

BACK TO BASICS: MUZZLELOADERS

Hunting big game animals with firearms similar to what Lewis and Clark carried more than two centuries ago.

By Jack Ballard



NEW BUT OLD A modern inline muzzleloader. Though equipped with an adjustable stock, scope, and internal ignition system, the rifle is still loaded by pouring gunpowder into the muzzle, just like firearms used 250 years ago.

Most people who recreate outdoors seek to use the most technologically advanced gear available—graphite or boron rods for fly anglers, rocker camber skis for downhillers, electronic drivetrains for mountain bikers. Rare is the skier who uses wood skis attached to leather boots or a tennis player who swings a wood racket strung with dried animal gut.

But a small-but-growing cadre of hunters delight in using old-technology muzzleloader rifles that were already considered “relics” as far back as the mid-1800s, when breech-loading firearms became available. Today, thousands of hunters across the United States take to the field each season with firearms that require the shooter to pour the propellant (blackpowder) and drop the projectile (lead ball or slug) into the rifle, muzzle first, then pack both in with a ramrod each time they want to take a single shot.

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Why on earth would someone go through all that bother when they could load one bullet after another into the chamber with a slight wrist movement on a modern bolt-action rifle?

My sentiments exactly—until I learned the pleasures of blackpowder rifle hunting.

It all started in 2000 when I won a .50 caliber muzzleloader rifle in a photo contest. At the time, I had no interest in the contraption, so I stashed it in a closet with thoughts of selling it someday at a garage sale.

Then, three years later, a friend con-



A traditional percussion cap version with its external, indirect ignition system.

vinced me we ought to hunt whitetails in Idaho’s late-season muzzleloader season. Many states hold special hunts before or after the regular firearms season, open only to hunters using “blackpowder” (muzzleloading) guns. I dug my rifle from the closet, studied the owner’s manual, put it together, and bought a few other accessories necessary for firing. Our Idaho adventure never came together, but the next year I stalked within 80 yards of a Montana pronghorn buck and felled it with a single shot from my blackpowder rifle. The following season I killed another pronghorn buck, a bull elk, and a mule deer buck with the muzzleloader.

Back then, Treasure State hunters mostly deployed muzzleloaders for the novelty and challenge of using a short-range gun not much different from the flintlock rifles carried by Lewis and Clark or Revolutionary War soldiers. But nowadays, muzzleloaders have access to areas off-limits to centerfire rifles—Montana’s special Weapons Restricted Areas (WRAs) during the regular big game rifle season—and they can also hunt

for nine days during the mid-December Muzzleloader Heritage Season (MHS), enacted through state legislation in 2021. As a result, more and more hunters are looking at blackpowder guns in a new light.

INDIRECT AND DIRECT IGNITION

Broadly speaking, there are two types of muzzleloaders: traditional and modern. Both are legal on WRAs, but only the traditional style can be used during the MHS. Both versions are loaded with powder and a projectile from the barrel, but differ in how the gunpowder is ignited.

With a traditional muzzleloader, an exposed hammer above the trigger strikes a “percussion cap” that ignites a spark that, through a hole, sets off the main charge of blackpowder (or powder substitute, like loose pyrodex) inside the rifle breech.

An even older version of indirect ignition is the “flintlock,” in which the shooter pulls the trigger to release a hammer holding a chunk of flint that strikes a piece of steel that creates a shower of sparks, igniting a small load of powder in a tiny “pan.” That flame then enters the breech through a small hole and ignites the powder, propelling the projectile out through the barrel.

With modern inline muzzleloaders, which most blackpowder hunters use these days, a percussion cap or primer is loaded directly into the breech and ignited with the strike of the rifle’s firing pin, allowing direct

“inline” ignition of the powder charge.

All versions of muzzleloaders differ from modern centerfire rifles, used by most firearms hunters, which fire a finger-size brass cartridge with primer, powder, and lead or copper bullet in one package.

Muzzleloader hunters who use indirect ignition methods revel in the challenge of employing centuries-old technology, open sights, and traditional lead balls. Most inline muzzleloader hunters try to modernize their gear to the extent the law allows, adding scopes and using projectiles that spin and add range. Other than having to load the powder and bullet from the muzzle, inline versions operate much like a regular rifle.

Another difference between traditional and modern muzzleloaders is their lethal range. A traditional muzzleloader legal for Montana’s heritage season is effective out to about 100 yards, while an inline version outfitted for use in WRAs or general season hunting may be lethal to 200 yards or beyond. I’ve dropped antelope and mule deer with one shot at 220 yards with .45 and .50 caliber inlines outfitted with fiber-optic sights.

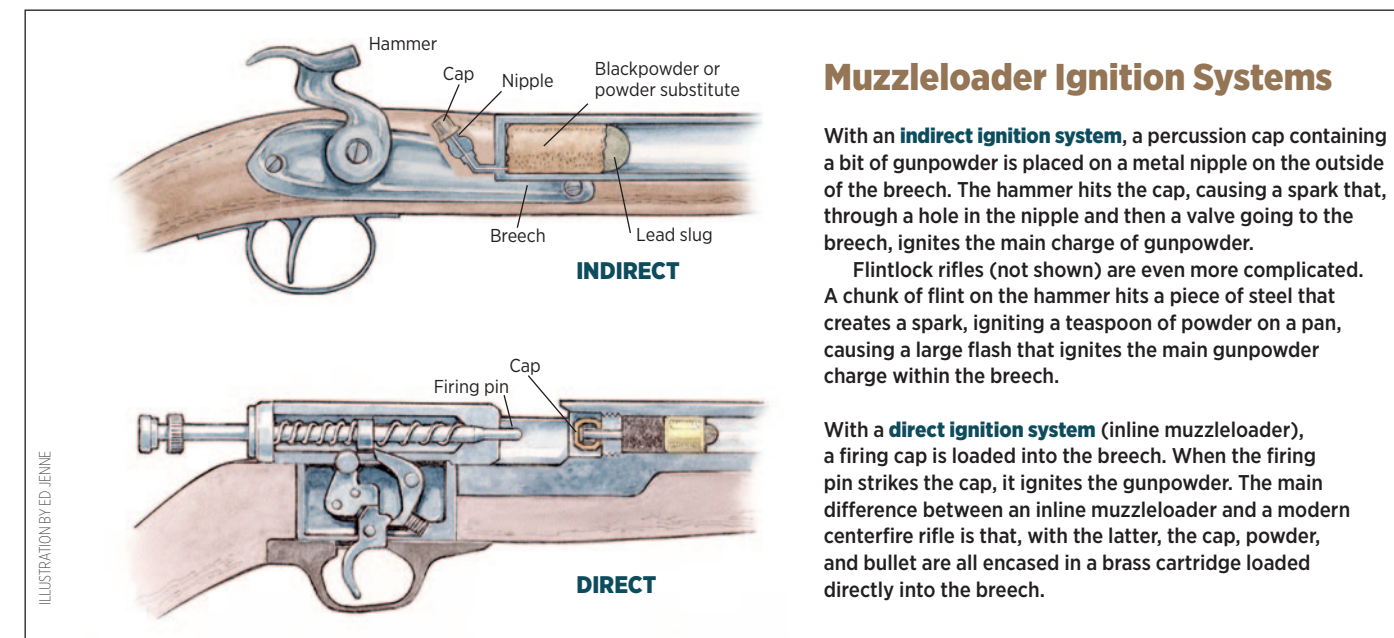
SLUGGING IT OUT

Before the centerfire rifle was invented, hunters used muzzleloaders to kill elk, bison, moose, and even grizzly bears. Much of the gun’s “knockdown power” comes from the weight and diameter of the slug or ball. In a .50 caliber model, slugs generally

weigh 300 to 350 grains, twice that of a bullet in a .30-06 rifle used by many big game hunters today. Although the bullet from a muzzleloader travels slower, its weight gives it devastating momentum. Slugs from muzzleloaders don’t expand on impact like high-velocity bullets from a centerfire rifle do. They don’t have to. A .50 caliber half-inch slug already has a larger diameter than what most standard-caliber bullets from a centerfire rifle achieve on expansion.

The elk, mule deer, pronghorn, white-tails, and mountain goat I’ve killed with a muzzleloader died as quickly and humanely as had I been using a typical modern hunting rifle. Of all the things to consider when contemplating a muzzleloader rifle, knockdown power should not be a concern—as long as you stay within the effective shooting range.

But projectile regulations and choices do affect a muzzleloader’s accuracy and effectiveness in various Montana hunting applications. Round balls of lead enclosed in cloth patches represent the oldest form of muzzleloading projectiles. They will efficiently dispatch a deer but aren’t sufficiently accurate for hunting at much beyond 50 yards. Plain lead bullets are a step up from round balls. I can routinely hit a CD-size target at 100 yards with my traditional .50 caliber muzzleloader loaded with 385-grain Hornady Great Plains bullets. Both round balls and plain lead bullets are legal during the MHS.



Muzzleloader Ignition Systems

With an **indirect ignition system**, a percussion cap containing a bit of gunpowder is placed on a metal nipple on the outside of the breech. The hammer hits the cap, causing a spark that, through a hole in the nipple and then a valve going to the breech, ignites the main charge of gunpowder.

Flintlock rifles (not shown) are even more complicated. A chunk of flint on the hammer hits a piece of steel that creates a spark, igniting a teaspoon of powder on a pan, causing a large flash that ignites the main gunpowder charge within the breech.

With a **direct ignition system** (inline muzzleloader), a firing cap is loaded into the breech. When the firing pin strikes the cap, it ignites the gunpowder. The main difference between an inline muzzleloader and a modern centerfire rifle is that, with the latter, the cap, powder, and bullet are all encased in a brass cartridge loaded directly into the breech.

To get maximum performance with a muzzleloader, shooters use “gas-check” bullets (which have copper or plastic seals on the base) or they fire sabots (bullets enclosed in a plastic casing that spins the projectiles like a spiral-thrown football). Note that gas-checks are not legal during Montana’s MHS.

EXTRA PRECAUTIONS

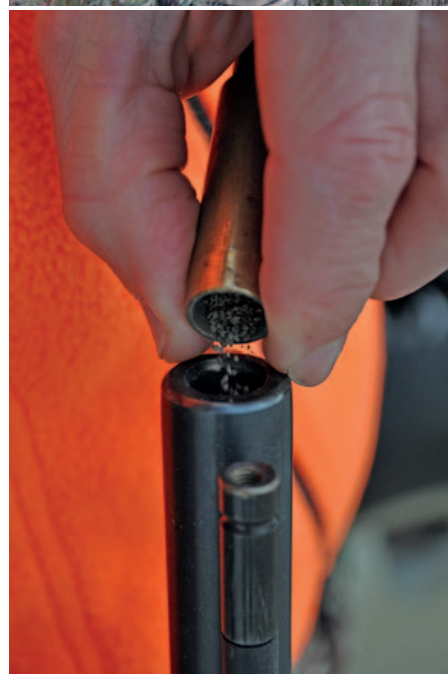
All firearms require careful use and handling, and muzzleloaders are no exception. One error all muzzleloaders take pains to avoid is “double-loading.” That means the shooter forgets they’ve already put the powder and slug in the barrel and repeats the process. This can cause the barrel to burst when the rifle is fired, causing severe injury to the user. Tip: Before loading, always check how far the ramrod can be inserted in the barrel to see if there’s another load already down there.

Other serious accidents can occur when muzzleloaders are loaded with “smokeless” powder (the kind used in centerfire rifle cartridges). Smokeless powder creates far more pressure than blackpowder and can cause the barrel on a muzzleloader to rupture. Smokeless powder is illegal for muzzleloader hunting during the MHS. I’d advise against using it during other times, too.

When loaded and handled properly, muzzleloaders are as safe as any firearm. Along with the steps outlined by manufacturers and hunter safety courses, I take a few extra precautions when shooting these rifles.

First, I never load them with a maximum or “magnum” charge of powder. Loads at 80 to 90 percent of manufacturers’ maximum ratings for a particular rifle reduce stress on the barrel and other components. I find that these slightly reduced charges still produce accurate shots without much loss of velocity or range.

Second, I take extreme precautions when loading a blackpowder rifle to keep it pointed away from me or others. Experts also recommend grasping the ramrod with your fingers when loading a muzzleloader instead of forcing it down with the palm of the hand. In the extremely rare event of a misfire when loading, this procedure reduces the likelihood of the palm being pierced by the ramrod or bullet.



COMPLEX COMPONENTS Clockwise from top: Firing a modern inline muzzleloader; bullets can either be simple slugs, grooved slugs that spin like a football (increasing accuracy and distance), or projectiles in plastic casings that cause the bullet to spin; a traditional flintlock version; pouring a precise measure of blackpowder into the muzzle before inserting the slug and packing both down with a ramrod.

Hunting with or shooting a muzzleloader is more complicated and requires more technical expertise than using a centerfire rifle. But it’s a skill that can be easily learned.

CAN YOU MAKE A COOKIE?

I admit I was nervous about the two-part ignition system the first time I loaded and fired my photo contest muzzleloader. Aiming at a target about 50 yards away, I exhaled tentatively and squeezed the trigger. As I expected, the muzzleloader’s trademark gray smoke obscured the target, but the shot recoil was much milder than I expected. And there

on the target, at the upper right-hand corner of the paper, was a clean, round hole. It worked! It took some time to tweak the sights to where my shots clustered around the bull’s-eye, but I was hooked.

Since then, I’ve enjoyed the challenge of using blackpowder rifles and, especially, the additional hunting seasons and areas that using them provide. As for the complexity of the devices that many hunters find intimidating, let me put it this way: If you can follow the cookie recipe on the back of a bag of chocolate chips, you can load and fire a muzzleloader. 🐾

CLOCKWISE FROM TOP: LEFT: JACK BALLARD; JACK BALLARD; PAT MUNDAY; LISA BALLARD; OPPOSITE PAGE: TIM CHRISTIE



SMOKING ALLOWED Both modern (shown here) and traditional muzzleloaders use blackpowder that smokes when ignited. Smokeless powder used in regular rifle cartridges is dangerous in blackpowder rifles because it creates so much pressure it can cause a muzzleloader barrel to rupture.