat generated drives off nitric acid vapors.

At this point a small amount of diluted alcohol is usually added to prevent excessive heating which would decompose the mercury fulminate produced.

The above reaction usually lasts about 1 hour. When fuming ceases, the liquid remaining in the glass jar or bal-



loon is found to contain the crystalline fulminate. In most commercial manufacturing plants the balloons are placed in troughs of water in order to control the temperature, and the necks of the balloons are connected to a suitable condenser system where the alcohol driven off in the fumes is recovered.

(3) After cooling, the charge in the balloons are then dumped onto a close woven cloth screen (A No. 200, U.S. Standard Screen) (coffee filter) and washed with cold running water until all free acid is removed and the fine impurities in the form of "fulminate mud" are washed away.

The washed fulminate is then drained and packed in cloth bags which are usually stored in crocks of water in vaults, or in underground concrete tanks of water until required for use. For shipment, the bags are packed in barrels of wet sawdust.

When required for use, the fulminate is removed from the bags, the water drained off, and the wet fulminate spread on cloth to dry in dry houses carefully regulated at a temperature of about 43° C. (110° F.). 1 gram of mercury produces approximately 1 1/4 grams of dry mercury fulminate.

If formulated with high quality chemicals and in a proper manner you will be left with white to brownish yellow crystals or if less pure homemade chemicals are used a grayish tinted crystalline powder.

This form has practically no tendency to absorb moisture from the atmosphere.



It is only slightly soluble in water, 100 parts of water at 15.5 C. (60 degrees Fahrenheit) dissolving less than 0.01 part of fulminate, and may be kept in contact with water for long periods of time without undergoing chemical change.

MERCURY FULMINATE when used for small arms cartridge primers can be mixed with another flame enhancer like Potassium Chlorate 10 to 20%. Antimony Sulfide may be added instead of, or in addition to, Potassium Chlorate when using in small arms primers to boost performance. When used in the above proportions, and with the intention to be used in small arms primers, this formula will give about 4000 meters per second expansion!

The biggest drawback to Mercury Fulminate is that it must be kept in a water bath, total saturation of all MERCURY FULMINATE is mandatory or spontaneous detonation can result.

Dry Mercury Fulminate is extremely sensitive to heat, compression and friction and **CAN NEVER BE STORED IN LARGE QUANTITIES!**

Primer cups are "packed" lightly with the wet Mercury Fulminate crystals. Filling the primer cup 1/4 full and assemble quickly, never allow to dry during assembly! Extreme caution should be used during assembly and use! Do Not Breathe Any Fumes during the entire process! The fumes are highly corrosive and TOXIC. This is NOT something that can be done indoors.

Let's see this operation step by step.



PLEASE CHECK AND COMPLY WITH ALL LAWS





Begin by measuring 10 teaspoons of pure water into a heavy glass jar. City water contains chlorine & ? Use **ONLY PURE, DISTILLED** water.

IMPORTANT

Never add water to acids, a violent reaction will result!
SLOWLY add acid to water.



Add into the water 20 teaspoons of Nitric Acid.



Add 1/2 teaspoon of mercury into the diluted Nitric Acid solution.

A reaction will begin immediately. Allow to continue until the mercury is dissolved and no fumes remain (8 to 12 hours). Best solution temperature is below 100 degrees Fahrenheit, cooler temperature extend reaction time. Do Not Breath Fumes. Allow the reaction to completely dissolve the mercury.

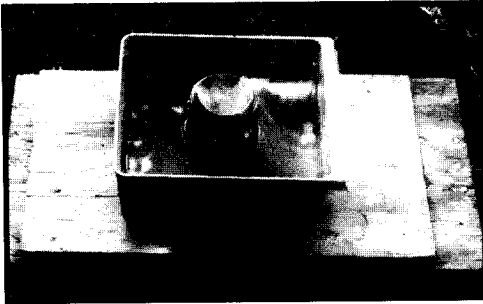


Warm 40 teaspoons of 90% alcohol to about 75 to 90 degrees, the alcohol should be warm to the touch.



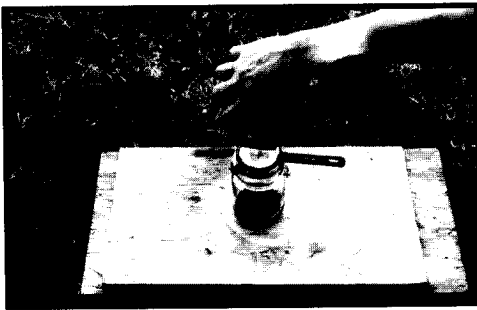
Add the warm alcohol to the Nitric Acid Mercury solution. A reaction will produce white fumes within 1 minute. If fumes are not present add a few drops of water until the reaction begins. Do not breath the fumes.





Place the jar into a cold water bath keeping the temperature cool. The addition of a few drops of alcohol will aid cooling. Fulminate crystals will begin to form and drop

to the bottom of the solution. Allow the reaction to continue for at least 15 to 30 minutes or more. Allow fumes to stop completely.

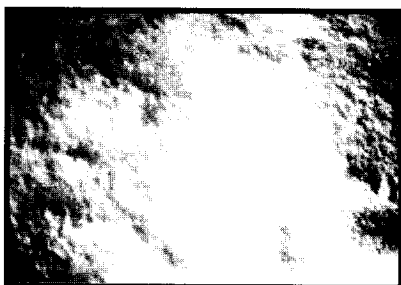


Pour solution through a paper filter. A wire mesh tea strainer is shown with a unwaxed cupcake paper inside. Or use a coffee filter.

Allow to drain and settle until no remaining solution is visible in the cupcake paper. Then wash with 1/4 cup of alcohol, immediately wet using clean, 50 degree cool water, do not allow to dry, This is a primary explosive material.



8X magnification reveals a light gray tinted crystalline powder, should remain in the cup cake paper.



The Mercury Fulminate
must not be allowed
to dry!

Immediately twist the cup cake paper, to form a small bag, now place in a cotton or linen bag. (Cut up an old cotton bed sheet 4" X 4" tie using cotton kite string).



Finally place the fulminate into a heavy glass jar 90% full with pure water. Seal the jar and place in a cool place. Mercury Fulminate will last almost indefinitely when kept wet and cool. The presence of even small amounts of moisture in mercury fulminate greatly reduces its efficiency, and as little as 1 percent moisture is said to cause failure to detonate.



You have just learned a procedure that in older times was considered wizardry or alchemy performed only under the auspices of the ruling elite. These early chemists were using primitive lab equipment by today standards, and crudely refined chemicals very similar to the ones detailed here. Lets finish this off the way they did 100 years ago and follow the improvements they discovered over time.

The Mercury Fulminate used in percussion caps should burn away like gunpowder (Black Powder) but should react with a violent explosion when impacted by percussion. Carefully test burn and hammer a **small** sample so you can determine if the proper proportions of additives were used.

Mercury Fulminate has a far to violent reaction to use alone as a primary material. Many additives were common, Black Powder, Potassium Nitrate, Potassium Chlorate, Glass, starch, and a reduced Shellac painting to waterproof.

The mixing procedures are simple, They started with a 2 foot x 2 foot slab of marble and hardwood hand blocks to grind the wet Fulminate Crystals into a super fine paste. Use 100 parts by volume of fulminate and 30 parts clean water. Add to the Fulminate paste 50 parts Potassium Nitrate and mix thoroughly by re-grinding the wet primer paste. If immediate usage is not intended the paste should be dried on sheets of paper, finely sifted and stored in small quantities in a moderate environment. Using this formula one gram of Mercury Fulminate will be sufficient for 100 primers.

Later the addition of glass proved to greatly enhance the Fulminates sensitivity to percussion and allowed other flame boosters or stabilizing chemicals to be added. This provided significant increases in sensitivity and performance.

Start with 30 parts water and 100 parts by volume of Mercury Fulminate crystals ground finely as stated above on a flat surface using wooden blocks. (A mortar and pestle is a better alternative to the marble slab for smaller quantities). Add to the Fulminate paste 60 parts Potassium Nitrate and 29 parts Sulphur, 10 parts powdered glass and 1 part common cooking starch or dextrin and mix by re-grinding. Additional water may be needed to make a working paste, (peanut butter consistency). Dry until moist on sheets of paper, sift finely. *Caution* this improved priming mixture is very sensitive and will detonate easily!

Upon inserting the moist primer material into the percussion cap a sealing compound like painters varnish reduced to one part varnish 5 parts alcohol, using a Q tip squab, wet with the reduced varnish, lightly cover the primer compound in the primer cup, or insert a wax paper disk and immediately install the anvil, allow to dry at 100 degrees 1 hour (room temperature overnight, longer if necessary). Using this formula, one gram of Mercury Fulminate will be sufficient for 150 primers

BINDER GLUES

Binder glues will assist the ability of the primer mixture to retain its shape and remain inside the primer cup. The easiest form of binder would be to use about 2% Elmers glue, cooking starch or dextrin. All though this will retard combustion of the primer material, it is very cheap and easy to obtain and does work well. However, it is more efficient to add a material that will enhance the burning properties of the primer mixture. Again, as in the recovery of primer material from commercially produced primers, Acetone $\text{CH}_3 \cdot \text{CO} \cdot \text{CH}_3$ will perform the job of a plasticizer. By dissolving the fabric Rayon or certain Nylons in Acetone, a superior binding glue which will actually enhance the performance of the primer mixture will be formed. Another common binder is Ethyl Acetate $\text{CH}_3 \cdot \text{COO} \cdot \text{C}_5 \text{H}_5$, which is commonly used in the manufacture of ball powders. As with Acetone the addition of a small piece of Rayon or Nylon will produce a binder that will enhance performance far above that of Elmers glue, starch or dextrin. Other common chemicals used in today's primer mixture and also used in many high explosives (be careful who you ask about these chemicals) are energetic polymers, nitramines, nitrotoluenes. All though I can't print the ingredients listing for binders used in military primers here due to patents infringements I can list the Military specifications designations so you can go to your nearest patent office and find them quickly yourself, they are, MIL-P-14999, MIL-C-21723, MIL-R-48270, MIL-R-48872, JAN-C-263.

4% Butylacetate will out perform most binder glues. (Look at woman's hair sprays for Butylacetate). Also Acrylic (plex-a-glass) dissolved in Toluene-(automotive brake cleaner in a spray can) in a proportion of 2% to the total primer mixture will provide an exceptional binder.

Moisture proofing your primers can be as simple as lining the **dried** primers up, priming mixture up, and spraying them with woman's hair spray!

There are many adhesives on the market that can be used to coat the inside of the primer cup to cement the primer mixture in place on very large primers. These glues are designed to be used with caseless ammunition. They are spread onto the back of the powder pellet plug and then the primer mixture disk is placed into positions. The cementing glues are designed to burn completely with out leaving a residue and burn without leaving any hot ash. Raycohesive series B by Raycon Instrument Company of Boulder Colorado is the best on the market and is widely used by Caseless ammunition manufactures. The reason I have included cementing glues not used in the primer mixture but used instead outside the formed primer pellets by the caseless ammunition producers is because you may decide to form your primer mixture into "pellets" and glue them into position, and for our homemade caseless ammo producers.

ELECTRIC PRIMERS



Retainer



**Firing Pin
Anvil**



Piazo Quartz



Electrode



**Case
Insulator**

Electric primers are not so new a technology, as far back as 1835 batteries were used on firearms. The first patent for an electrically fired gun was applied for in 1866 which was based on a principle of passing electricity through a 'Bridge Wire' imbedded in the propellant to heat the propellant charge to the point of combustion. There are detailed patents from as recently as 1975 (I would suspect the governments of many countries are actively researching the electrically fired gun, but there must be a certain degree of secrecy to stop theft) which detail the use of graphite bridge wires to ignite the propellant and in fact electrical fired guns are in service right now. The U.S.A's 30mm GAU8 aircraft cannon is a perfect example, light weight, reliable, very high rate of fire, which uses the M52A class of electric primer, acting on a Styphnate primer mixture. The use of a heat decomposing Graphite bridge wire has been found to eliminate the deposit of metallic bridge wire debris remaining in the chamber. With 'Felted Nitrocellulose' as the propellant, due to its easy of combustion, it is now considered as the standard electrically fired propellant powder today. But it is interesting to note that common black powder is also used to ensure a reliable and instantaneous combustion. You can come really close to Felted Nitrocellulose by dissolving Hercules Red Dot in a small solution of Acetone and casting the paste into the needed shape. By gluing a suitable primer mixture and bridge wire onto your propellant charge you can manufacture your own caseless, electrically fired ammunition!

Piazo Matches, we've all used them in cigarette lighters, stoves, camping lanterns, gas barbecue grills and lots more. Piazo Crystals work on a principle so basic it's easy for anyone to understand and utilize.

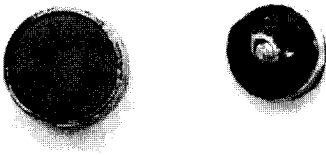
Materials & Construction;

The retainer is an old Primer Cup drilled out leaving a .015 shoulder for the Firing Pin Anvil. The Firing Pin Anvil is designed to have a loose slip fit in the Primer Cup, outside diameter is .175 thickness is .030 manufactured from O-1 tool steel, flame hardened in oil. The Crystal is manufactured by industry in any shape by mold casting. Cost is extremely low per piece once production is under way. I, unfortunately, had no mold and had to custom grind a Piazo Crystal that I scrounged out of a barbecue grill down on a precession cylinder grinder, to a diameter of .175, cut to a length of .062 thick. The Electrode like the firing pin anvil, is also .175 in diameter and .030 thick but also has a .032 long by .032 in diameter electrode. The insulator proved to be the culprit for all failed attempts. I tried plastics, paper, fonlic, ceramic, but nothing would properly insulate the Electrode from the case.

I had originally thought it possible to construct a electric primer utilizing a capacitor discharge as the electrical source. You would need some type of battery as an electrical supply to charge the capacitors and that meant lots of extra weight and an entirely new firearm design.

By utilizing the exiting Piazo Quarts technology I was able at very little cost and time to produce an experiential piece that I don't believe anyone has tried to date! Or at least I wasn't able to find any research material on the subject. I couldn't be more confident that if this concept were to be funded by larger better equipped company, it would become the newest and most common means of cartridge primers.

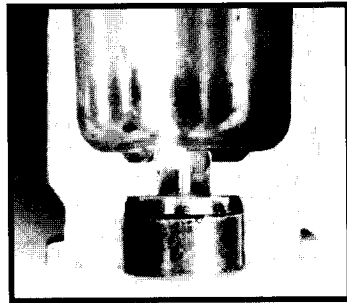
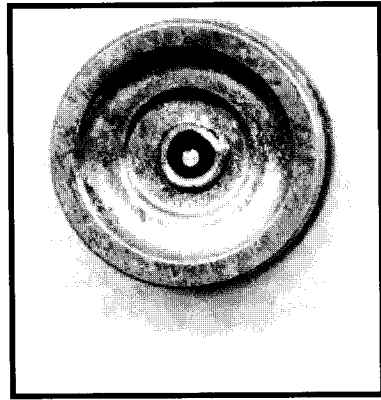




The above picture, top left, details the primer cup retainer and the Piazo quartz.

The second picture, top center, is the Electrode and it's paper insulator.

On the right top a cut away view of the inside of the case with electric primer installed.



Center right picture details the electric primer assembly installed in a .308 Winchester

Bottom presents a view of the rear of a loaded .308 Winchester case.



I wrote the book titled "The Ultimate Potato Bazooka" detailing the manufacture of PVC Plastic Plumbing Pipe Bazookas (for about \$20.00 bucks) which shoots a Potato apple or whatever about 200 yards! The Potato Bazooka works on hair spray and a barbecue grill Piazo electric match. I used all this new information I had learned in the Bazooka Manual and began to design the Electric Primer , I never dreamed it would be such a discouraging then exciting discovery.

Making the metallic parts was a snap, it was the Piazo Crystal that proved a never ending project. The crystal must be ground absolutely and precisely square to it's sides and the sides must be perfectly cylindrical or it doesn't work. This took several tries on the cylindrical grinder using 1200 grit super fine stones because the crystal would shatter if to much material was "HOGGED OFF". With that operation finally achieved, I assembled my Proto type into a case with powder and bullet and test fired it. NOTHING! I disassembled the piazo Primer and couldn't figure out what was going wrong. This went on for days. Totally discouraged I decided to put powdered iron filings in the powder. When tested it fired! I reloaded quickly using the exact same amounts and I got nothing, I tried again nothing, reloading again and still nothing. I think you can see what I mean when I said I was really discouraged at this point. I then tried a flammable gas, acetylene and pure oxygen to be exact, and this is how I did it. I inserted a Piazo Electric primer into a fresh case, measured the powder into the case and then adjusted mixture ratio for the flame on my cutting torch to burn perfectly, I dunked the torch head into a bucket of water putting out the flame but leaving the perfectly mixed gas spaying out of the cutting tip. I then put the tip into the case filling it with gas, quickly I put the bullet on, sealing the case with gas. I put it in the rifle and it went off first try!



GALLERY SHOOTING WITH PRIMERS

Reloading was much more popular in days past, in fact it was the norm. People wouldn't even think of leaving their brass in the field or on the range, they paid much more for ammunition than we do now. In days past the blacksmith or general store owner reloaded as a side line, for extra money. Locals would buy ammo from them. New ammunition from big name companies was affordable only to the rich. Metal was not as common as it is today, I've read in older books, the details of the recovery of lead bullets from game and range back stops, to use again or sell.

Shooting was much more common then for family men with their sons, wives and daughters, every county fair and circus had a trick shooter and a 5 cent public shooting gallery. Remember that black powder and the accompanying smoke and thunderous noise that was part of the special excitement. Cost killed the shooting galleries, they soon learned to shoot with only primers driving the bullet, later lead bullets were replaced by thick oil soaked leather plugs.

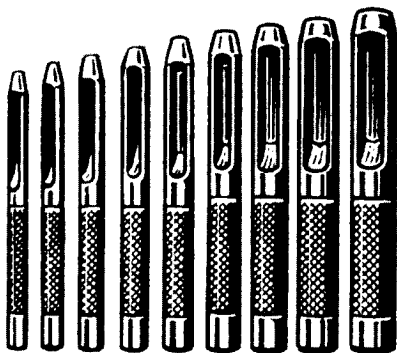
The leather plugs were brought to the cities Shooting galleries, famous for their marathon competitions. The invention of smokeless powder allowed smaller and smaller bores, soon the "primer poppers" were replaced by .22 caps, .22 shorts and .22 CB's.

Today specially manufactured plastic plugs are available for the basement shooter which can be used up to 500 times. These rubber plugs are the same ones used by military and law enforcement training teams. Dillion Precision Products, Inc. 8009 E. Dillion's Way. Scottsdale, Az 85260. Dillion stocks - 9MM, 38, .44, .45 .cal rubber bullets.

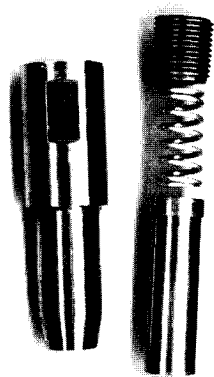


But a much cheaper and better closed cell foam plug that is really easy to make. Purchase a closed cell foam sleeping mat used for camping, they are usually 30 inches wide and 72 inches long, but get the thickest one they sell, I found one that is 5/8" thick and it works super.

Mail order discount automotive parts companies like J.C. Whitney & Co. 1917 Archer Ave. P.O. Box 8410 Chicago, IL 60680. Sell hollow punches like the ones pictured for under \$10 .00! The sets come in a variety of sizes and are intended to cut holes in gasket material. Ask for a catalog, it's totally packed with great stuff. Survivalist Note: Every tool imaginable is sold in this catalog at affordable prices.



Being capable of producing a better hole punch myself I reinvented a "Hollow Punch". It took a full day to make up this New & Improved Hole Punch in 9MM and .45 ACP. This was chunked up in an NC (computer controlled robot) milling machine. The spring allowed the foam plug to rise in the cutters body and upon exiting the material the plug would be forced out of the cutter to remain perfectly in the punched hole.



TESTING PRIMERS

The industry standards for testing primers are performed on a ballistic drop test fixture using a firing pin point with a radius of .05 results should be as follows;

PRIMER TYPE	DROP WEIGHT (OUNCES)	DROP HEIGHT (INCHES)	
		NO FIRE	FIRE
SMALL PISTOL	2	2	9
LARGE PISTOL	2	2	9
SMALL RIFLE	4	3	15
LARGE RIFLE	4	3	15
SHOTGUN	4	3	10



**PLEASE CONTACT YOUR
SENATOR OR CONGRES-
SIONAL REPRESENTATIVE
AND REQUEST THAT THE
FIRST AMENDMENT RIGHT
TO FREE SPEECH AND A
FREE PRESS BE PRE-
SERVED.**

**PLEASE DO NOT CALL FOR ANY FURTHER INFORMATION.
WE WILL REFUSE TO DISCUSS ANYTHING DETAILED IN
ANY OF OUR MANUALS!**

**THE PICTURES AND GRAPHICS WERE CREATED USING
INERT EVERYDAY ITEMS AND DIGITALLY MANIPULATED ON A
GRAPHIC COMPUTER. THE TEXT AND PROCEDURES WERE
GAINED BY RESEARCH OF GOVERNMENT AS WELL AS PRIVATE
PATENTS AND INDUSTRY RECORDS.**

**NO LAWS WERE VIOLATED IN THE CREATION OF THIS
MANUAL.**

**PLEASE CHECK AND COMPLY
WITH ANY AND ALL LAWS.**



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Thank you for supporting my small publishing company.

I have always strived to research information on subjects needed to survive any disaster.

Will there be a disaster where this type of material will be needed? Lets face the facts, the chances are very good there will be! The population of the earth is growing beyond it's capabilities to support us. We are consuming so much more than our forefathers were and that is showing up in our environment. With money driving every aspect of our lives, I don't expect consumption to stop as long as it remains profitable. Bottom line is we are not going to do anything to stop this decline if it means loosing our creature comforts like cars, air conditioning and TV's so we are doomed to die off as a species. The truly unfortunate part is we are taking all forms of life with us and will probably leave a lifeless polluted world as testimony to our selfishness, stupidity and greed. Will the one worlders global socialist plan bring us salvation? There plans will actually fix everything to tell you the truth, but only they, the ruling elite, will receive the dwindling resources and all creature comforts they provide with the masses left to struggle without. I predict as the resources become more difficult to find and produce, the socialist global government will allocate the remaining resources for their own purpose, saying all the while it's for your country. Or it's for the good of the global village. To the benefit of masses and for the greater good and freedom I dedicate this manual.

MICHAEL A. PUGLIESE

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TO THE PUBLIC.
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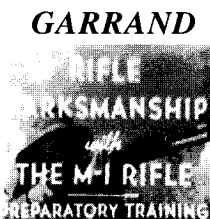
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