

Black Powder Notes (Scroll down to middle for parts and repair notes)

No one actually uses black powder any more. Too volatile

Three types of product used with muzzle loaders are:

Pyrodex

Go Ex

Clean Shot

These don't have nitro content of black powder. Different derivatives.

Barrel Action consists of the barrel action, receiver, everything but stock.

Barrel

Action

Bolt

Firing Pin Inbolt (called striker in muzzleloader)

Bolt

Trigger Assembly (holds safety)

Trigger Guard

Ram Rod

Barrels are controlled. These are not sold to customers.

The types of projectile used for muzzleloaders are:

Lead Round Balls (target small game) used very little for small game

Pieces of lead shaped like bullets.

Sabot projectile in plastic sleeve. The jacket protects the bullet from the Rifling. 20 or 30ft after fire the jacket falls off and bullet keeps going.

There are two types of muzzleloaders

Inline (most of ours are inline)

Sidelock (has big hammer & moves back)

To Load a Muzzleloader

Put powder in (measure the grains by **volume not weight**). Must use between 90 grains to 150 grains. Most of the time between 90 to 120.

Pour this into muzzle end of gun

Put projectile in barrel

Put jag on ram rod to press projectile down in gun.

Next need something to ignite powder.

With inline the breech end is open and you have a breech plug that screws into breech.

Powder sits right up against hole in breech plug.

Nipple screws into breech plug. On top of nipple you place percussion cap. (this is piece that makes spark to ignite powder-it has explosive paste inside).

This sets on end of nipple and striker hits this. Fire goes down through nipple and ignites powder.

Standard muzzleloader has 24 in barrel. 700 mag has 26 inch barrel.

Pyrodex has 50 & 30 grain pellets to make it easier to load. Magnum is made for 120 to 150 grain powder but 90 will do fine. For accuracy we recommend from 90 to 120 grains.

The **Bedding Block** is in the action.

The **objective** is the front part of the scope.

For scope the screws are called **receiver plug screws**.

We have 700 synthetic & 700 camo stock.

50 & 45 the 45 is new for this year. (50 caliber means that the bore size-inside barrel is .50.

Our **Model 700 Rifle** is the most popular in the world. **Everyone wants our receiver.**

What makes 700 or centerfire so good is the **3 rings of steel**

Receiver

Barrel

Breach plug

Most of the pressure in any gun is in the Breech Plug. 700's have the strongest receiver in the market. (ours is the strongest in the market).

Smokeless powder is **measured** in grains of **weight NOT volume**.

A couple of years ago someone made smokeless powder for muzzleloaders. **THIS IS NOT GOOD-DON'T USE THIS!!!!!!** Some people used this in our guns and others in the market. The guns blew up-no one died w/ ours. The receiver held up.

Bullets and powder volume make accuracy. Experimentation using parameters is advised.

We make several different types of projectiles

Lead conical-chunks of lead

Balls

Sabots

Our guns were specifically designed for sabots. They have different weights but ours in general work best w/ around a 300 grain bullet (projectile) and 90 to 120 grains of powder. The customer will need to experiment to find out how much is best using these parameters.

Some states ban sabots (lead with copper around it). Every state has different regulations. If they can't use sabots they can use conicals, gamemaster, or bullets.

SAMMI-Shooting Arms Ammunition Manufacturers Institute. This is our governing regulator-not the federal government. Federal government has no say in anything. We issue recalls-not the government. SAMMI makes regulations for this-not the federal government.

Shooting a muzzleloader is not like other guns. It is very dirty. When sighting and trying to find the right combination of powder, etc. you have to clean the gun (bore).

The way to clean the bore is to use **Wonder Lube** patches. Take ram rod & cleaning jag (the little brass thing in the box with 3 ridges on it). This gets the patch down and back. Do this once between every shot.

Wonder Lube is a cleaning product for Muzzleloaders. A cleaning product for Muzzleloaders can't be petroleum based. Wonder Lube is **vegetable based**. Petroleum based burns and leaves residue, gumming up gun.

It's very important to clean after every shot!

You get blowback that goes into bolt assembly. **EXTREMELY IMPORTANT** that after shooting and end of season-clean bolt assembly put bolt disassembly tool on end of bolt, turn 1/4 turn and rock back & get firing pin assembly and bolt body-very important to clean each time w/ all powder natural cleaner, all natural bore cleaner, or Vortex Bore Cleaner.

You can soak parts in bore cleaner & scrub w/ nylon brush. Do this outside. When putting gun up for storage can use Rem Oil but before using **VERY IMPORTANT** to clean before using.

Clean inside of bolt, outside of bolt - everything-completely dry off-Dirt and debris will stick to it and gum it up. Coat very well w/ wonder lube-all metal except trigger assembly for storage and leave it on.

The tool for breech plug assembly (breech plug nipple wrench goes up into bolt assembly. Turn to get nipple and breech plug out.

To install breech plug **VERY IMPORTANT** to take wonder lube and put it on the nipple and breech plug threads before installing or they will **NEVER** get it out. **VERY IMPORTANT!**

Some people make breech plug grease that people can get.

To clean bore (every time that you shoot) take stock off-get bucket of hot water, put in all natural bore cleaner (ours is a 10 to one solution). Don't do cleaning in the bathtub. Stick whole receiver (breech) end of gun down into water. Take clean cotton cloth with ram rod and cleaning jag and put down barrel. Keep pulling and pushing back and forth

with the ram rod until gun is clean. Take out of the water and dry well (VERY IMPORTANT) See two pieces of metal (seer and trigger control) in hole. EXTREMELY IMPORTANT to get all black powder out. This is mechanism. All triggers for muzzleloaders are stainless but they will rust. Spray only here in gun very lightly with Rem Oil & wipe off.

The bolt itself is held in w/ cam screw that goes down cut out in the bolt. Get all powder off here also.

To clean with Vortex (a hydrogen peroxide cleaner) comes with a little toothpick thing. Pour Vortex down barrel until 1 inch from the top. Let sit from 5 to 10 minutes. Pour Vortex back into bottle. Bore will be completely spotless. You still have to clean the breech plug. Dry everything-clean trigger assembly. Lube everything with wonder lube-coat bore with Wonder Lube. Trigger mechanism can actually be cleaned with Rim Action Cleaner (it's alcohol spray)

VERY VERY IMPORTANT- NEVER NEVER run a dry patch down barrel of muzzleloader except to dry gun. Always use cotton patch. Lick patch if necessary.

DENNIS SANITA (3352 EXT.452) GETS ALL PERSONAL INJURY, PROPERTY DAMAGE CALLS.

IF YOU CAN'T GET HIM THEN CALL FRED SUPRY (3606 EXT. 444)

COMMON QUESTIONS:

I had to bolt my gun twice-it didn't go off. why?

Usually you have to replace the nipple (this part should be changed once a year)

There are two types of ignition systems for muzzleloaders:

Musket Cap (uses musket hats ((top hat caps)) instead of percussion caps.

Musket caps are more reliable in rain than percussion caps. Percussion caps won't work w/ moisture.

New this year is the 209 conversion kit-uses 209 shop gun primer-same primer as in the back of shotgun shells (waterproof). The kit has different nipple and firing pin assembly w/ nodule that sticks up. The kit is approximately \$40.00. Primers are sold anywhere. This kit makes for completely reliable ignition every time.

There are two kinds of muzzle loaders:

In line (this is what ours is)

Side lock (has big hammer on side doesn't have bolt -it's totally enclosed in top except for 1 hole for the nipple).

The 1st gun was a muzzle loader-this was approximately the 13th century by an Austrian Monk trying to protect his home.

We haven't made a side lock in more than 100 years EXCEPT for 1995. This was a kind of anniversary edition. It had approximately a 35 inch barrel. It was the Eliphalet Anniversary Special. It was a flint lock custom shop gun.

Flint lock-the hammer hits a piece of flint for ignition.

We started producing the line that we have now in 1996. It is based on the Model 700-same receiver-short action.

For scope mounts they would use the same ones as the regular short action 700 would use.

Muzzle loaders use black powder or a black powder substitute. We use a substitute. Black powder is a nitro based solid. It is very volatile and unstable. It is also very dirty and corrosive. Not many people use actual black powder.

We make no powder. There are only three manufacturers in the country: DuPont, the US government, and one more company. The laws governing this manufacturing are very tight.

We have tested black powder and pyrodex. Pyrodex is the biggest seller. Some other brands are go-ex and clean shot.

We have always used pyrodex in testing for accuracy.

MEASURE POWDER OUT BY VOLUME NOT WEIGHT

MUST USE POWDER SUBSTITUTE LABELED RS (rifle or shotgun) OR FFG EQUIVILANT (burn rate).

THERE IS ALSO SPECIFICALLY MADE FOR PISTOLS-DON'T USE THIS IN RIFLES!

Pyrodex Select is great. Better control (consistency) in size of granules. Consistency leads to accuracy.

Projectiles we make and use are:

1.Round ball (originally used)

Coated with brass (ours are golden balls-the golden color is brass powder)

2.Lead Conical (used in Civil War)-chunky lead shaped like a bullet. These come pre-lubricated with windex lube.

3.Sabots (the green plastic is the sabot)-this protects the metal part-it prevents rifle lines on the brass. For accuracy we use core lokt bullets in ours. (In class we saw a .50 caliber sabot with a .45 bullet in it).

We make a solid copper sabot for one of ours because it keeps it's weight better. They keep 100% of their weight where lead bullets keep about 75% of theirs.

The only problem with solid copper is that some states don't allow them. Some don't even allow copper jackets-it must be lead.

HAVE CONSUMER CHECK THEIR STATE AND LOCAL REGULATIONS.

TO LOAD:

Check the bore (make sure that nothing is already loaded there)-to do this take the ram rod put down barrel until it stops. Make a mark on the ramrod. You can use this to measure. When you first do it to make the mark to measure from you MUST have gun empty.

The best way to unload is to shoot the firearm-otherwise you have to take the bolt off take the nipple off and do many more steps to unload.

This gun is made to hold up to 150 grains. We recommend between 90 and 120 grains for best accuracy. These specs are to be used with sabots for the best accuracy.

Pour powder in gun-tap sides of barrel to get any powder stuck there off. To measure powder you DO need some kind of measuring tool.

Put projectile in (if using round balls you must use shooting patch (a patch with wonder lube-this creates a seal). With a sabot or a conical just push down into the gun. To do this use a jag head on the ram rod. Just push smoothly down into the gun don't slam the ram rod down (this ruins the point on the bullet). Remember to take ram rod out.

WHILE DOING THESE STEPS IT IS CRUCIAL THAT YOU HAVE THE BOLT OPEN AND NEVER, NEVER, NEVER HAVE THE PERCUSSION CAP ON! (The percussion cap is a little piece of copper with primer gel in the bottom-a lot of people, before shooting the gun will shoot a couple primers just to clean the flash hole and this is OK.)

NOW put the primer (percussion cap) in the end of the nipple. (The bolt has a striker instead of the firing pin.)

Pyrodex came out 4 years ago with Pyro Pellets. They came in 30 gr. and 50 gr. Pellets. The best accuracy comes with powder not pellets.

Normally anything more than 120 grains leaves powder that won't burn leaving the gun dirty.

Usually a 300 gr. wt. sabot bullet works best in our guns and 90 to 120 grain wt. powder. The more powder used the bigger bullet you should use.

Every gun is different. EXPERIMENT.

Start with 90 gr. powder and 303 gr. wt. either copper jacketed or core loks sabot. If this works stick with it if not change up.

Wonder Lube is an all natural vegetable oil based lubricant.

ALL PRODUCTS USED IN AND AROUND MUZZLE LOADERS HAVE TO BE NATURAL PRODUCTS. PETROLEUM BASED WILL RUIN THE GUN AND NEUTRALIZE THE POWDER.

Troubleshooting Tips:

The #1 reason that the gun won't fire is a dirty bolt. You get a lot of blow back so it's very important to clean bolt and firing pin assembly. Use a penny or a bolt assembly tool to do this.

If the gun fires twice to shoot once the nipple could be oversized and 1st strike seats the percussion cap. Second strike makes gun go off.

Won't fire at all, or just sometimes, may be bad percussion caps or nipples.

If the ram rod keeps falling out take the stock off and bend screw. (This is the ram rod spring screw.)

With the 209 primer these guns are just as reliable as centerfire rifles. This makes gun use shotgun primers.

The trigger assembly is a model 700 trigger assembly. It's all stainless steel except trigger pivot pin (holds the trigger in)

The action, receiver, barrel, and trigger assembly are all factory restricted.

The bolt is sold as the bolt body and firing pin assembly. You have to buy both to get both.

The cam follower screw holds the bolt in. Remove screw to remove bolt.

The ram rod is held in place by a ram rod spring.

The warning on the barrel says pyrodex or black powder only. No smokeless powder.

It is EXTREMELY important to put all natural lubricant (wonder lube) on the threads of the breech plug or it can electro statically fuse to the gun and it may never come out.

Never use grease or gun oil on muzzle loaders. They aren't natural. Don't get paste on any other parts just in the threads.

Only place to use Rem Oil on this gun is 1 drop in the trigger assembly hole.

When storing bolt assembly, spray down w/rem oil. Make sure that you clean it back off before shooting.

To get the bore ready for storage put a patch with a lot of wonder lube on it and run it down in the barrel.

We supply the breech plug nipple wrench with the gun.

Use 7/16 in. deep socket wrench to take musket cap nipple off and put new one back on. The nipple is sold in the accessories division.

Musket cap (or English style cap) looks like a top hat. It's a little more reliable than a percussion cap.

The guns come in a 24 inch barrel and was 50 caliber and.....

The only other version that we make of this gun is 26 inch barrel magnum 45 and 50 caliber. The longer barrel (2 inches longer) allows more powder to burn leaving less excess in the barrel.

Measure the barrel from the ejection port to end for barrel length. Muzzle loaders won't say magnum on the barrel.

Our magnum muzzle loaders come with a percussion cap nipple conversion and a musket cap nipple. The standard gun only comes with a percussion nipple.

All we offer is a 45 caliber and a 50 caliber. The 45 caliber is new for this year. We used to make a 54 caliber but we don't any more. We couldn't get good accuracy out of the 54 caliber.

Our guns come with a choice of stainless and blued. The stainless has a camo stock. We make these stocks not HS Precision.

We used to have a Model 700 muzzle loader custom gun. It had a thumb hole in the stock.

Cleaning

To clean the breech plug and nipple use all natural bore cleaner (let soak) use hot water to mix (this evaporates and cleans better).

Take a 3 gallon bucket and put bore cleaner in. Take the action off the gun and soak it. Take jag and a cotton patch. Put jag on the ram rod (don't push into threads) and pull back up. When you pull up thru the barrel this pulls water back up to clean barrel out. Dry barrel with a clean cotton patch and the ram rod then go from the breech plug side with patch and a finger-clean threads and wipe.

Take Rem Action Cleaner and spray down good to clean trigger assembly. Put one drop of oil in the sear hole and one drop in the trigger hole. You can also put one drop on the safety pivot pin. Get wonder lube grease and run a patch with it on it and go back down the bore. Get a stiff brush and clean nipple and breech. Grease threads on the nipple and breech brush and put back. It is important to change the nipple every year.

Make sure that the top of the trigger assembly sear are cleaned good. Take bolt in first phase and let soak also. You can scrub these with a caliber specific brush and clean bolt body. Clean firing pin assembly with bore cleaner and a toothbrush. For storage coat the gun with wonder lube or Rem Oil. Make sure to clean either of those cleaners before using.

Vortex is the simplest way of cleaning. Plug up the end of the barrel, pour vortex in and let soak. Vortex also works for the nipple and the breech plug and the bolt-just soak them.

When shooting the firearm, everytime you take a shot clean the bore with pre lubricated patches (bigger than cleaning patches).

Never put a dry patch against the bore. Can make a charge and ignite left over powder.
NEVER USE NYLON!
ALWAYS USE LUBRICATED COTTON PATCHES.

The Ram rod is made out of aluminum and it is threaded. This can get stripped out or broken. You can send a new one for free. There is an extension and the extension handle are made for cleaning.

Pieces that come with the gun are:
Jag (caliber specific/has it written on it)
Breech plug nipple wrench

Hex key or allen wrench (fits 2 trigger guard screws and cam follower screw-cam follower screw is used to take bolt off)

Ram rod extension

(there is also a 5/32 hex head screw on top of trigger that is not included)

The ram rod extension handle and cleaning tube (goes through the back of the receiver with the bolt out and screws down into the breech plug threads).

Can buy bronze bristle brush.

The ram rod bracket is the bracket around the barrel that holds the ram rod.
If the ram rod keeps falling out, take the stock off and bend screw (this is the