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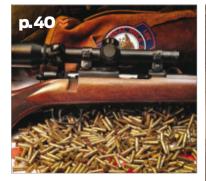
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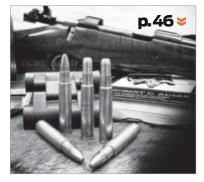
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RINER BREREDUX

hen's the last time you sent a .22 LR bullet downrange? Seriously. Ease your finger off the 9mm, .5.56 NATO or .30-06 trigger for just a moment and think about that question.

Has it been a while?

I presume I'm in the majority that, when I have the itch to shoot a few rounds at the range, I grab my concealedcarry 9mm gun, my .270 Winchester hunting rifle or a 5.56-chambered AR-15 to do the scratching. Why? Because those are the guns with which I want to always be proficient in case there's work to be done. And with those three guns, I can do darn near anything that needs doing.

But those three firearms are also extremely difficult to feed right now. With the current ammunition climate becoming more volatile by the month, launching lead without the ability to replenish the basement shelf is a moderately terrifying predicament.

Throughout the recent past, I've consciously and deliberately devoted a pile of pages within *Gun Digest the Magazine* to using a ".22 trainer." While I'm not crazy about the word "trainer" (to me, that word sounds synonymous to casual "plinking"), it's a struggle to better concisely describe just how paramount a .22 LR chamber can be to improving the shooting skills of absolutely anyone.

I realize that pushing .22-caliber pills downrange can feel a bit elementary, but

when you strip away everything else especially recoil—personal shooting shortcomings rise to the surface very quickly. And from there, you can address those accuracy-starving habits and kick them to the side with the spent brass.

GunDigest

Better still, there's a strengthening movement on behalf of both ammo and gun manufacturers that's pushing the ballistic capabilities of a .22 LR further that most of us have ever imagined. And from a self-fulfillment perspective, dropping .22 bullets into a cluster at 500 yards is equally as rewarding as whacking steel at 1,000 yards with a .6.5 Creedmoor ... and exponentially less expensive.

That said, be mindful that the rimfire realm expands far beyond the borders of the revered .22 LR. From the .22 Mag to the .17 HMR to the immensely underrated .17 Mach 2, this issue is lined with rimfire cartridges and firearms that are capable of filling a much bigger role than "trainer" within your personal arsenal.

And, in a time when 9mm and 5.56 NATO ammunition is as difficult to come by as a straight-shooting mainstream media source, throwing some baby bullets downrange just might be exactly what the doctor ordered. **GDTM**

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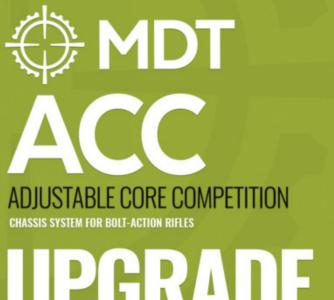
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HISTORICAL NOTES

BULLET

20 PLASTIC TIP VARMINT HV

25 PLASTIC TIP

VARMINT HE

20 HP SUPER X

Winchester Ammunition, in conjunction with Savage, introduced the .17 Winchester Super Magnum rimfire rifle cartridge at the 2013 SHOT Show. A Winchester Ammunition announcement called this "the most revolutionary rimfire cartridge in the company's almost 150-year history."

Further, the company said, "The .17 Win Super Mag. offers the downrange performance of a centerfire cartridge at only a fraction of the cost. For the first time in history, hunters can expect pinpoint accuracy and devastating performance from a rimfire cartridge, at ranges well past 200 yards."

.17 WINCHESTER SUPER MAGNUM FACTORY BALLISTICS

GRAINS

FL

FL

FL

VELOCITY

3 0 0 0

2.600

3,000

ENERGY

399

375

399

POWDER

EL

FL

FL

One of Winchester's goals with the new .17 was to keep it affordable. A box of 50 should retail for about \$15, which is much cheaper than almost any centerfire varmint load.

"Our engineers have been developing the top-secret .17 Win Super Mag. caliber for more than three years, and the rimfire revolution begins now," said Brett Flaugher, Winchester Ammunition vice president of sales, marketing and strategy in 2013. "At 3,000 fps, it's the fastest modern rimfire cartridge on the planet. The downrange energy deposited by the .17 Win Super Mag. will be a game-changer for varmint and predator hunters everywhere."

SOURCE

WINCHESTER NO. S17W20

WINCHESTER NO.

S17W25

WINCHESTER NO.

X17W20

GENERAL COMMENTS

This round descended from a .27caliber nail-gun blank, which is necked down to take a .17-caliber bullet. The brass case is about half a grain thicker than the .17 HMR. Maximum average internal pressure is 33,000 psi, which is about 7,000 psi higher than the .17 HMR's. It pushes a 20-grain bullet at 3,000 fps—625 fps faster than the .17 HMR. In a 10 mile-per-hour crosswind, the .17 WSM moves 7.3 inches at 200 yards, while the .17 HMR slides 16.6 inches.

The .17 Win Super Mag. was initially offered in three bullet types: a 20-grain plastic tip in Varmint HV (High Velocity), 25-grain plastic tip in Varmint HE (High Energy) and a 20-grain jacketed hollow-point in Super-X. The .17 Win Super Mag bullet delivers more than 150 percent greater energy than the .22 Win. Mag. or .17 HMR. The .17 WSM first-adopter rifles included the Savage B-Mag bolt-action, Winchester 1885 Low Wall single-shot and the semiautomatic Franklin Armory F-17. **GDTM**





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The The foundation upon which all other skills are built.

nstructors have been preaching it for years, and in my 2013 book, *Handgun Training for Personal Protection*, I called it "the secret." The single, most important skill you must master with a handgun is the ability to operate the trigger make the handgun fire—without disturbing the sight picture.

As simple as it sounds, this single task is the most difficult part of becoming proficient with a defensive handgun. It's the foundation which must be laid before any other skills can be built. Anything you build on a foundation that's not up to par is doomed; at some point, you'll add something to this—less-than-ideal foundation, which will cause it to collapse. It might be stress, unique positions, low light or a host of other circumstances through which you must perform.

Sight alignment and trigger control are indeed the secret to shooting. Of course, there are other things like stance, grip and breathing that influence marksmanship, but in the end it all comes back to your ability to press the trigger without disturbing the alignment of the sights.

FINDING FOCUS

However, the problem is that many instructors and most shooters believe that this is a 50/50 function; they



Many would consider this an excellent example of aligning the sights and pulling the trigger. However, for defensive purposes, this is mostly an example of shooting too slow.

think you must concentrate equally on the sights and the trigger in order to get your hits. This notion of equality is the primary reason so many defensive handgun shooters have trouble becoming proficient. Sure, in the beginning when you're just learning to shoot a defensive handgun you must balance the concentration you devote to these two physical activities. Typically, it takes only a little bit of time on the range until you *understand* the concept; after that, the trigger is what should be getting damn near all of your attention. Consider this: I, or any other reasonably qualified instructor, can teach you what proper sight alignment is in less than five minutes. In fact, if you can read, you can learn it yourself. Hell, easier than reading, all you really need to do is look at a picture to understand what proper sight alignment looks like. Then, for the rest of your life you should easily be able to demonstrate proper sight alignment on demand and without fail.

Teaching someone how to pull a trigger isn't as simple. Considering that I've been pulling handgun trigIt's all about pulling the trigger, because when it comes to shooting a defensive handgun, pulling a trigger correctly is the hardest thing to learn.



gers for half a century and still mess it up should be evidence enough to prove that you can never really learn to pull a trigger as well as you can learn to line up sights. In 1999, I won the West Virginia National Guard State Pistol Match. That would seem to suggest that I know how to pull a trigger. The problem is that knowing how to pull a trigger and pulling a trigger correctly every time is *not* the same thing. In fact, during that match, I made numerous trigger-pulling mistakes, which is why my score wasn't perfect.

Here's the thing, in only a few words or with a simple diagram, sight alignment is simplified. You cannot do the same when it comes to pulling a trigger. The words to perfectly describe it have never been assembled, and no diagram can effectively convey the lesson. Pulling a trigger correctly is something learned by feel, and the only way to learn to feel it is to do a hell of a lot of it.

PULL? PRESS? NEITHER.

Some instructors will chastise others for using the term "pull" when it comes to describing the action of manipulating a trigger to make a handgun go bang. They'll insist the word "press" is the proper term. Do you really think that either of these words simplifies the description of the action to the point it makes the stroke easier to learn? No. Maybe "manipulate" is a better word than pull or press, because manipulate doesn't seem to describe a physical action that might be strong enough to negatively impact sight alignment.

I really don't think the word that's used matters; it's pretty obvious what needs to happen. The trigger must be



This target is an almost ideal representation of what good sight alignment and trigger pulling looks like with regard to defensive shooting; it exemplifies a good balance of speed and accuracy. moved far enough to the rear, to make the pistol fire fast enough, to solve the problem, without disturbing the sight picture. There are all sorts of reasons this is difficult. Recoil anticipation, target panic, grip intensification, improper finger positioning and available time are just a few of the things that result in bad trigger pulls. I've been pulling handgun triggers for a long time, and, on occasion, all of these things cause me problems.

Why? Because I don't practice pulling triggers enough. Let's use a free throw in basketball as an analogy. If you practice it enough, you can become very good at it, but no matter how much you practice it you'll never become perfect. Just consider professional basketball players, the best in the business are only 90 percent successful. The late Tom Amberry holds the Guinness world record; he made 2,750 free throws in a row. He was 71 when he did it so we must assume he practiced a lot. However, he didn't practice enough to make number 2,571!

THE SECRET

So, if the secret to shooting is sight alignment and trigger control, what's the secret to the secret? It's learning to pull the trigger, and the only way you can learn to pull a trigger is to pull a trigger. It cannot be learned by reading, watching or osmosis.

Dry practice or dry-fire is a fantastic way to do this, because it costs a lot less than actual shooting. But you don't have to practice pulling the trigger *while the sights are on the target* to get better at pulling the trigger; you can improve your ability to pull a trigger correctly by pulling the trigger lots of times. The more you do it, the better you'll get.

However, you must be prepared for failure; no matter how good you get a pulling a trigger you will at some point pull one incorrectly. Practice is how you get to the point where the good pulls far outweigh the bad ones. **GDTM**

LENDING A HIRDHAND

A Little Extra Help: Handi-Racker.

(Right) The Handi-Racker comes in sizes color-coded for vour pistol fit. The bright yellow is the one for full-sized pistols.

(Left) Slide the slide into the Handi-Racker, place against a safe, immovable object and push. Instead of depending on hand strength, you use body mass to cycle the slide

ack when I was in martial arts, we worked hard to improve hand strength. Knuckle push-ups, fingertip push-ups and tossing bags of sand back and forth were standard practice, and we were dedicated. Not everyone can do that, and not everyone has the option of increasing hand strength. For a lot of people, what they have is what they have. And if that isn't enough to reliably cycle the slide on a pistol, they have a problem.

Well, there's a solution.

Handi-Racker to the rescue. The idea is simple: The Handi-Racker, which comes in three sizes to match your pistol, acts as a third hand. There's a slot in the bottom edge with a pinched-in middle. The two ends are different widths, so you can match pretty much any slide size with one or another Handi-Racker. There's even one for the oddly shaped Beretta slide.

atent 9,194,63

Handi-Racker 2 "The safest way to rack your pistols"

1. Always keep the gun pointed

2. Always keep your finger off the

oun unloaded

" Until ready to shoot.

in a safe direction.

To use it is simple. Place the Handi-Racker, groove-side down, over the front of the slide, parallel to the barrel. Hold it in place with your left hand (left-handers, you know the drill, use your right) and with your right hand on the pistol as if you were shooting (but finger off the trigger, remember!) push the pistol forward.

The big advantage here is dual: You can put your weight behind getting the slide cycled, unlike pulling. And, you have a full grip of the pistol, unlike the fingertips-grab that the usual methods

afford you. You use body mass, not grip strength, to cycle the slide.

You can use a wall, a post, a tree anything that keeps the muzzle in a safe direction. And then, to fully chamber the round you've gotten up from the magazine, just hold the pistol in place and lift the Handi-Racker.

The process also works to unload. Drop the magazine first, and then use the Handi-Racker the same way. Once you've picked up the ejected round, insert an empty magazine, repeat and *voila*, the slide is locked to the rear.

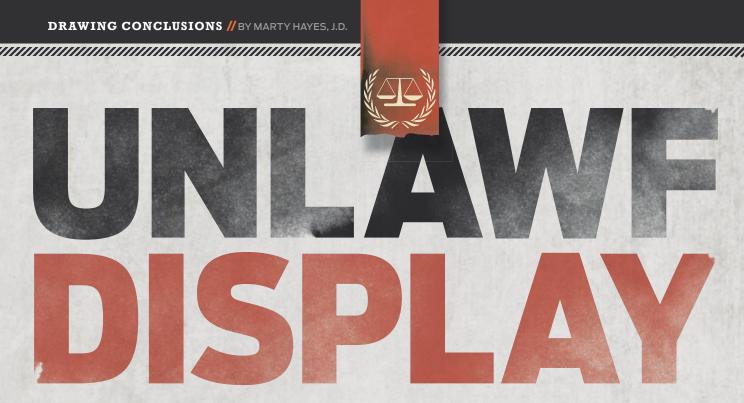
There's still one more bonus to be found using the Handi-Racker. You can cycle the slide, load or unload, and not risk having any part of your hand in front of the muzzle. Also, you don't point it at anyone else, as long as you select an appropriate surface to rack on. You can even cycle it vertically, muzzledown, using a sturdy table.

Too many times I've seen new shooters, or those with low hand strength, struggling with a pistol at the range, inadvertently pointing the muzzle to the side, to get more leverage. The Handi-Racker provides the leverage for you.

For someone who wants a defensive tool but finds themselves in the pistolshooting limbo of being strong enough to shoot, but not entirely confident in hand strength to cycle for loading or unloading, the Handi-Racker is perfect. Not everyone who is limited in hand strength is all that comfortable depending on the effectiveness of a .32 or .380. This isn't just the elderly, if that's what you're thinking; someone with repetitive motion injury might be strong enough to shoot, but not have enough grip strength to grab a slick steel slide, even with cocking serrations machined into it.

And for those who were thinking of the elderly, consider this: We all get old. What force I used to be able to grip with (almost tear your skin off) I can't do now. A half-century can do that.

Handi-Racker solves the problem many already have—and for not much coin at only \$25. GDTM



Defining 'justification' when the gun comes out.

n June 28, 2020, in response to a riotous mob breaking through an iron gate into their St. Louis gated community, with a mass of approximately 300 people coming down the road toward their house, attorneys Mark and Patricia McCloskey grabbed firearms, he an AR-15 and she, a Bryco 9mm. They went outside their home to confront the riotous mob from their front porch. In doing so, they set themselves up for St. Louis Circuit Attorney Kim Gardner to charge them with "Unlawful Use of a Weapon."

The legal case against the McCloskeys will take many months to resolve, and until the trial occurs, we won't see all the evidence of the case, although YouTube videos featuring Mark Mc-Closkey indicate that he had a fear of being attacked by the mob, which is why he used the AR-15 the way he did.

So, with this case in mind, let's discuss the right to threaten deadly force with the use of a weapon against those who are threatening you. This analysis isn't state specific, but instead is intended to be considered general education. It's up to the individual armed citizen to know what his or her state's statutory and case laws show.

BRANDISHING

The common law of the United States ordinarily calls a criminal

charge of waving a gun around in public "brandishing." In many other states, it's illegal to "unlawfully display" a firearm or "unlawfully exhibiting" a firearm.

Additionally, most if not all states have statutes that make it an "assault" to point or aim a weapon at someone without the justification of selfdefense. And, since a firearm is used, the seriousness of that particular charge (called "aggravated assault" in states that follow the common law) elevates it to a serious felony with possible sentencing entailing years of jail time. A firearms enhancement means probably five years or more in prison.

"Generally speaking, though, if you display a firearm (but not point it) in the face of presently threatened unlawful force, you're likely to be in good shape."



So, when is having a gun "at the ready," meaning in-hand and observable, not a crime? To determine that, you need to look at both your own statutory law and the case law interpreting the statutory law. Generally speaking, though, if you display a firearm (but not point it) in the face of presently threatened unlawful force, you're likely to be in good shape.

I'd be surprised to find any state that doesn't allow you to back down a criminal attacker by displaying a firearm and calmly telling him to stop doing what he's doing or contemplating doing. This would apply only if the aggressor was threatening your safety. The amount of force you can use depends entirely on how much force is threatened against you.

If a person or persons are threatening to kill/rape/rob you, *and* they have the means to accomplish the threat, you're likely going to be legally justified in pointing a gun at the aggressor(s). But, on the other hand, if someone who doesn't obviously possess the means to carry out the threat, you had best keep your gun unseen. If there isn't such an immediate threat, why not walk away? If doing so wouldn't escalate the peril you're in,

"The amount of force you can use depends entirely on how much force is threatened against you."

then avoiding the entanglement would be the best bet.

THE GRAY AREAS

What about the gray areas, though? What about the times when you might not know what the situation really is, but you have a pretty firm belief that things are going to escalate quickly to endanger your life?

That's when you need to invoke the reasonable person doctrine. What would a reasonable and prudent person believe, knowing what you know, and seeing what you see? Simpler put, how would this look to others?

One thing you don't want to do, when displaying a firearm or other dangerous weapon in the face of presently threatened unlawful force, is make threats to kill. A new crime, which has popped up and is a favorite of prosecutors looking to be able to arrest gun owners, is the crime of "making terrorist threats." The threat to kill, coupled with the ability to carry out the threat, fulfills the elements of this crime. Typically, the crime is a felony, with the result of conviction bringing jail or prison time, along with loss of your firearm rights. Don't make threats to kill or even threaten to shoot.

Right about now, you might be thinking this advice seems very complicated. You may think, heck, you have trouble enough just hit the target, let alone issue verbal commands. If so, seek out competent training, which usually isn't cheap, but well worth it when you actually have to draw that new blaster.

If this isn't possible, may I suggest pepper spray? The use of pepper spray, by the way, is the subject of next month's discussion here. **GDTM**

About the Author

Marty Hayes is president and founder of the Armed Citizens' Legal Defense Network Inc. Possessing a Juris Doctor degree (although not a practicing attorney), he has over 30 years of experience teaching the law of self-defense through his own training school, The Firearms Academy of Seattle, and for the world-renown Massad Ayoob Group. He routinely works as an expert witness in self-defense cases.

Ball powders and their applications.

couple decades ago, I bought a rifle which would become-and remain-my dedicated varmint rifle. It's a Ruger Model 77 MKII in .22-250 Remington, with a sporter-weight 22inch barrel, a Hogue over-molded stock and Timney trigger. While the accuracy wasn't terrible with factory ammunition-though the factory trigger was a different story—I wasn't getting exactly what I wanted from handloads, predominately using IMR4064 and IMR4320. Both of those powders were chosen because I had them on hand from years of loading for my .308 Winchester and because they sat in the middle of the burn rate choices for the .22-250 case.

Speaking to some guys who I knew were serious about the .22-250 as a target cartridge, they enlightened me. "Look no further than Hodgdon H380; anything else and you're wasting your time." Well, alrighty then.

Off I went to purchase a pound of H380. Their recommendation made sense, as H380 was named for Bruce Hodgdon's 38-grain load in the .22-250 with a 55-grain bullet. I immediately saw a huge accuracy improvement, but more importantly, it was my introduction to ball powders and how useful they can be.

POWDER GEOMETRY

There are predominately three powder shapes: flake, extruded stick and ball, or spherical. The flake powders are generally reserved for shot shells and pistol cartridges, and among rifle cartridges, the stick powders greatly outnumber any of the ball powders. There are some times where a ball powder comes in very handy, solving some problems where case capacity is limited.

I remember loading for my dad when we were heading to Tanzania for Cape buffalo and having trouble getting his .458 Winchester Magnum to reach anything close to what the velocities were supposed to be. With 500-grain A-Square Dead Toughs and Monolithic Solids, real estate inside the case was assuredly at a premium.

After several unsuccessful attempts with stick powders, it was finally Hodgdon's H335 that got me where I needed to be: 2,080 fps, and groups hovering around 1½ inches at 100 yards. While normally associated with the .222 and .223 Remington, it works well in the larger, straight-walled cartridges as well.

Speaking of dad and his straightwalled cartridges, I leaned on a ball powder for his .45-70 Government when we headed to South Dakota to hunt bison. His rifle is a Browning 1886—definitely a strong action—and we wanted to take advantage of that fact. Using a 400-grain Swift A-Frame and 58.0 grains of Hodgdon's BL-C(2), that 26-inch octagon barrel gave a muzzle velocity of just over 1,800 fps; Dad took his bull cleanly with a well-placed shot.

That load, while on the stout side, is plenty accurate for the iron-sighted lever gun. BL-C(2), pronounced *ball-see-two*, was designed for the 7.62 NATO, so the .308 Winchester is a natural candidate for this ball powder, but it also works very well in the smaller cases like the .204 Ruger, .223 Remington and even the .17 Remington.

Hodgdon's H414 is a slower-burning ball powder with a burn rate similar to H4350 (though not interchangeable), which is ideal in the .30-06 and similar cases; I've had fantastic results in the 9.3x62mm Mauser and in the .375 H&H Magnum. Some folks say this powder (which is very, very close to Winchester 760) is sensitive to temperature change, though that hasn't been my experience: It has been rather consistent in summer and fall temperatures.

Getting back to good ol' H380, that powder has been good to me, though I can testify to the temperature sensitivity ... to the point where I use a summer load and a winter load. In spite of the temperature issues, it's accurate, not only in the .22-250 Remington, but in the .308 Winchester — my rifle loves H380 and a 165-grain Sierra GameKing hollow-point boat-tail — and in the .375 Ruger.

Winchester has long been famous for their ball powder lineup, with W748 and W760 being highly popular. A friend has a Remington 700 Classic chambered in the now-obscure .350 Remington Magnum, and if any cartridge is cramped for space, it's that one. Having gone through a number of powders, W748 came to the rescue for that gun, and under a 220-grain Speer Hot-Cor bullet it has MOA accuracy, and velocities with an extreme spread of around 20 fps.

THE NEW STABALL

Winchester has released a new ball powder, the StaBall 6.5 powder, which is wellsuited to a number of cartridges. Named for the 6.5 Creedmoor—the burn rate sits comfortably between H4350 and Reloder 19, making it a perfect choice for the Creedmoor family. Plus, this powder is engineered to be insensitive to temperature swings.

Winchester (Hodgdon) offers data for a wide range of cartridges, including classic varmint cartridges like the .22-250 Remington, .220 Swift and .257 Roberts, up to the mediums like the 7mm-08 Remington, 7x57 Mauser and .30-06 Springfield, up through the big bores like the .375 Ruger, .375 H&H, .416 Remington Magnum and .416 Rigby.

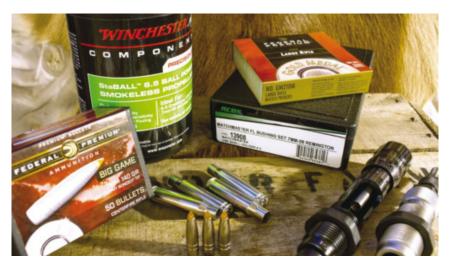
I wanted to see how it would perform in a couple of different cartridges. My pal, Mike Buser has a great 6.5 Creedmoor a Masterpiece Arms Custom—so we loaded up some StaBall and a pair of bullets we knew the rifle liked: the 140-grain Berger Hybrid and the 135-grain Hornady A-Tip. The Winchester load data claims velocities higher than most other powders, and we found that claim to be true, though the test barrel was 2 inches shorter than Mike's barrel. We drove that 140-grain Berger to an average velocity of 2,745 fps, with 100-yard group sizes between 0.51 and 0.70 MOA. The 135-grain A-Tip left the barrel at 2,840 fps, averaging 0.65-MOA, with extreme spreads hovering around the 20-fps mark.

My Tikka T3X Lite in 7mm-08 Remington likes StaBall also. The 140-grain Federal Trophy Bonded Tip, over a charge of 47.5 grains of StaBall, gave 2,835 fps into just under 1-MOA groups. With a bullet of this construction and conformation, there aren't too many species that are off the menu. The load data indicates that the 7mm-08 can push the 175-grain Nosler Partition to over 2,600 fps with StaBall 6.5; I got 2,615 fps with threeshot groups printing 1.1 inches at 100 yards. Those 175s are certainly long and can eat up a bunch of room inside the case; using a ball powder will help combat that fact.

BAT OR BALL?

Do ball powders beat the extruded stick powders? Because there are so many more choices in stick powder, I feel pretty confident saying that they'll remain at the top of the heap. However, there are many instances where they can provide the answer to the problem of limited case capacity.

When space is limited, and the load density exceeds 100 percent, you can break the grain structure of stick powder due to over-compression. This can have negative effect on consistency, where using a ball powder will give less air gaps and reduce the space occupied by the powder column. If you like the smaller cases, give one of the ball powders a try ... you might just develop a new favorite for you and your rifle. **GDTM**





(Above) Massaro's 7mm-08 Remington loved the 140-grain Trophy Bonded Tip bullet over Winchester's StaBall 6.5 powder, giving a load with low velocity spreads and good accuracy.

Hodgdon's H380 is actually named for the 38.0 grain load in Bruce Hodgdon's then wildcat .22-250, and is also a sound choice in the .308 Winchester and .375 H&H.

Buy the base model, and upgrade it to your definition of perfection.

look at my rifles like a 350 Chevy tons of aftermarket parts and the ability to modify it to my heart's content. I have no problem replacing, modifying and adjusting the weapon system to meet my personal needs. After all, everyone is different; our needs change, so adjusting the rifle to fit the mission is essential in my mind.

I have a lot of videos on YouTube that demonstrate this very fact. If you look at the comment section, you'd think nobody every burned out a barrel or decided to change a factory stock. Sure, I tend to modify the rifles all at once versus over time. But I have the luxury of access (getting parts for me is very easy). I'm not saying you have to change everything all at once— heavens, no. You can make any amount of changes over time, so let's look at the top-line elements that don't require a gunsmith.

TRIGGER

Factory triggers can be an obstacle. They often have limited adjustment and are set very heavy for liability reasons. Getting an aftermarket trigger is a quick and straightforward way to improve your rifle accuracy. Trigger control is a fundamental of marksmanship. Having a crisp, no-influence break is vital to proper shot execution. Better triggers give you more adjustability; more adjustments mean it suits the shooter better.

I look at rifle setup the same way I look at my car. I see the stocks as the car seats and the scope as my mirrors. The more adjustability in those I have, the more comfort on those trips.

STOCKS

We save money by purchasing factory rifles. Those factory rifles often ship with very basic stocks. The stock design favored by companies focuses more on hunting and shooting standing. Very few of us want to shoot unsupported standing anymore. We want to maximize accuracy, so we need to support the rifle. For many, that means a bench; others tend to go prone. The standing stock is a compromise in these positions.

More adjustability means more comfort. I want to fit the stock to the shooter's body. I want to look at my mission to maximize those adjustments. Will I be shooting positional? I might want to shorten my length of pull. Is this designed for F Class? Maybe I need a flat bottom.

I set the stock up before mounting my scope with me in position. I choose stocks with tool-free adjustments so I can manage them on the fly.

Bedding is no longer a top-line consideration, thanks to internal chassis systems and computer fitting. You can buy a well-made barreled action from a famous gunsmith and drop it in a stock at home. This saves a ton of time and money.

Do your homework; study the features and understand how those features add or subtract from your mission.

BIPODS

I know it'll sound like a broken record here, but bipods matter. Don't look at them as an afterthought. They control a lot; bipods adjust the system for the shooter. If you have a pain in your neck, odds are your bipod is too low. If you're canting the rifle, a proper locking bipod will stop that action from taking place. We have different levels of cost and features, because it matters.

Choose the bipod based on the intended use. If you're hunting in the thick brush, a bipod is a secondary consideration. The prone shot is the rare shot, so have something light just in case it will work.

But consider accuracy. We want a bipod large enough to support the rifle system, broad enough in its stance to give us lateral stability, and finally, a locking feature to prevent the rifle from canting.

The better the bipod, the easier it is to be stable and dependable behind the rifle. It focuses our effort on trigger control and sight picture because the negative consequences of a loose, poorly adjusted bipod are gone.

When it comes to shot-to-shot accuracy, the follow-up shot is critical. If the bipod doesn't support the recoil pulse in a straight line, you cannot have consistency behind the rifle.

BARRELS

Barrels can require a gunsmith to change. That said, we're approaching the end of 2020, and much of that has changed. You can buy pre-fit barrels, letting you swap both barrels and calibers at home.

I admit it; my go-to rifles are switch barrel capable. I favor rifle systems that let me change barrels on the line in seconds. I don't need a vice or a torque wrench; I can do it all with a 4mm Allen wrench.

Many modern rifles are moving to user-swappable systems. I see barrels the same way I look at the tires on my car. Tires are expendable and so are barrels.

A lot of new shooters want one caliber to last a lifetime. That was the mindset behind the 308. The odds of average Joe shooting 10,000 rounds are pretty rare. Today, with our 6.5s, burning a barrel out is going to happen closer to 3,000 rounds. You'll change barrels at some point.

In terms of an upgrade path, I recom-



More adjustability means more comfort. Aftermarket stocks fix the limitations of factory ones.



Aftermarket triggers are an easy way to change the feel of the rifle with minimal cost and relative ease. mend new shooters fire 2,500 rounds from your 6.5 Creedmoor and then upgrade that factory barrel. That's plenty of rounds to learn the caliber and few enough to know you'll have to upgrade.

I've changed tires at 7,000 miles, because I didn't like the ride. They weren't cheap and I hated doing it, but new tires gave me a more comfortable ride and improved my mileage. Barrels are the heart of the system. They control accuracy beyond anything an action can do. The action is just a delivery device; the barrel controls the results.

Aftermarket barrels are everywhere; a decent gunsmith using modern equipment, who isn't months in demand, should be able to spin you up and mount a new one in less than 30 days. It's a simple process. The days of waiting months or even years are over.

TIME IS YOUR FRIEND

Nobody is saying to follow my YouTube lead and swap out every part imaginable. You can change small things over time as money becomes available. I have a higher degree of access so that I can swap the kitchen sink without any penalty. I recommend you pick and choose your battles, but never fear replacing something that's falling short.

Base factory rifles are just that: a base. You can build off that base at any point. Different models have different availability to aftermarket parts, so keep that in mind when choosing a brand. Fast, flat calibers put more stress on the base system. Aftermarket parts fix the shortcomings and give the end-user greater flexibility.

In this off-season, explore the upgrade options available to you. **GDTM**



Ol Nelson Precision 44X Aluminum Slide for Glock 44 Pistols

A longtime coming, the Glock 44 was one of the Austrian gunmaker's most significant releases in recent years. Though, even among diehard fans, the .22 LR pistols did have nits to pick, primarily with the hybrid polymer-steel slide (done for proper weight in the blowback pistol). Rejoice! There's hope in rectifying this with parts manufacturer Nelson Precision introducing an aluminum slide upgrade. Milled to proper weight specs, it runs like a dream on the Glock 44, while creating a more rugged and versatile pistol-the slide is optic-ready, compatible with Trijicon RMR and SRO red-dot sights. Plaving nice with OEM G44 slide parts, this is an upgrade you don't want to miss for your G44.

02 Beretta Model 21A Bobcat Covert

Harking back to Beretta's earliest pocket pistols, the Model 21 is steeped in nostalgia—and now in modern adaptability. Yup, the classy aluminum-framed Bobcat is available suppressor-ready in the aptly named Covert. Boasting standard .22 LR 1/2x28 thread pattern on its muzzle. the pistol is compatible with nearly any rimfire can. When not suppressed, the threads are protected with a knurled cap. Cutting a dashing profile, the 7+1-capacity Bobcat Covert is outfitted with checkered walnut grips and a rich matte black Burniton finish. It's still every bit a pocket pistol, weighing in at just under 12 ounces. Able to mount a suppressor, the Bobcat Covert is now a first-class range companion.

O3 Mossberg Blaze-47 Adjustable

As affordable as it is fun, the Blaze-47 has been the go-to rimfire AK for some time ... and it's recently gotten better. Now it's set up as the perfect tactical plinker, no matter who's behind the trigger. As its name implies, the Adjustable model comes outfitted with a six-position adjustable stock, the kind commonly found on AR-style rifles. Sure enough, this breaks from the traditional AK template, but it arguably makes the .22 LR more useful and potentially more accurate. From there, the new Blaze gets familiar with a 16.5-inch barrel, 25-round magazine and fully adjustable sights. But bet on the Adjustable providing a much more comfortable fit.

MSRP: \$368

04 CCI Maxi-Mag Clean-22 Segmented Hollow Point 22 WMR

Reducing fouling and leading, CCI Clean-22 is nothing new. But what it's being chambered for and the type of bullet is being topped with is. Maxi-Mag Clean-22 Segmented Hollow Point 22 WMR gives shooters of the magnum rimfire a dynamite hunting option, proven to over-perform traditional hollow-points. As the name suggests, the bullets are segmented, designed to break in three equal parts, thus creating three equal wound channels. The effects are devastating on small game, almost guaranteeing a hit on vitals. Loaded to leave the muzzle at 1,875 fps, the ammo also tends to extend a firearms range.

MSRP: \$18.99, box of 50

MSRP: \$220

MSRP: \$529



05 Wiland USA MLCS-11 Chassis for Ruger 10/22 Rifles

Requiring all the skill of a long-range marksman, just scaled down and done on the cheap, NRL22 competitions have swept the nation. While any old .22 LR and proper optics will do, if you're serious about gunning down gold, a few upgrades are in order. Enter Wiland USA and the MLCS-11. The South Carolina manufacturer whipped up a lightweight chassis nearly guaranteed to milk the utmost accuracy Ruger 10/22. More than anything, Wiland provides an absolute rock-solid foundation, thanks to a rigid CNC-machined aluminum body and carbon buttplate and handguard. But the manufacturer also ups its flexibility, making the chassis compatible with ambidextrous charging and shootability with the buttstock perfectly aligned with the bore. It'll take your 10/22 to new levels.

06 Kriss Vector 22-CRB

Like something out of Star Wars, the Vector is about as unique as hens' teeth in the world of pistol-caliber carbines. Now, make that rimfires. The innovative firearms manufacturer recently introduced the Vector 22-CRB rimfire to its catalog, giving shooters all the cutting-edge technology found in its big-dog gun, but in an affordable shooter. Aside from its absolute one-of-a-kind aesthetics. the gun also features several enhancements. Free-floated barrel, six-position stock, low-profile flip sights and threaded barrel (1/2x28 pattern) all kick the gun's game up a notch in accuracy and ease of use. Add in Kriss' 30-round magazines and Aluminum M-Lok handguard and you've got a little something shapable to your needs.

REOUIREMENTS

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MSRP: \$649.99

07 Meopta Optika5 2-10x42mm RF

It's difficult to stress exactly how important the role quality glass plays in consistent accuracy. Have the right scope and the world is your bull's-eye. If you live to own the bull's-eye with your rimfire, you should be paying attention to Meopta USA. Part of the company's new premium 1-inch tube Optika5 series, the 2-10x42mm RF is the ideal scope to keep you on target. Featuring MeoBright lens coatings for optimal light transmission and MeoDrop hydrophobic water-repellant coating, the optic ensures a bright and clear image no matter the conditions. Shooters have the choice of traditional plex and MOA Z-Plus reticle, with ¼-MOA adjustment increments. Plus, the Optika5 line is built field tough, constructed from aircraftgrade aluminum.

MSRP: \$349.99

RMFRE

MSRP: \$350

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07 🐸

TINY TERMINAL PERFORMANCE

Selecting the right rimfire load: .22 LR, .22 Magnum, .17 HMR and .17 Winchester Super Mag.

ith regard to the terminal performance of centerfire rifle and handgun ammunition, the written word has probably used up enough paper to deforest a national park. Not only is it a favorite topic for gun writers to pontificate on, it fuels a lot of gun counter conversations and campfire arguments. Why isn't there the same interest in the terminal performance of rimfire ammunition?

I think this is partly because a lot of critters shot with rimfire ammunition are relatively small, not life threatening or not considered a trophy, at least in the same sense a mature mule deer buck might be. Proportionally and for what it's worth, the power-to-gameweight ratio is very similar between centerfire and rimfire cartridges, with a maximum practical limit of about 2 to 2.5 ft-lb of energy for every pound of game weight. Put another way and in the vaguest of terms, if a 1,000-pound animal—a moose—is considered the maximum practical limit for the .308 Winchester, then a 40-pound animal—a large coyote would be a reasonable maximum limit for a .22 LR.

The point is that if the terminal performance of a bullet matters with a 308 Winchester, then it matters just as much with a .22 LR. And, it matters whether you're shooting a fox squir-

MF #	.22 LR LOADS	VEL	ENG	PEN	EXP	RW
0050	CCI 32-grain Stinger	1,587	179	10.25	0.3	17
0064	CCI 32-grain Segmented HP	1,674	199	6	F	NA
21119	Remington 33-grain CBee22	856	54	7	0.34	33
21074	Remington 36-grain Yellow Jacket	1,363	148	7.25	F	NA
22LR333HP	Winchester 36-grain Hyperspeed HP	1,275	130	9.5	0.26	26
21080	Remington 37-grain Viper	1,363	153	10+	NONE	37
710	Federal 38-grain CP Round Nose	1,226	127	16+	NONE	38
0074	CCI 40-grain Segmented HP	1,092	106	7	F	NA
XHV22LR	Winchester 40-grain HyperSpeed HP	1,378	169	13	0.33	39
0047	CCI 40-grain Velocitor	1,384	170	14.5	0.31	30

NOTES: VEL = Impact Velocity, ENG = Impact Energy, PEN = Penetration Depth, EXP = Diameter of Recovered Bullet and RW = Weight of Recovered Bullet. All loads were tested from a rifle with a 22-inch barrel and fired into 10 percent ordnance gelatin from a distance of 15 yards. Velocity was recorded with a Shooting Chrony. Temperature at time of testing was 39 degrees F. Elevation: 2,200 feet. Because ammunition packaging and names change, the manufacturer's product number (MF #) is listed for each load. Hornady's Critical Defense load for the .22 Magnum will deliver decent expansion and good penetration even when fired from short-barreled handguns. ing: Keep Out of Rea

Cortouches À Percussion

Mise En Garde: Gardez h



you're shooting will do when it hits a bobcat or a bad guy.

.22 LONG RIFLE

ferent various rimfire loads perform.

It's a good idea to know what the bullet

Used most often for plinking and target shooting, the .22 LR is the premier small-game cartridge. It has fed families and made marksmen. Benchrest shooting legend Walt Berger told me about growing up and hunting groundhogs on a neighbor's farm. The farmer would pay him 10 cents for every groundhog he killed. Walt would save half the money and buy a few rounds of .22 LR with the rest. In those days, you could buy .22 LR ammo by the single cartridge.

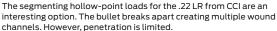
The .22 LR can be effective on larger critters like coyotes and some even rely on it for personal protection. Poachers even use the .22 LR on game animals as large as deer. I don't support poaching, and I don't think the cartridge is ideal for coyotes or bad guys, but regardless of what you plan to do with a .22, you should choose a load that'll amplify your chances for success.

In my opinion, the best all-around .22 LR load is the 40-grain CCI Velocitor. Out of a rifle, it'll penetrate deep-

RIMFIRE CARTR

8

er than a foot and expand to almost 1.4 times the original bullet diameter. It's death on small game, works well on groundhogs and similar-sized critters, and if I was going to shoot a coyote or a criminal with a .22 LR, it'd be my load of choice. Surprisingly, this bullet will even expand when fired from 





handguns. If you cannot find the Velocitor load, the 40-grain Winchester HyperSpeed Hollow-Point is almost as good.

Though with the recent acquisition of the Remington Ammunition by Vista/Federal, we're unsure what munitions will remain cataloged. Two Remington loads of note are the CBee22 and the Yellow Jacket. What makes the CBee22 unique is its subsonic velocity, low report, and the bullet's ability to still expand. For vermin control around the home or small game at close range, it's an interesting option. Because of its high velocity and fragmentation, the Yellow Jacket load is ideal for ground squirrels, prairie dogs and even critters like rock chucks, raccoons and such.

.22 MAGNUM

Though a rimfire, the .22 Magnum is in a different category than the .22

LR because velocities can be as much as 50 percent faster with the same weight bullet. For smaller edible game like squirrels and rabbits, some .22 Magnum loads can be devastating and damage a lot of meat. For critters like foxes and raccoons, the .22 Magnum might be the ultimate cartridge. With the right loads, it can even be very effective on larger animals like coyotes and badgers. And, if someone is of the mind to use a rimfire cartridge for self-defense, the .22 Magnum is the best option.

If you're looking to blast prairie dogs, the explosive .22 Magnum loads like the Federal and CCI Speer 30-grain TNT offerings are best. For edible small game more conventional loads like the 40-grain JHP and TMJ loads from CCI are lethal without a lot of meat damage. Because of their ability to penetrate deep, these loads also work well on larger critters like coy-

CCI's Stinger load is a wonderful option for the .22 LR. It hits a little harder than the Velocitor load, but won't penetrate as deep.

otes. Another great coyote load is the 40-grain CCI Game Point, which will expand to about double diameter and penetrate deeper than 16 inches.

For an all-around .22 Magnum load, I like the Remington 33-grain Accu-Tip. It offers decent penetration and dynamic expansion. Another load that performs very similar to the AccuTip is the 30-grain Hornady V-Max load. Both have proven to be very accurate out of a variety of .22 Magnum rifles they've been tested in, and they're my go-to loads for the .22 Magnum.

For self-defense, the Hornady Critical Defense and Speer Gold Dot loads are the best options. They'll both expand well, even from barrels as short as an inch, and penetration in 10 percent ordnance gelatin hovers around



the FBI's minimum of 12 inches. Though these loads are intended for handguns, if they shoot with precision from your rifle they can also serve as general-purpose loads for just about anything.

.17 HMR

Shortly after it was introduced, the .17 HMR seemed like it was going to put an end to the .22 Magnum. It was faster and incredibly accurate. However, hunters soon began to realize that the .17 didn't offer the versatility of the .22 Magnum. While it explodes prairie dogs and tree squirrels, it didn't have the bullet weight or penetration needed to anchor larger critters without ideal shot placement. Almost all of the .17 HMR loads—at least of the

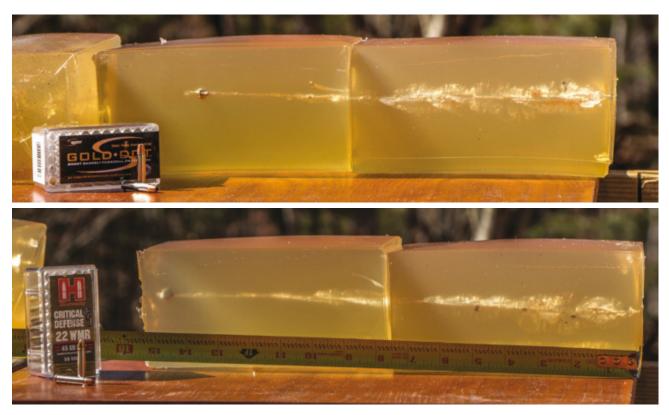
MF #	.22 MAGNUM LOADS	VEL	ENG	PEN	EXP	RW
P765	Federal 30-grain Speer TNT	2,286	348	4.75	0.34	8.9
0059	CCI 30-grain JHP 30 grain	2,335	363	6.25	0.35	10.8
0060	CCI 30-grain Maxi Mag TNT	2,326	360	4.5	0.35	19.0
PR22M1	Remington 33-grain AccuTip	2,065	312	10.0	0.42	19.7
0024	CCI 40-grain JHP	1,998	355	12.5	0.37	30.9
0022	CCI 40-grain Game Point	2,039	369	18.0	0.4	39.2
0954	Speer 40-grain Gold Dot	1,747	271	12.75	0.31	28.0
0954	Speer 40-grain Gold Dot ¹	741	49	10.75	0.26	40.0
0954	Speer 40-grain Gold Dot ²	1,179	123	12.50	0.33	35.0
0954	Speer 40-grain Gold Dot³	1,348	161	12.25	0.33	28.0
0023	CCI 40-grain TMJ	1,983	349	18.5	0.39	24.9
83200	Hornady 45-grain Critical Defense	1,715	294	11.75	0.34	31.0
83200	Hornady 45-grain Critical Defense ¹	733	52	10.75	0.31	45.0
83200	Hornady 45-grain Critical Defense ²	1,111	123	15.0	0.36	44.0
83200	Hornady 45-grain Critical Defense ³	1,280	163	15.0	0.30	40.0

NOTES: VEL = Impact Velocity, ENG = Impact Energy, PEN = Penetration Depth, EXP = Diameter of Recovered Bullet, and RW = Weight of Recovered Bullet. All loads were tested from a rifle with a 22-inch barrel and fired into 10 percent ordnance gelatin from a distance of 15 yards. Velocity was recorded with a Shooting Chrony. Temperature at time of testing was 39 degrees F. Elevation: 2,200 feet. Because ammunition packaging and names change, the manufacturer's product number (MF #) is listed for each load. 1 indicates 1.0-inch barrel, 2 indicates 1.8-inch barrel, 3 indicates 4.6-inch barrel.

MF #	.17 HMR LOADS	VEL	ENG	PEN	EXP	RW
PR17HM1	Remington 17-grain AccuTip	2,569	249	4.5	F	NA
0049	CCI 17-grain V-Max	2,606	256	4.5	F	NA
83170	Hornady 17-grain V-Max	2,592	254	4.5	F	NA
P770	Federal 17-grain Speer TNT	2,592	254	4.5	F	NA
0053	CCI 17-grain Speer TNT	2,594	254	4.5	F	NA
0055	CCI 20-grain FMJ	2,384	252	16+	NONE	17
0052	CCI 20-grain Game Point	2,467	270	9.0	0.33	18

NOTES: VEL = Impact Velocity, ENG = Impact Energy, PEN = Penetration Depth, EXP = Diameter of Recovered Bullet and RW = Weight of Recovered Bullet. All loads were tested from a rifle with a 24-inch barrel and fired into 10 percent ordnance gelatin from a distance of 15 yards. Velocity was recorded with a Shooting Chrony. Temperature at time of testing was 39 degrees F. Elevation: 2,200 feet. Because ammunition packaging and names change, the manufacturer's product number (MF #) is listed for each load. etrating, and if the larger of the small game is what you're after, the Game Point load from CCI seems to be the best all-around option.

The .17 HMR is a fantastic cartridge, and I've used it a lot on prairie dog towns and even for groundhogs. I once killed a prairie dog a few yards past 500 with the .17 HMR. No, I didn't hit it on the first shot, and the critter didn't die straight away. Regardless, the ability to hit a Coke



17-grain variety—create massive wound cavities by rimfire standards, but penetration is limited to less than 6 inches.

If you're looking for a rimfire for prairie dogs or ground squirrels at distance, the .17 is the ideal cartridge. It'll also work well on rock chucks and groundhogs out beyond 200 yards as well. And yes, you can take a coyote or a badger with the .17, but you best take a head shot or a good broadside shot; those explosive bullets will just not drive deep enough to shoot through the paunch or a lot of muscle tissue. The FMJ and Game Point loads from CCI are much better at pen(Top) Speer's 40-grain Gold Dot load for the .22 Magnum will expand and penetrate past 12 inches when fired from a handgun with a barrel as short as 2 inches.

(Above) Out of 2- and 4-inch barreled handguns, you can expect almost 16 inches of penetration from Hornady's 45-grain .22 Magnum Critical Defense.

Though the expansion is limited, the Speer Gold Dot load for the .22 Magnum is a good option for handguns with barrels as short as linch.



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These recovered bullets look very similar to larger-caliber defensive handgun Speer Gold Dot bullets, but they were fired from a .22 Magnum handgun.

bottle-sized target at 500 yards with a rimfire rifle is notable, even if it did take a half-box of ammunition to do it.

.17 WINCHESTER SUPER MAGNUM

Winchester's .17 Super Magnum shoots flatter and hits harder than the .17 HMR. However, from a terminal performance standpoint, penetration is only marginally increased. Unless you're trying to drastically extend your range, it's questionable if the cartridge is worth the extra cost. In fact, .17 Winchester Super Magnum ammunition costs about 25 percent more than .17 HMR ammunition. Both the 20- and 25-grain loads perform similarly but surprisingly, in the penetration category, the lighter bullet has the edge.

The old saying that "velocity kills," does have some truth to it. When lightweight bullets are driven at high speed, they tend to create massive wound cavities, though in some case these wound cavities are shallow. That's pretty much the case with the .17 Winchester Super Magnum. BeWinchester's .17 Super Magnum is a highvelocity rimfire cartridge that'll deliver voluminous but moderately shallow wound cavities.

gnum ler than the a terminal polymer TIP

NEW RIMFIRE CALIBER

MF #	.17 WSM LOADS	VEL	ENG	PEN	EXP	RW
S17W20	Winchester 20-grain Polymer Tip	2,865	278	8.5	0.24	7.8
S17W25	Winchester 25-grain Polymer Tip	2,500	347	5.5	0.25	14.7

NOTES: VEL = Impact Velocity, ENG = Impact Energy, PEN = Penetration Depth, EXP = Diameter of Recovered Bullet and RW = Weight of Recovered Bullet. All loads were tested from a rifle with a 22-inch barrel and fired into 10 percent ordnance gelatin from a distance of 15 yards. Velocity was recorded with a Shooting Chrony. Temperature at time of testing was 39 degrees F. Elevation: 2,200 feet. Because ammunition packaging and names change, the manufacturer's product number (MF #) is listed for each load.

cause of the higher-impact velocities, the bullets will damage lots of tissue and should deliver fast incapacitation for anything up to about 20 to 25 pounds. However, if a large coyote is the target, a hunter would be wise to take care to place the bullet in the engine room and avoid raking shots if they want a clean and quick kill. **GDTM**

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he .17 HM2, or 17 Mach 2, was a joint venture between Hornady and CCI in 2003. A CCI Stinger case, which measures 0.100-inch longer than a standard .22 LR case, was necked down to take a 17-grain, 0.172-inch-diameter bullet. The result was a .17 that fit in a .22 LR action and magazines—the only change in most cases being a barrel—but with effectively double the velocity of a match-speed .22. At 2,100 fps, that little bullet ran *flat*. Run the numbers, and you see the .17 HM2 rises and falls 2 inches to 137 yards or so.

Hornady and CCI unveiled the round at SHOT Show 2004 hot on the heels of the previous .17 HMR launch. The HMR was a wild success, and much of the industry wasn't ready for the unprecedented demand in .17 ammo and firearms. So, in 2004, Hornady and CCI made a big to-do of the new .17 Mach 2, which produced muzzle velocities twice the speed of sound. All the major manufacturers had rifles ready to go.

17 GRAIN VARMINT

But wild demand never materialized. Many consumers felt the Mach 2 didn't do anything the HMR couldn't do better. The .22 WMR necked down to .17 was indeed flatter and hit with more sauce than the .22 LR Stinger necked down to .17. Small-game hunters engaging critters out to 120 yards were the exception.

Those rimfire hunters quickly realized the .17 HM2 had plenty of killing power, was more than flat enough, bucked the wind better than .22 LR and, most importantly, didn't make a mess of things if you intended to eat your target.

The Mach 2 was elegant, surgical, deadly, with even less recoil, less noise and much less meat damage. The caveat was it required head shots. The little bullet doesn't carry enough whoop-ass to instantly dispatch a body-shot squirrel. "Head shots or nothing," became the Mach 2 small-game hunters' credo. 

17 MACH 2 AMMO COMPARISONS

	CCI V-MAX	CCI VNT	ELEY V-MAX	HORNADY V-MAX	HORNADY NTX
PRICE PER 50	\$7.99	\$8.49	N/A	\$7.84	\$9.99
PRICE PER ROUND	\$0.16	\$0.17	N/A	\$0.16	\$0.20
BULLET WEIGHT (GRAIN)	17	17	17	17	15.5
AVG. VELOCITY (FPS)	2,122.04	2,105.88	2,152.16	2,096.07	2,048.84
HIGHEST VELOCITY (FPS)	2,225.13	2,165.13	2,277.68	2,206.34	2,160.33
LOWEST VELOCITY (FPS)	1,971.96	2,005.17	1,989.05	1,939.16	1,904.23
EXT. SPREAD (FPS)	253.17	159.96	288.63	267.18	256.09
STD. DEV (FPS)	53.83	36.25	56.87	52.89	54.88
AVG. GROUP (INCHES)	0.5711	0.4972	0.496	0.4149	0.4769
BEST GROUP (INCHES)	0.361	0.226	0.229	0.166	0.256
WORST GROUP (INCHES)	0.809	0.728	0.597	0.572	0.867

In 2018, that thankfully changed. Hornady and CCI saw it fit to bring it back. Savage and Volquartsen put out new rifles in the caliber. (Hat tip to Savage who really never stopped.) Boutique options soon became available from Anschutz and Vudoo Gun Works.

The Volquartsen Summit is my favorite 17 Mach 2 for hunting—not because it's the most accurate Mach 2 in my collection, but because it's the most durable, weather-resistant and handiest in the woods.

Topped with a discontinued Nikon ProStaff P3 Target EFR 3-9x40mm scope, in a Magpul Hunter X-22 stock with a Volquartsen 16.5-inch carbonfiber tension barrel and a Magpul Rifleman Loop Sling, the whole package weighs a shade under 7.25 pounds.

To test current 17 Mach 2 ammo, I went with this tried-and-true hunting setup. The average 0.57- to 0.41-inch five-shot groups at 50 yards are right in line most Mach 2 rifles, in my experience.

Four types of Mach 2 ammo were tested. The widely available CCI VNT,



CALIBER	BULLET	GRAINS	B.C.	VELOCITY	DROP AT 75	DROP AT 100	DROP AT 125	DROP AT 150	100- YARD DRIFT	200- YARD DRIFT
17HM2	NTX	15	0.115	2,050	0.3	1.4	3.6	7.1	5	22.3
17HM2	V-MAX	17	0.125	2,100	0.2	1.2	2.4	3.9	4.4	19.8
17 HMR	V-MAX	17	0.125	2,550	0.1	0.3	1.3	3	3.3	15.4
17 HMR	V-MAX	20	0.125	2,375	0	0.6	1.9	4	3.7	17
22LR (MATCH SPEED)	LRN	40	0.132	1,090	2.4	7.2	14.5	24.5	4.5	16.2
22LR (HIGH VELOCITY)	LRN	40	0.132	1,440	1.3	4.1	6.7	9.8	5.8	21.6
22 WMR	MAXI MAG	40	0.114	1,875	0.5	2.1	4.9	9.1	5.7	24.1

RIMFIRE CARTRIDGE COMPARISONS

Hornady V-Max and Hornady NTX, plus the recently discontinued CCI V-Max and the long discontinued Eley V-Max, which has been out of production at least 10 years.

All told, 10 five-shot groups of each ammo type were sent into USBR targets at 50 yards. Every shot was chronographed with the Labradar system, which recorded the highest, lowest and average velocity, plus extreme spread and standard deviation. Groups were measured with a set of digital calipers edgeto-edge and 0.172—the diameter of a .17 bullet—was deducted and recorded.

Three notable things immediately

jumped out:

Eley. Eley makes some of the very best rimfire ammunition in the world. That said, its older .17 HM2 offering doesn't outperform current runs from CCI and Hornady. Why does this matter? Because it's grown somewhat fashionable in rimfire circles to bemoan "no good ammo" when it comes to the .17s, and while it's true that only select .22 LR is made to Olympic-level precision, it's not accurate to think, "If only Eley or Lapua loaded the .17s we'd have better offerings." In reality, all the Mach 2 ammo performs about the same, and it always has.

CCI VNT. My go-to hunting load

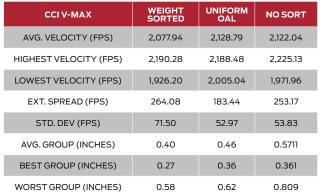


These days, SAAMI has ensured that ammo manufacturers are held to very high standards. Still, weighing and sorting individual rounds can make good accuracy exceptional. surprised me by not printing the smallest groups, as it has done on other occasions in this rifle and others. Notably, the standard deviation is a full 20-fps less than all the rest, which, in my experience, equates to less vertical stringing at 100 yards with Mach 2, but it doesn't seem to make much of an accuracy difference at 50. It's also worth noting that at 150 and 200 yards, the CCI and Hornady 17-grain offerings punch clean holes in paper with my rifles.

Some shooters have noticed tumbling, a loss of accuracy, and the ugly tears in paper beyond 150 yards. Accuracy-wise, on good days with little wind, all my Mach 2s will print sub 1-inch groups at 100 yards, but more often linger around the 1.25- to 1.5-inch mark. Just like we've seen at 50 yards, it's common to shoot a very nice cluster of four shots within an inch, with the fifth remaining round "way out" in left field, blowing the group.

Hornady. Hornady printed the best groups of the day, and my guess is their 17-grain V-Max is the best-selling Mach 2 ammunition out there. Interesting enough, Hornady labels their ammo with a velocity of 2,100 fps, whereas the CCI is marked 2,010 fps. All the Mach 2 ammo I've ever put through a chrono runs between 2,050 and 2,200 fps, whatever the gun. Pull a Hornady bullet and a CCI bullet, and you'll see the powder looks identical. The V-Max bullets are identical, save the different-colored tips.

Seeing how they're all loaded in the same place, I didn't see much difference until recently when CCI differentiated with the only VNT load. Hornady also has the only lead-free California bullet option, with the 15.5-grain NTX. Some 



Mach 2 rifles don't shoot this little copper bullet very well, but the Summit shoots it great. Were it not for a blown group in the .800s (that was probably me), it may very well have come in second place accuracy-wise. It's also a killing bullet.

IMPROVEMENT THROUGH SORTING?

One of the criticisms of the .17s is that they're not made with match .22-level precision. This is true, of course, but it's possible to improve groups by sorting. Sorting is largely a waste of time when it comes to .22 LR because Eley and Lapua do a much better job sorting their good ammo than any shooter with a powder scale ever could—and they package their most consistent, uniform ammo together under brands like X-Act and Tenex.

With the .17s, the manufacturers don't get this intense, so it's on the shooter to

cherry pick the most uniform loads. To test this, I sorted a box of CCI V-Max by weight, and another box by cartridge overall length (COAL).

The CCI was very uniform by weight with 35 of the 50 rounds measuring to one-tenth of a grain, according to my RCBS powder scale. There was 0.5 grain extreme spread in weight over all 50, but 45 of those were within two grains of each other. That seems pretty damn consistent for non-premium hunting ammo.

On the other hand, COAL was more spread out. Interestingly enough, the 10 rounds that measured 0.991 COAL varied in weight by +-0.3 grains, so there doesn't appear to be any deep connection between seating depth and weight. A shooter who wants to make themselves extra crazy or typically finds themselves bored on a Saturday night could do both.

When the sorted ammo was sent downrange to 50 yards in five-shot



When shooting light, .17-caliber cartridges, small variances between individual rounds can make a big difference. Lesson: It always pays to double-check. groups, the weight-sorted rounds proved the most accurate. This was an extremely limited test by only working with two boxes. A better look would involve a brick, or multiple bricks, plus multiple rifles and shooters, but it does show that there's some value in sorting .17 HM2 for weight if peak accuracy is the goal.

SEMI-AUTO?

An early issue with Mach 2 was reliability in semi-auto actions, namely the Ruger 10/22. The pressure curve with .17 HM2 compared to .22 LR is dramatically steep. In the Ruger platform, this led to FTEs, out of battery ignitions and cracked brass. A solution was a heavier Ruger bolt, either with a block of tungsten attached on the underside as Volquartsen did, or with a heavy charging handle. Heavy charging handle kits can still be found online, and they work OK, but I've had more success by drilling out factory Ruger bolts and slugging them with tungsten.

This is an involved job and not for most everyone. A less involved alternative is finding an out-of-production Volquartsen Mach 2 bolt. Although the used-market price will certainly be more than the cost of a new Savage A17 HM2, a delayed blowback Mach 2 semi-auto works well right out of the box. For those who must have a semi-auto, the masochists will prefer modifying a 10/22. The sane should just buy a Savage. **GDTM**

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RIFLES

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O1 Savage A17 HM2 Savage has succeeded with semi-auto rimfires where most others have failed,

thanks to their innovative delayed blow-back action. Most semi-auto .22 LRs have a direct blow-back action. That is, the detonation primer and powder sends the bullet down the barrel, and also moves the bolt back directly, ejecting the brass, then picking up and loading a fresh round from the magazine. The Savage does much of the same, but the bolt has a top lug that locks in place and delays the blowback a few critical milliseconds. In the case of 17 Mach 2 (and .17 HMR and .22 WMR), that hair's width of delay lets the pressure curve drop back to earth, and the bolt can safely and reliably cycle in a new round. The A17 HM2 works, is inexpensive and can be made very accurate by glass bedding action to stock. The only "con" with this rifle is the trigger, which doesn't live up to the famous AccuTrigger name.

MSRP: \$379

<mark>02</mark> Vudoo Gun Works Raven

When only the best will do, there's Vudoo. The Raven is their dedicated smallgame rifle, available in .22 LR, .22 WMR, .17 HMR and .17 HM2. The heart is the V22 action (V22m in the magnum calibers), attached to a 416R stainless ACE barrel in a "ranch" contour, which tapers down to 0.720 at the threaded muzzle. It sits in a custom Outlander stock by Grayboe, which shoulders, swings and all-around feels like a true sporter.

02

My .22 WMR is a wand of a rifle except for the big ACIS patterned magazine. Some love it, some don't, but you cannot argue with the interchangeability of the ACIS and Remington 700 footprint, allowing for the entire ecosystem of aftermarket Remington triggers, stocks, etc. Many react to the price of Vudoo rifles, but as I told a friend recently, "Sell your huge collection of \$500 rimfires you never shoot, and you can buy two."

MSRP: \$2,395

03 Volquartsen Summit

My favorite pure hunting rimfire rifle, the Summit from Volquartsen, is an odd duck. Basically, it's a toggle-bolt 10/22. Primary Weapons System developed the straight-pull 10/22 concept for hunting and running 10/22 platform accessories (stocks, barrels and triggers) with a suppressor. In 2018, as the ammo companies rolled out new runs of .17 HM2, they released the Summit in 17 Mach 2. Stock options are numerous, but you'd be hard-pressed to find one better in the field than the Magpul X-22 Hunter. It's light, tight, fast and the tolerances are so legit that I've yet to find one that needed a bedding job. Volquartsen ships the rifle with their lightweight tension carbon-fiber barrel with a 0.920-inch bull profile. It's a perfect balance, in my estimation, of hunting rifle weight versus accuracy.

MSRP: \$1,225

04 Savage Mark II FV

03

Unless you're made of money, this should be your first 17 Mach 2 rifle. Savage made the Mark II in .17 HM2 when all others abandoned the round-even the ammo companies. The rifle is accurate out of the box and can be improved with a high-quality stock and bedding job. The trigger is among the best compared to other sub-\$500 rimfire rifles. It can also be worked on easily with a little kitchen-table gunsmithing. The Mark II FV is a heavy-barreled version, though it's not a true bull barrel. The thinbarrel version with iron sights, the Mark II F, costs a few dollars less. MSRP: \$355

04

05 Lothar Walther

For those disposed to taking apart things, barrel maker Lothar Walther makes a variety of rimfire barrels chambered in 17 Mach 2, including tubes for the CZ 455/457, the Ruger Precision Rimfire Rifle, the Tikka T1X and the disgustingly awesome Zermatt Arms RimX action. In all of these cases, a barrel swap is a fairly easy process with minimal tools. Because the .17 HM2 is just a necked-down .22 LR, existing magazines tend to work fine. MSRP: **\$299-\$399**

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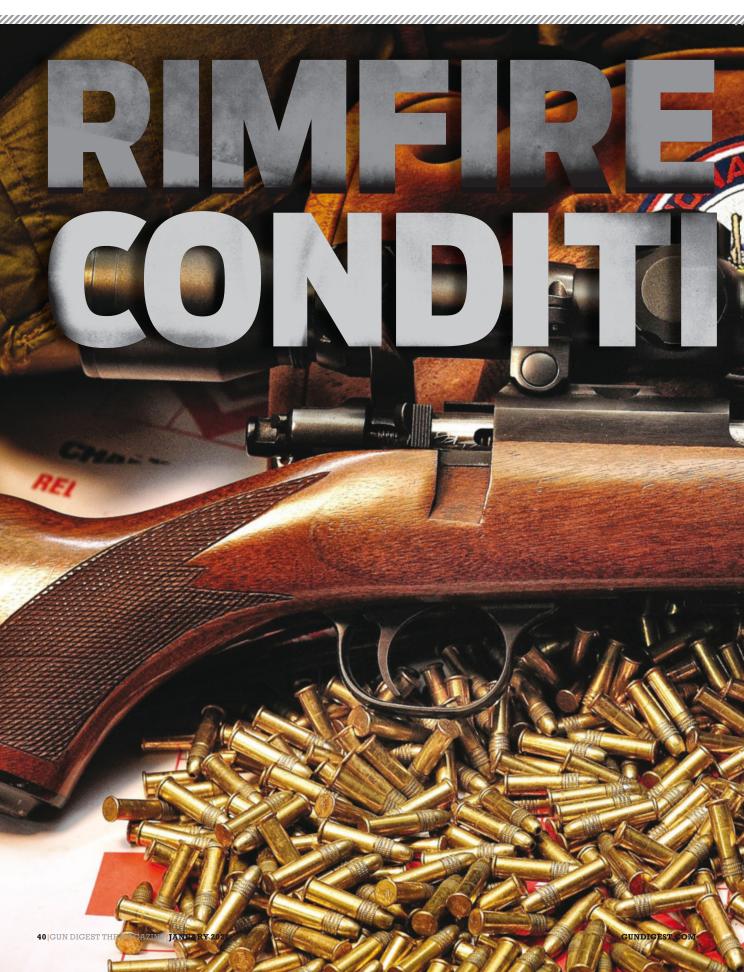
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RIMFIRE BARREL CONDITIONING // BY PATRICK SWEENEY



When switching back and forth between different types of ammo, this is more like what the author gets. Actually, this is a well-behaved group. He often says that his M-41 is a finicky redheaded supermodel when it comes to ammo it likes. shot my first IPSC match in the fall of 1977. I won it, and that was that; I was hooked. By 1986, I had been on a roll for a few years. I attended three U.S. IPSC Nationals and had a slot for a fourth. I shot in local matches in two states and

the Second Chance Combat Match. I suddenly had an invitation to the inaugural Masters in my mailbox. *Woo-hoo!* But I needed a rimfire pistol.

As luck would have it, I had just acquired an S&W M-41. I proceeded to the gun club with my also-new Ransom rest and proceeded to make myself crazy. Nothing would shoot well enough for

the match, and nothing shot as well as the pistol or the ammo makers promised. Even the good stuff printed groups on the lines of 3 inches at 50 yards.

I was about to give up when I remembered reading about small-bore rifle competitors. They'd test various batches of ammo for accuracy, and when they found the best available for their rifle (this was in the early Paleolithic era for ammunition accuracy), they'd buy a metric truckload of it.

And not just that load but that production lot.

The important thing was this: They had learned the necessity to "condition" the bore for each ammo tested. That is, they'd either run a patch down the bore and then shoot the next load (rare in small-bore circles) or just start shooting the next load. But they wouldn't measure groups with the next load until the load had time to deposit its own mixture of lube and residue in the bore—its own mojo, if you will.

That was the step I was missing.

By shooting two, three or four groups with a given load, and then switching to the next, I wasn't giving my M-41 time to settle down with a particular batch of rimfire and get into the mood. It was always just about set, and then I'd go and change things.

Oh, the impatience of youth.

BARREL CONDITIONING

Why do firearms do this, and in particular, rimfire firearms?

Simple: .22 Long Rifle ammunition is, as we all know, outside-lubed. Unlike centerfire ammunition, where the case encloses the lubricant, on a rimfire, it's right out there, in front of God and everybody else.

Every maker has their own "secret sauce" of lube—what works, what's cheap and what stays in place during manufacture, shipment, storage ... who knows? They make their own, and if there are still traces (or more than traces) of lube or something else from the previous load tested, the bullet can't really do its job.

The lubrication issue is exacerbated by the pretty much pure lead composition of the bullet. They're made soft because it's cheap, and soft bullets are easier to swage into shape. But they're also made soft so they'll upset, or obdurate, in ballisticians parlance, to fit the bore.

Having some other lubricant interferes with the smooth progression of this part of the bullet's travel. We are, after all, talking about the last bits of accuracy, so anything that interferes with the process makes a difference on the last few percentage points of performance.

SWEAT THE SMALL STUFF

This means that, in order to wring the most accuracy out of a given load, you have to shoot enough of it so that the lube-size-bore-fit-travel equation is to the satisfaction of the firearm in question.

What about cleaning the bore? First of all, at that time (I don't know about now)

"They wouldn't measure groups with the next load until the load had time to deposit its own mixture of lube and residue in the bore—its own mojo, if you will."

RIMFIRE BARREL CONDITIONING // BY PATRICK SWEENEY

The author is a big fan of Eley Tenex because they often deliver groups like this at 50 yards. However, when switching to another batch of Tenex, he'll recondition the bore again.

Once the author has conditioned the bore of his M-41 to Federal Gold Medal, it'll deliver groups like this at 50 yards from the Ransom rest.



most small-bore shooters would look at you with a mixture of horror and pity were you to broach the subject of cleaning rods, solvents and patches. Brushes down the bore was simply a taboo subject. The risk of wear to the throat or muzzle of their rifle was too great, in their opinion—better to simply shoot more ammo.

As far as cleaning the rest of the rifle or pistol was concerned, that wasn't a problem. And if any cleaning solvent or oil found its way into the chamber or down the bore, well, the solution to every problem was to shoot enough rounds to "clean it up" and "recondition" the bore. Back when "expensive" rimfire ammo might cost you a nickel a shot, "shooting more" was inexpensive advice.

DEFINING ACCURACY

As I told you, this was the early Paleolithic as far as bores, lube, cleaning and accuracy were concerned. Today, things may or may not have changed; it depends on what you think "accuracy" is and who you're shooting with. The last time I was shooting accurate rimfire rifles (scarily accurate, at that) we were connecting on plates out to 400 yards, as long as the wind cooperated. We didn't change ammunition, however, and we didn't put anything down the bore but more ammo.

Now, does this matter today? That depends. If you're out for an afternoon of plinking or teaching a new shooter how things work, no. Minute-of-tin-can is going to be plenty accurate, and using whatever ammo is available, inexpensive or reliable is what'll get the job done.

However, if you're trying to improve your skills in the form of using a duplicate rimfire to your centerfire pistol or rifle, then maybe. If the accuracy level of the mismatch ammo to bore is still smaller than your aiming error, you're in the same boat as the plinker or new shooter—you won't notice a thing.

However, if you're shooting in competition or you're trying to find what an otherwise accurate pistol or rifle will do at its best, then, yes, you have to condition the bore. And recondition with the next load.

What I found was that my M-41 was the equivalent of a redheaded supermodel when it came to rimfire ammunition and accuracy. It'd take me 20 to 30 rounds of the next load before it'd settle down, and then it might or might not like what I was feeding it. I finally found that there was a correlation: The more expensive the ammunition, the better the chances it would deign to shoot it well.

Sigh.

I used the cheap-but-accurate-enough ammo for practice, and then I made sure I reconditioned the bore thoroughly with the expensive stuff before loading up the car and driving to Quincy, Illinois. I did well enough that, after three years, they bumped me up from amateur to professional. I couldn't be both a full-time gunsmith *and* a professional shooter, so I had pick one and bowed out of the pro division.

Oh, and the redhead comparison? I had by then been living in a university town for a number of years. While my sample size wasn't statistically significant, there were some correlations. And yes, there were levelheaded redheads and crazy brunettes (we won't speak of blondes at this time), but the odds were, well ... with the stereotype. **GDTM**

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Two firearms experts, two drastically opposing viewpoints.

KILCING POWER BY ROY E. WEATHERBY

"In Africa we learned that if we used smaller-caliber, high-velocity bullets, the animal had to be close enough so that the bullet would not lose enough velocity to keep it from disintegrating inside the animal's body ... but if you can get that small caliber to disintegrate inside the animal, it will kill anything on the face of the Earth."

The question of lightweight, highvelocity bullets versus large-bore, heavy-weight, slower-moving bullets has been the subject of conversation and controversy for many years. And where experts disagree, it is very difficult for the layman to shed much



A leopard killed with one shot from the .300 Weatherby Magnum, with a 150-grain bullet.

to generalize a great deal, taking a lot for granted when writing about killing power. For example, if they shot their grizzly with a .25–35, using a 117-grain Remington Belted bullet, and the animal died, from that time on they think that is the cartridge and that is the bullet. However, if they shot the animal with a 180-grain Silver Tip bullet and it did not stop the animal, then, from that time on, either the .30-06 would be no good or the Silver Tip bullet would be of no value. Thus conclusions are drawn from isolated instances, or at best from a few cases. Natural enough, perhaps, but hardly the proper amount of evidence.

We all know that the behavior of the bullet depends upon the velocity it is traveling when it makes contact and the part of the animal hit. If the muzzle velocity of the bullet is 3,000 fps, by the time it has reached the animal 400 yards away the velocity has dropped to not much faster than



This zebra was killed at 175 yards with one shot in the paunch with an 87-grain bullet from the .257 Magnum, muzzle velocity 4,000 feet.

light on this subject.

It has been instilled in the mind of man that the heavy bullet does the killing. When a man walks into a sporting goods store and asks for a box of .30-06 cartridges, he asks for 220-grain bullets if he is going to hunt moose or grizzlies; if it is .270 caliber, he asks for the 150-grain bullet and the same applies to the .257 he will ask for the 117-grain bullet, if he's going after something large. So, the trend of thought still is: Use a heavy bullet if you want to get the heavy animals.

Most hunters and writers are prone

the .22 rimfire, and the bullet will not have the same effect as if it were traveling at greater velocity. If the bullet has lost enough velocity, it is not going to expand, regardless of the type of construction. If the bullet is traveling fast enough when it makes contact, it is going to ex-

pand regardless of the type of construction.

You cannot get a bullet that will expand at all distances, at all velocities, and will blow up inside the animal-one bullet can't have those combinations. You cannot get a bullet that will penetrate just so deep and then make the expansion. I have experimented a great many years with high-velocity bullets. I have taken the tiny 48-grain .22-caliber bullet, pushed it along at 5,000 fps, and made holes the size of a hen egg through one-half inch of the hardest armor steel plate. Now, it is hard for me to believe that this bullet is going to break up on the surface of an animal's hide and not go in deep enough to do damage.

There is a story—an interesting one-on velocity. I am sure that we will find, over a period of a few more decades, that our present .270 Winchester, .30-06 or the .220 Swift will be as obsolete as yesterday's .45-70 and .351. We have been increasing the speed of bullets from the time the first rifle was made. Today, we have standard rifles that shoot 4,000 fps. Why is the .270 WCF so extremely popular today? Because it shoots the 130-grain bullet at 3,160 fps. Why do we say that it is a better killer than the .30-06? Velocity is the answer. The 130-grain bullet, traveling 3,160, makes a better killer than if it were traveling at 2,500.

Then it only stands to reason that if you could push that 130-grain bullet at 5,000 fps, it would make a phenomenal killer. Who knows what 5,000 fps will do to living flesh? When you hit a piece of armor plate, no existing commercial cartridge will do any more than make a smear. Hit that same piece of armor plate with one of these super high velocity bullets, and it will make a half-inch hole completely through it. There must be only one answer: The bullet that goes completely through that armor plate carries more killing power, regardless of its weight.

ITS EVOLUTION

If velocity was not the answer to killing power, then there would have been no reason for us to have left the black powder days-other than for flat trajectory. It stands to reason that if you drive your automobile at 60 miles an hour, it is going to do more damage when it hits a brick wall than if you are driving at 10 miles an hour. Likewise, more damage to that brick wall will result if you are driving a light passenger car 60 miles an hour than if you are driving a big, heavily loaded truck at 10 miles an hour. Mathematically, the slow-moving truck may give you as many foot pounds of energy when hitting, but the light vehicle, at a much greater speed, is going to do a lot more damage when it hits, both to the automobile and to the brick wall. The same applies to the bullet.

During my years of study on high velocity and killing power, I have come to one definite indisputable conclusion. Velocity plays the most important role in killing power—and tomorrow's rifle is going to be one with high velocity. There will be changes made in those rifles. There will be new priming principles, new powders; there will be new cartridge cases, there will be new actions, there will be higher pressures—all resulting in greater velocities.

There is always one thing to remember: A high velocity bullet is not going to break up on the surface of an animal's hide, not until it goes deep into the animal's body and destroys a lot of tissue. From my experiences in Alaska, the Yukon Territory, British Columbia, various parts of America, and my last hunt in Africa. I have come to the conclusion that bullets have not yet reached a velocity that will make 100 percent kills at all times when animals are hit in non-vital areas, but they will kill approximately 90 percent of the time. But what the same bullet will do traveling 6,000 fps-none of us know.



This 2,000-pound Cape buffalo was killed at 100 yards with two shots from the .300 Weatherby Magnum, 180-grain Silver Tip bullet. One shot was in the leg, but the shot that killed was in the shoulder. The bullet blew up inside the animal.



PUMPKIN ROLLING

BY ELMER KEITH

"Dangerous game is not really dangerous until it is in close proximity to the hunter, and when that is the case he doesn't need high velocity but rather a big caliber with a heavy bullet that will penetrate well and also deliver a heavy knockdown wallop."

By modern standards, the old .45-70 is a pumpkin roller. Its trajectory curve resembles the rainbow, yet it is accurate. At Fort Harrison, Montana, the long infantry "trapdoor" Springfield made a 10-shot possible at 600 yards on the B target from sandbag rest—this with ancient Frankford Arsenal 500-grain black powder loads.

Its predecessor, the .50-70 trapdoor Springfield, won the Wagon Box fight against the Sioux under Red Cloud. Later, at the Custer and Rosebud fights, the slow single-loading .45-70 cavalry carbines proved no match for the good Winchesters in the hands of the Sioux. The Indians outnumbered the troops in about the same ratio as the fire power of their Winchesters did the Springfield single-shot carbines.

Nevertheless, while the .30 Krag became the service cartridge in 1892, the .45-70 saw use in the Army up into the Spanish-American war of '98. In that war, some outfits were still armed with the long infantry trap-door .45-70, and every time a Springfield was fired at the enemy, the cloud of smoke brought down a barrage of snapping 7mm nickelcovered bullets.

NOT SO FAST

The .45-70 cartridge is ideal for reloading, but the hunter must remember it has a heavy bullet, is a smashing killer for close-range brush and timber shooting, and one should never attempt to make it a highvelocity load. Usually, high-velocity loads mean short, 300-grain bullets, and they are seldom as accurate as the longer 405-, 420- or 500-grain bullets. The 300-grain soft-point Winchester high-velocity load is, however, a very useful deer load ... which cuts down the lead necessary on crossing, running shots.

The cartridge really comes into its own when used in the excellent solid-frame lightweight model '86 Winchester with 22-inch nickel-steel barrel. For all American game—shooting in timber or brush up to 100 yards, or a little over—this rifle with good receiver sight, and the 405-grain softpoint smokeless load is hard to beat; and the cartridge is only excelled by the same bullet in a handload at around 1,700 to 1,800 foot-seconds velocity. The factory 405-grain softpoint smokeless load gives 1,310 foot-seconds velocity, only 100 feet higher than the 500-grain government black powder load in the long infantry rifle.

The load is purposely held down to low velocity, because it is also used in so many older rifles, trap-door Springfield, Remington rolling block, Remington-Lee, Winchester-Hotchkiss and many others, but a good '86 Winchester will safely handle pressures up to 40,000 pounds, while the old black powder loads were limited to 25,000 pounds chamber pressure for safety.

Among the older smokeless loads, the man who wants the 300-grain soft-point high-velocity load can use 30.8 grains of Sharpshooter for 1,886 foot-seconds velocity with only 23,200 pounds pressure. This is the old factory highvelocity load. It can be greatly improved with modern powders, and velocities of around 2,200 foot-seconds with the 300-grain bullet can be had safely. A charge of around 50 to a maximum of 52 grains of Du Pont 4198 powder will give equal velocity with the 300-grain bullet. Different rifles vary somewhat in groove diameter, so the exact charge cannot be given for all rifles as some require a grain or two less for the same results.

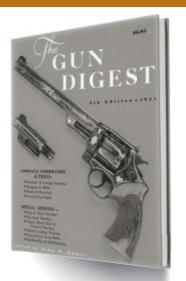
With the 405-grain soft-point—to

AMERICA'S LARGEST FIREARMS LIQUIDATOR



my notion the best bullet of all in this cartridge for average big-game shooting—you can easily improve on factory ballistics. One very fine load was the 405-grain soft-point bullet backed by 32 grains of Schuetzen powder, which gave 1,650 foot-seconds velocity with only 25,000 pounds pressure and was very accurate. The same load, with 10 grains of black powder priming and black powder primers, gave even higher velocity and both were very accurate, making 2-inch and sometimes even smaller 100-yard groups from "tight" rifles.

With Du Pont 4198 powder, the 405-grain soft-point can safely be given a velocity of around 1,800 foot-seconds ... or a trifle more by using



GUN DIGEST

This is an excerpt from the 1951 Gun Digest, 5th Edition.

Here, The Gun Digest presents two opposing views on a controversial subject. Roy E. Weatherby, well known for his Weatherby Magnum rifles, states the case for the lightweight, high-velocity bullet. Roy is a firm believer in the effectiveness of high impact velocities—and can point to plenty of kills to prove it.

In contrast, Elmer Keith champions the large-bore, heavy-weight, slower-moving bullet. Keith is one of the outstanding biggame experts of all time.

As you can see, both men are qualified to speak with authority. Which one voices YOUR opinion?



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48 to a maximum of 50 grains. With Du Pont 3031, excellent velocities can be obtained with either the 300-grain bullet or the 405-grain soft-point. With the 300-grain slug, 48 grains of powder give a velocity of 1,675 foot-seconds and if higher velocity is desired, 57 grains of 3031 powder will give fully 2,000 feet a second. With the 405-grain jacketed soft-point, a charge of 53 to 54 grains of 3031 will give 1,800 to 1,900 foot-seconds—a very deadly load for anything on this continent up to 100 yards.

When you push the 405-grain flat-nose soft-point at 1,800 feet or more, you have a killing load. While the black powder loads had about the same practical trajectory as the .22 LR cartridge and, when loaded up to 1,300 to 1,400 foot-seconds, closely approached the trajectory curve of the 22 long rifle high-speed, the more powerful handloads with velocities of 2,200 feet for the 300-grain and 1,800 to 1,900 feet for the 405-grain bullets take the cartridges completely out of the black powder trajectory class and more closely approach the actual killing power of the 405 Winchester and the 400 Jeffrey cartridges.

Personally, I much prefer a good model '86 Winchester with 405-grain soft-points at 1,800 fps or better to any 405 Winchester model '95. The action is nicer, capable of being reloaded while you keep a loaded round in the chamber and the arm at full cock, as when watching wounded game. With the model '95 in any caliber, if you push a cartridge down in the magazine without being sure the rim of the cartridge is forward of the one below it, you will hopelessly jam the rifle. With the '86, you can push hulls in through the loading gate by feel alone, and as long as you push them completely home there is no danger of jamming the action.

The 405 has long been a standby with experienced Alaskan guides for big bear, but Jack Johnstone prefers his old .50-100-450 model '86 for the work, and if there was a factory load with the 405-grain soft-point at 1,800 to 1,900 fps, I believe many would prefer the .45-70 to the now-obsolete 405 model '95.

If Winchester would only chamber and bore their excellent model 71 for the .45-70 load and bring out a modern load for it with the 405-grain soft-point at 2,000 fps, it would make the finest lever-action timber or short-range rifle extant and be far superior to their present .348 caliber in this model for all large game at close range. Remember, dangerous game is not really dangerous until it is in close proximity to the hunter, and when that is the case, he doesn't need high velocity but rather a big caliber with a heavy bullet that will penetrate well and also deliver a heavy knockdown wallop.

On deer, the 300-grain .45-70 high-velocity load is a quicker killer than the slower 405-grain load, but the reverse is true on elk, moose and larger bear. The 405-grain .45-70 slug, or the 500-grain grooved government bullet for that matter, will not drop a deer in its tracks with broadside lung shots as quickly or as often as will a .270 Winchester, a .30-06 150-grain or a 180-grain .300 Winchester Magnum, but it will not waste half as much meat, either-and will always leave a blood trail where the light, high-velocity bullet often does not. GDTM

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The one that started it all.

he term "retro" is all the rage lately, with some gun companies making "retro" versions of their most popular models. The term also has different meanings for everyone. For me, it means something that's modern yet brings back memories of yesteryear. With the popularity of the "retro" style in the firearms industry, I was pleasantly surprised when Glock presented their Limited Edition P80 Pistol.

The Limited-Edition Glock P80 is a very close reproduction of the original "Glock Pistole 80," which eventually became the popular Glock 17. The original Glock Pistole 80 was the 51.0

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"The P80 is not an exact replica of the Pistole 80, and it is very similar to the G17 Gen 1."

Cen 1."

The differences between the P80 (top) and the Glock 17 Gen 1 are evident ... but subtle.

pistol that Gaston Glock submitted in the early '80s to the Austrian Army. This recreation of the Glock P80 is *not* an exact replica of the 1980s Pistole 80 or the Glock 17 Gen 1, but it's a very close approximation and tribute to the pistol that started it all.

The Limited Edition Glock P80 is a collaboration between Glock and Lipsey's Inc. to commemorate the adoption of the P80 by the Austrian Army.

"The Glock P80 was Glock's first pistol and was the catalyst that led to the introduction of the G17, which revolutionized the pistol market and launched Glock as the pistol manufacturer trusted around the globe for over 30 years," said Bob Radecki, a national sales manager for Glock.

The Glock P80 will be distributed in the U.S. through Lipsey's, a Louisianabased distributor. According to Jason Cloessner, VP & product development manager at Lipsey's, "Glock took painstaking measures to recreate the original frames and packaging to make this P80 edition as close to the original as we could get. Not only is this edition a great shooter, it helps tell the amazing story of how Glock came to be."

TAKE ME BACK

The Glock P80 ships in a very nice commemorative box, but the surprises start when you open the box. Inside the fancy magnetic lid box is the original Glock Tupperware box, identical to the boxes we got with the first generations of pistols—yes, that one that you had to fire the pistol in order to put in the box.

The first thing I did was remove the

white "warning" sticker on the box. I wanted to see the Tupperware box the way it was originally shipped. That's when I got really nostalgic for the mid '80s ... it was like I could hear Duran Duran playing on the radio.

At first glance, the Glock P80 looks



identical to the original first-generation Glock 17. The only difference that I could actually see is the extractor. The Glock P80 has the slanted extractor adopted in the third-generation pistols, not the square, 90-degree extractor present on the original Glock pistol.

I wanted to determine what else was different between the new P80 and the original 17 Gen1, so I reached out to my buddy, James, who owns a Gen 1 Glock 17. He brought it over and photographed both pistols at the same angles with the same lighting conditions so I could highlight the differences between these two pistols.

The magazines are another difference. The P80 ships with Glock Gen 4 magazines, with the ambidextrous magazine release cuts-something that doesn't surprise me. It would've been strange if Glock shipped the P80 with the original non-drop-free magazines of the mid '80s. But after some testing, the P80 accepts and functions perfectly with just about any Glock 17 magazine I could find ... and a couple aftermarket models, too.

Honestly, other than the extractor shape, these two pistols are almost identical. The main differences are that the front and rear sights are slightly different and the guide rod on the P80 is the modern captured style. Other than that, you have to spend a whole lot of time inspecting the photos to be able to tell them apart.

I know Glock probably didn't want to make them *exactly* identical so people wouldn't pass the new P80 as a vintage Glock, but they're very close indeed.

BUT, DOES IT SHOOT?

After spending some time dry-firing the P80, it was time for the fun partshooting. For the testing platform, I used the new Ransom International Multi Cal. Steady Rest, a sturdy aluminum rest with all the comforts and adjustability I need. I selected Truglo Tru-See Splatter Targets, and I set them at the distance of 10 yards. I wanted to see how the pistol performed, not my ability to shoot the pistol.

For ammunition, I chose two new offerings from Federal: the new Punch 124-grain JHP and the newly packaged Practice and Defend 100-round Combo Pack, which conveniently packages 50 rounds of 124-grain Syntech Training Match ammo and 50 rounds of 124-grain HST JHP ammo. This convenient combo pack allows the shooter to practice with the Syntech Training Match ammo and load at least two magazines, depending on the pistol with the HST JHP ammo for personal defense.

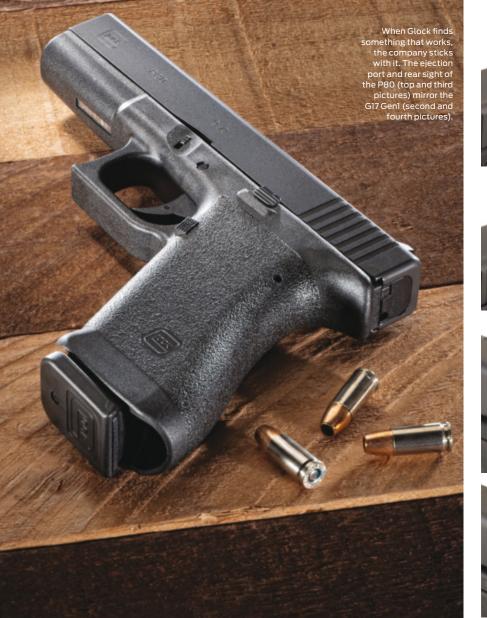
All three of these rounds tested have



The upper assemblies on both pistols, when seen from the bottom, are virtually identical.

an advertised muzzle velocity of 1,150 fps and, given that they all have the same projectile weight, you can expect about 364 foot-pounds of energy.

My results weren't surprising. I've used both the 124-grain Syntech Training Match and the 124-grain HST JHP in the past, and I know how accurate they can be, but I had never used the brand-new Punch 124-grain











Ed was looking for a Glock without finger grooves and without a light rail. Then, it all came into place. Gen1 and Gen2 Glocks, which have the features Ed wanted, are few and far between and generally very costly. This new P80, even though a limited-edition pistol, comes in at a lower cost and with the modern enhancements mentioned.

I asked Ed about his upgrades plans: He started with the AmeriGlo Hackathorn Sights, Wolf Competition Pack Spring Kit and would eventually finish it with an Apex Gen 3 Trigger Kit. Ed

JHP. It was as accurate as the other two rounds. With the 124-grain Syntech Training Match, I achieved a 1.185-inch five-round group. With the 124-grain HST JHP, I got a .995inch group and with the new Punch 124-grain JHP, I got a 1.080-inch group.

After my range test, I fired 100 rounds of various reloads to test reliability. Like any other Glock, the new P80 performed perfectly. I had to take some time to clean it, but again, like any other Glock, that's not hard at all.

After performing my accuracy and

reliability test, I considered who'd be the target market for this "Retro" Glock P80. Collectors? Shooters? Glock enthusiasts?

THE UPGRADE OPTION

Then, I talked to others who purchased the new pistol and shared ideas with some of them—in particular, my friend Ed Head, retired U.S. Border Patrol Agent and current instructor at Gunsite Academy in Paulden, Arizona. Ed picked one up, and the first thing he did was customize it.

"What?"

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Determining the differences is like a game of Where's Waldo. Can you find them?

mentioned that, even though he liked railed pistols for home guns and duty guns, he didn't like them for EDC purposes—a very good choice if you ask me. Ed also said he'd eventually get another Glock P80 just to leave it as is as a collectible.

After my conversation with Ed, I got to thinking ... What do I want to do with my Glock P80? Well, the answer is simple: I'm going to shoot it and shoot it and shoot it. I might leave it as is, with no modifications whatsoever. It's a great performer, very accurate and ... what else can I say—it's a Glock; it's pretty much indestructible.

With ample supplies of replacement OEM parts from Brownells, this pistol can be kept running for decades to come. Besides, we might get a special edition of this pistol in 35 years or so. Who knows? **GDTM** The biggest improvement on the P80 is the Gen4 magazines. With every generation, the magazines get better and better.



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SHOWDEX

Listings are grouped according to state. Bold headlines show the name of all states in which gun shows have been reported to us. These headlines are arranged according to the full spelling of state names. Under each headline, shows scheduled for a particular state are listed by date, postal abbreviation, city, and site. For more information, see our regular SHOW LISTINGS section.

COLORADO

May 15-16 CO, Denver. Colorado Gun Collectors Association Annual Show. Denver Mart, 401 East 58th Avenue.

KANSAS

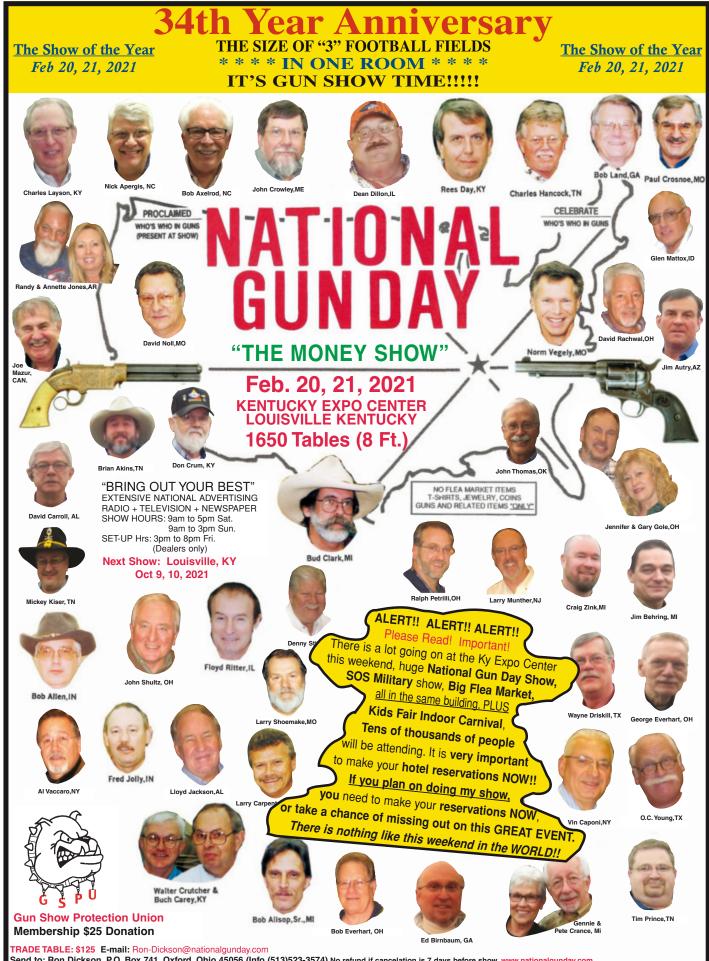
- Mar 12-13 KS, park city. Chisholm Trail Antique Gun Assoc. Gun Show. Hartman Arena, 8151 N Hartman Arena Dr, Park City, KS.
- Oct 9-10 KS, park city. Chisholm Trail Antique Gun Assoc. Gun Show. Hartman Arena, 8151 N Hartman Arena Dr, Park City, KS.

KENTUCKY

Feb 20-21 KY, Louisville. National Gun Day. KY Fair & Expo Center, 937 Phillips Ln. Oct 9-10 KY, Louisville. National Gun Day . KY Fair & Expo Center, 937 Phillips Ln.

LOUISIANA

Jan 16-17 LA, Bossier City. Bossier City, LA Gun Show. Bossier Civic Center, 620 Benton Rd.



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- Feb 20-21 LA, Lafayette. Lafayette Gun Show. District Event Center, 4607 Johnston St.
- Mar 6-7 LA, Gonzales. Gonzales Gun Show. Lamar-Dixon Expo Center, 9039 S. St. Landry Ave.
- May 15-16 LA, Gonzales. Gonzales Gun Show. Lamar-Dixon Expo Center, 9039 S. St. Landry Ave.
- Jul 10-11 LA, Gonzales. Gonzales Gun Show. Lamar-Dixon Expo Center, 9039 S. St. Landry Ave.

Sep 4-5 LA, Gonzales. Gonzales Gun Show. Lamar-Dixon Expo Center, 9039 S. St. Landry Ave. Nov 20-21 LA, Gonzales. Gonzales Gun Show. Lamar-Dixon Expo Center, 9039 S. St. Landry Ave.

MICHIGAN

Feb 6-7 MI, St. Ignace. St. Ignace Gun and Knife Show. Kewadin Casino, 3039 Mackinac Trail.

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Mar 27-28 MI, Kalkaska. Kalkaska Gun and Knife Show. Kaliseum Rec Center, 1900 Fairgrounds Rd.

MISSISSIPPI

Jan 30-31 MS, Biloxi. Biloxi Gun Show. Mississippi Coast Coliseum, 2350 Beach Blvd.

PENNSYLVANIA

Mar 6-7 PA, St Thomas . St Thomas Gun Show. St Thomas Fire Hall, 34 School House Rd.

TENNESSEE

Jan 16-17 TN, Knoxville. Knoxville **TN: Smoky Mountain Gun Collectors** Association Gun Show. Kerbela Shrine Temple, 315 Mimosa Ave.

Feb 20-21 TN, Crossville. Cumberland County Gun and Knife Show.

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Aug 7-8 TN, Crossville. Cumberland County Gun and Knife Show. Community Complex, 1398 Livingston Road.

TEXAS

- Jan 30-31 TX, Longview. Longview Gun Show. Maude Cobb Convention Center, 100 Grand Blvd.
- Feb 20-21 TX, Amarillo. The Original Amarillo Gun Show. Amarillo Civic Center, 401 S, Buchanan.
- Mar 20-21 TX, Longview. Longview Gun Show. Maude Cobb Convention Center, 100 Grand Blvd.
- May 15-16 TX, Amarillo. The Original Amarillo Gun Show. Amarillo Civic Center, 401 S. Buchanan.
- Jul 17-18 TX, Longview. Longview Gun Show. Maude Cobb Convention Center, 100 Grand Blvd.
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Mar 12-13 UT, Vernal. Vernal Gun and Knife Show. Uintah Conference Center, 313 East 200 South.

WISCONSIN

Mar 13 WI, Hartford. Sports & Gun Show. Hartford Town Hall, 3360 County Road K.

JANUARY

- Jan 16-17 LA, Bossier City. Bossier City, LA Gun Show. Bossier Civic Center, 620 Benton Rd. SH: Sat. 9am-5pm, Sun. 10am-4pm. A: \$8. F: Classic Arms Productions. 427 N. Theard St Suite 357, Covington, LA 70433. PH: 985-624-8577. www. capgunshows.com.
- Jan 16-17 TN, Knoxville. Knoxville TN: Smoky Mountain Gun Collectors Association Gun Show. Kerbela Shrine Temple, 315 Mimosa Ave. SH: Sat. 9am-5pm, Sun. 9am-5pm. A: \$8.00 each day. T: 120. F: \$50.00. Smoky Mountain Gun Collectors Association,Inc. . P.O.Box 9251, Knoxville, TN 37940. PH: 865-333-4970. www.smokymountainguncollectorsassociation.org.
- Jan 30-31 MS, Biloxi. Biloxi Gun Show. Mississippi Coast Coliseum , 2350 Beach Blvd. SH: Sat. 9am-5pm, Sun. 10am-4pm. A: \$9. F: . Classic Arms Productions. 427 N. Theard St Suite 357, Covington, LA 70433. PH: 985-624-8577. www.capgunshows. com.
- Jan 30-31 TX, Longview. Longview Gun Show. Maude Cobb Convention Center, 100 Grand Blvd. SH: Sat. 9am-5pm, Sun. 9am-5pm. F: . Classic Arms Productions. 427 N. Theard St Suite 357, Covington, LA 70433. PH: 985-624-8577. www. capgunshows.com.

FEBRUARY

Feb 6-7 MI, St. Ignace. St. Ignace Gun and Knife Show. Kewadin Casino, 3039 Mackinac Trail. SH: Sat. 9am-5pm, Sun. 9am-3pm.
A: 6. T: 200. F: 50 /wknd 35/day.
18134 Meadow Ln, BIG RAPIDS, MI 49307. PH: 180-096-8501. www.
jjsportshows.com.
Feb 20-21 KY, Louisville. National Gun

Day . KY Fair & Expo Center, 937

Phillips Ln. SH: Sat. 9am-5pm, Sun. 9am-3pm. A: \$12, \$2 children under 12. T: 1650. National Gun Day; Ron Dickson . PO Box 741, Oxford, OH 45056. PH: 513-523-3574. www. nationalgunday.com.

Feb 20-21 LA, Lafayette. Lafayette Gun Show. District Event Center, 4607 Johnston St. SH: Sat. 9am-5pm, Sun. 10am-4pm. A: \$9. F: . 427 N. Theard St Suite 357, Covington, LA 70433. PH: 985-624-8577. www.capgunshows.com.







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17-N CZ 7.62x25mm Model 52 Auto Pistol 4 ½" barrel with mint bore, 98% arsenal original Parkerized finish, fixed factory sights, "CAI" import markings, brown factory composition grips, one magazine, dated "x54", comes with shipping style box, excellent function (C&R)......\$335

CONTINUED =

.. \$2195

magazine is numbered to gun with number "1" and "X" letter, collector quality (C&R) ...

PACK AND POSTAL CENTER Tel. (978) 368-0910

- 34-N Remington .308 Winchester Model "XP-100 Custom" Single Shot Bolt Action Pistol 14 ½" tapered barrel with mint bore, 98%+ original bright blue, front Lyman Globe target sight, rear Williams target sigh, receiver is drilled and tapped for scope bases, custom dog leg bolt that's been drilled to lessen weight, custom Walnut contoured pistol grip stock with thumb hole for right handed shooter in excellent condition.......\$595
- 35-N Sig / Sauer .40 S&W Model P226 Auto Pistol 4 ¼" barrel with mint bore, 99% original matte black finish, white dot front and white line rear fixed sights, double or single action modes, near new in original black plastic case with (2) 10 round magazines, manual and test target \$525
- 37-N Smith & Wesson .22 LR "Model 61-3 Escort" Auto Pistol 2" barrel with excellent bright bore, 99% original bright blue, fixed sights, mint mottled brown checkered plastic grips, made around 1975, looks new but no box or pouch\$325
- 39-N Smith & Wesson .22 LR Model 34-1 Revolver 4" pinned barrel with mint bore, 98%+ original blue and case color, mint checkered Walnut square butt "magna" style grips with silver S&W medallions, excellent function, comes in its original "Bangor Punta" two piece box with correct end label and instruction sheet, made in 1980.

- 44-N Springfield Armory, Inc. 9mm Para Model XD-S "Bi-Tone" Auto Pistol 4" barrel with mint bore, stainless upper, polymer lower, (2) white dot rear and "Hi-Viz" red front sights, ambidextrous magazine release, Picatinny rail on polymer lower, as new in original black plastic case with (2) single stack 8 shot magazines, interchangeable backstrap inserts, manual and cable lock \$325

CENTERFIRE RIFLES:

- 47-N Enfield .303 British "No. 4 MK I" WW-II Clip Feed Bolt Rifle 25" barrel with very good bright bore, 85% original fading blue, no year or manufacturers markings on receiver, simple (2) position flip up rear sight and "wing" protected front sight, very good original wood with field use nicks and dents, factory swivels and pot metal "trap" style buttplate, mismatched bolt but works fine, import marked by Century Arms (C&R)......\$495
- 48-N Enfield .303 British MK V/ SHt LE 1924 Made "Trials" Bolt Rifle 25" barrel with excellent bright bore, 95%+ original blue, matching bolt, stock and nosecap/bayonet fixture, special "MK V" peep ladder rear sight graduated to 1400 yards and "wing" protected blade front sight, "V" marked safety, magazine cutoff still intact, excellent dark Walnut stock with correct sling swivels and stacking swivel, brass "trap" style buttplate with a plastic bodied oil bottle inside, buttplate shows a (3) digit number that does not match serial number, excellent function, not import marked, super looking with brass "disk" in stock, collector quality with only 20,000 made between 1921-1924 (C&R).
- 50-N French .308 Winchester / 7.62 NATO Model MAS 1936 Bolt Rifle 22 ½" barrel with excellent bore, 98% arsenal rebuild parkerized finish, all matching numbers, original "peep" rear and hooded front sight, very good+ original stock, excellent function (C&R)......\$695

- 56-N Mauser 6.5x55mm Swedish Model 1896 Bolt Rifle 29" barrel with very good bore, threaded at muzzle with screw on thread protector, 95% arsenal original blue, matching bolt, mismatch on small parts, military style tangent rear sight graduated to 2000 meters, very good original Walnut straight grip stock with a few minor age cracks, all original sling swivels and trap style steel buttplate, "Carl Gustafs/1918" marked receiver bridge, brass disc on buttstock, excellent function, wiping rod and bayonet fixture (C&R)
- **58-N Mauser 8mm Mauser Model K-98 Sporterized "DOU" 1944 WW-II Bolt Rifle** 23 ½" stepped barrel with excellent bright bore, mismatched parts, original front sight but no rear sight, Weaver 3-9x40mm scope mounted using one piece Leupold base and 1" rings, original laminate stock with "cup" style buttplate and sling swivels has been cut to sporter style with side mount sling cutouts filled in, works fine and scope is duplex reficule with bright optics.....\$205
- 59-N Mauser 8mm Mauser Model "M48A" Yugoslavian Bolt Rifle 22 ½" barrel with excellent bore, 98% original arsenal blue, matching numbers, flat bottom bolt handle, Yugoslavian crest on receiver bridge, 2000 meter graduated tangent rear sight, hooded inverted "V" front sight, excellent matching Walnut stock with side sling bars and "cup" style steel buttplate, missing its wiping rod, excellent function, super looker (C&R)..........\$465
- 60-N Mauser 8mm Mauser BRNO Czech Model VZ-24 Bolt Rifle 23 ½" barrel with excellent bright bore, 95% arsenal rebuild blue, standard military tangent rear sight graduated to 2000 meters, inverted "V" front sight with snap on "wing" protector, mismatch on bolt, very good original military stock with steel buttplate, bottom and sidemount swivels, and bolt takedown disk set in butt cheek, excellent function, import marked on barrel, nice looking CZ rifle (C&R) \$395
- 61-N Mosin Nagant 7.62x54R Finnish Army Type 39 WW-II Bolt Rifle 27" barrel with excellent bright bore, 98% original "VKT" arsenal blue (VKT is Valmet), matching numbers on barrel, receiver and bolt, re-numbered magazine bottom, tangent military style rear sight graduated to 2000 meters "wing" protected blade front windage adjustable sight, 1944 dated, excellent stock, import marked (C&R)......\$1195
- 62-N Remington 22/250 Model 788 Clip Feed Bolt Rifle 24" barrel with minty bright bore, 98% original blue, ramp blade front sight, (2) plug screws where rear sight was mounted but now removed in order to mount any early Tasco 4x32mm scope, excellent hardwood pistol grip stock with some light field use bruising, excellent function\$395
- 63-N Swedish 6.5x55mm Model 96 FSR Mauser Target Rifle 29 ½" barrel with excellent bright bore, 97% original bright blue, all matching numbers, receiver bridge marked with a Swedish crown over "Carl Gustats Stads" over "Gevarsfaktori" over "1908", rear diopter rear tangent sight is marked "Traftb" over "AT" over "H-V", front sight is a "Globe" type with replaceable insert, numerous small Swedish crown proofs along with matching serial numbers, military ladder rear sight has been removed as was standard practice, just traces of fire blue remains on small parts, very good original straight grip stock with brass bore condition disk in right but cheek, ranging brass plate is unfortunately missing, bright steel buttplate, sling swivels and wiping rod, discreetly import marked on underside of barrel (C&R).

CONTINUED -

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- 65-N Swiss Government 7.5 Swiss Model K-31 Straight Pull Bolt Rifle 25 ½" barrel with excellent bright bore, matching numbers on barrel, receiver, bolt and magazine, 90%- f dating original blue, Swiss cross on front receiver bridge, good solid original hardwood stock with sling bar and swivel, steel buttplate with owner's (Otmar Bucher) name address, date (1935) and serial number of gun on plastic tab under buttplate, excellent function with aluminum "barrel" shaped bolt handle, tangent military open rear sight graduated to 1500 meters, wing protected front sight with original brass muzzle cover, wood shows lots of field use nicks, dings and scrapes along with finish loss, (C&R).

- 68-N Winchester 30 W.C.F. (30/30) Model 94 "Limited Edition High Grade Centennial" Lever Rifle 26" part round part octagon barrel with mint bore, 99% original blue, crossbolt safety receiver features No. 6 style Winchester engraving pattern on both sides that have gold outlines and 2 gold animals (mountain sheep and deer), factory front and rear sights, Lyman No. 2 tang mounted rear peep sight, deluxe Walnut pistol grip stock and forend with F-style checkering and carvings, blue crescent buttplate, marked on barrel "1884-1994", collector quality, like new (C&R)
- 70-N Winchester .35 Winchester S.L. Model 1905 Clip Feed Auto Rifle 22" barrel with excellent light pitted bore, 90% original blue, receiver shows spots of pin pricking and high edge wear, receiver also shows areas of gray along high edges, bolt still shows some original fire blue, factory open field sights and rear tang mounted peep sight, Walnut straight grip stock with hard rubber buttplate, chip at heel on buttplate, Walnut forend wood shows repair crack on left side, manufactured 1906, collector quality (C&R).
- 71-N Yugoslavian 8mm Mauser M48 Model Post WW-II Bolt Rifle 22 ½" barrel with excellent bright bore, 98% original blue, Yugoslav crest and M48 on receiver front ring, all matching numbers (no cross outs or forend numbers), excellent Walnut pistol grip stock with "cup" style buttplate and sidemount sling bars, missing its wiring rod, military style tangent rear sight graduated to 2000 meters, hooded inverted "V" front sight, excellent function, collector quality (C&R).

RIMFIRE RIFLES:

- 73-N Browning Arms. 22 LR Model BL22 Tube Feed Lever Carbine 20" barrel with mint bore, 98% + original blue, light wear on barrel/stock bands and lever action bottom of handle, front factory sight, rear folding leaf adjustable sight, receiver is grooved for scope, minty Walnut forend and straight grip stock, Browning marked buttplate, excellent function, comes with some factory paper but no box, made in 1971 (C&R)......\$595

- 77-N J.C. Higgins / High Standard .22 LR Model 30 Tube Feed Auto Rifle 24" barrel with mint bore, 98% original blue with light thinned areas along barrel and grooved receiver, factory open sights, smooth 2 piece Walnut stock with working retractable red nylon sling, factory buttplate, small crack on pistol grip cap, excellent function, light dings on stock but very nice looking (C&R).
- 78-N J.C. Higgins .22 S, L, & LR Model 31 Auto Tube Feed Rifle 24" barrel with excellent bore, 97% blue with areas of toning to gray along top of barrel, anodized grooved receiver is now gray, two piece Walnut pistol grip stock with original buttplate and pistol grip cap, function properly......\$185
- 79-N Lakefield .22 LR Mark II Grooved Receiver Clip Feed Bolt Rifle 20 ¾" barrel with mint bore, 98% original blue, fixed open field sights, thumb operated rotary bolt safety, press checkered Walnut pistol grip stock, finish wear and flaking at buttplate, forend wood shows light wear, 10 round magazine\$165

- 82-N Mossberg .22 LR Model 152 Auto Rifle 18" barrel with mint bore, 98% original blue with small pin pricking, smooth Monte Carlo style round knob pistol grip stock with folding forend, left side mounted factory sling swivels, grooved receiver with a left side mounted aperture sight, front sight is an M1 Garand style sight having a front post and protective ears, one factory magazine (C&R) \$245
- 83-N Mossberg .22 LR Model 353 Clip Feed Auto Rifle 18" barrel with mint bore, 96%+ blue thinning at front of grooved receiver and top of barrel in area of the address line, front raised ramp and open sporting rear sights, pistol grip pressed checkered Walnut stock with a 2" tight hairline crack forward of magazine well, black "Tenite" folding forend, left side mounted sling swivels, one factory magazine with green paint covering it, white line spacer and factory buttplate rate excellent, excellent function.
- 85-N Mossberg .22 S, L, & LR Model 340BB Bolt Rifle 24" barrel with mint bore, 98% original factory blue, bull nose grooved receiver with high edge wear, front raised ramp hooded sight, rear open sporting sight and Mossberg S330 receiver mounted aperture sight, Walnut Monte Carlo cheekpiece stock with white line spacer on factory hard rubber butplate, sling swivels have some oxidation in areas, one 7 round detachable magazine marked "LR" only (C&R).

- 88-N Remington .22 LR Nylon 10C Auto Rifle 19 5/8" barrel with mint bore, 98% original blue on grooved receiver cover that is showing some light pinprick pitting, factory front ramp sight (purple in color), rear factory adjustable sight, "Mohawk brown" Zytel synthetic pistol grip stock, one factory magazine\$235

- 91-N Remington .22 S, L, & LR Model 511-P "Scoremaster" Clip Feed Bolt Rifle 25" barrel with mint bore, 98% original blue, bolt still shows great case colors, bolt handle is gray, front ramp sight, original rear micrometer peep sight, excellent Walnut pistol grip stock with original buttplate, excellent function, collector quality comes with one Remington magazine (C&R)......\$345
- 93-N Ruger .22 LR Model 10/22 Auto Carbine 18 ½" barrel with mint bore, 97% original blue and satin black, top of barrel near front sight has less of blue, top of drilled and tapped receiver has light high edge wear, rear folding adjustable leaf sight, front sight is missing its bead, smooth birch carbine stock with dents and scratches, left side of stock has some finish removed, underside of stock 3 ½" from rotary drum magazine is a dime size shallow dent, factory contoured buttplate, excellent function, comes with factory magazine.........\$175
- 94-N Savage .22 LR Model 19 "NRA" Clip Feed Bolt Rifle 25" barrel with bright excellent bore with light pitting at muzzle, 95% + blue turning to gray with pin pricking along top of barrel and triggerguard, Globe style front sight and factory rear aperture sight with screw in aperture, top of barrel and left side of receiver have been drilled and tapped, smooth pistol grip military style stock showing handling marks, grooved steel buttplate extends slightly from stock, sling swivels and one magazine with light wear, functions properly (C&R).
- 95-N Savage Arms .22 S, L, & LR Model 29B Tube Feed Pump Rifle 24" barrel with mint bore, 98% original blue with light high edge wear, tang and triggerguard turning to plum in color, front blade brass bead sight, rear open field sight, small grooved Walnut forend, Walnut pistol grip stock with original buttplate, light dents on stock (C&R)......\$595

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- 97-N Vickers .22 LR "Special 22" Martini Action Single Shot target Rifle 28" heavy target barrel with very good bore, 60% faded original blue with little or no pitting (just going gray), marked "Vickers (Graford) Ltd England" over "Special 22 Long Rifle", Globe style replaceable insert front sight and "AGP" knob adjustable target rear sight with variable iris "peep", excellent Walnut straight grip stock with serrated aluminum buttplate, excellent function (C&R). \$615
- 98-N Weatherby .22 LR Mark XXII Auto Rifle 24" barrel with mint bore, 98% original blue, front raised ramp sight, rear folding leaf sight, grooved receiver with thumb safety, Walnut Monte Carlo stock with skipline checkered pistol grip and forend, raised cheek piece and Rosewood forend tip, grip cap with ivory diamond shape insert, sling swivels, 5 shot magazine, right side of barrel marked "made in Italy".
- 99-N Westernfield .22 LR Model 807A-ECH Grooved Receiver Single Shot Bolt Rifle 22" barrel with mint bore, this Colt colteer I-22 rifle produced for Westernfield shows 97% original blue with some scratches on barrel, front slide over barrel sight rear open field sight (no elevator), smooth Walnut pistol grip stock with original hard rubber buttplate (C&R)\$185
- 100-N Winchester .22 LR Model 63 "Grooved Receiver" Butt Tube Feed Auto Rifle 23" barrel with mint bore, 98%+ original bright blue with just a hint of loss on right side of receiver, factory open sights, excellent Walnut pistol grip stock with nice grain and color, made in 1958 (last year of production), excellent function and new looking, collector quality (C&R)....... \$1795

- 103-N Winchester .22 L, & LR Model 190 Tube Feed Auto Rifle 20 ½" barrel with excellent bright bore, 97% original blue, factory open sights plus grooved receiver with Western field 4x20mm scope mounted, good solid hardwood pistol grip stock with impress checkering and serrated logo plastic buttplate, wood and finish show some scrapes and dings, excellent function __________\$165
- 105-N Winchester .22 S, L, & LR Model 62A Tube Feed Pump Rifle 23" barrel with mint bore, 98% factory blue, loss at muzzle, receiver has light pin pricking on right side and top, left side has 2 small rub marks, factory open sights, Walnut stock, flat bottom grooved forend with high shine, factory logo buttplate, manufactured 1956 (C&R)......\$695
- 107-N Winchester .22 S, L, & LR Model 68 Single Shot Bolt Rifle 27" barrel with mint bore, 90% original blue with areas turning to brown patina, original front hooded ramp silver bead sight, factory original "Dockendorffer" style rear adjustable peep sight, plain Walnut pistol grip stock with handling marks, butt of pistol grip has dents and marks, factory original buttplate with logo, functions properly (C&R)......\$265

SHOTGUNS:

- 110-N Beretta 12 Gauge Model 682 X Trap Over / Under Over / Mono Trap Combo (2) Barrel Shotgun 33 7/8" over/mono barrel with tapered bridge type rib, 2 ¾" chamber with mint bore and 98% matte black finish, 32" over/under barrels with bridge type rib, 2 ¾" chamber, mint bores, both barrels with (2) bead sights, 98% matte black finish, receiver is 97% original blue with spots of handling wear, receiver has some gold inlay and is scribed "P. Beretta", one single slide adjustable gold trigger, auto ejectors adjustable "Morgan" pad, pistol grip cut checkered Walnut stock and forend, comes with 5 external Briley choke tubes and 3 standard choke tubes, spare ejectors and firing pins, has a black Beretta hard case (lockable), excellent function........\$1395
- 111-N Charles Daly 20 Gauge Model Field Hunter Auto Shotgun 24" vent rib, 3" chamber, screw in chokes, barrel with mint bore, single brass bead front sight, polymer stock and forend having press checkering and 100% factory covered in advantage timber HD camo, comes with spare "youth model" vented rubber buttpad synthetic buttstock, has 3 choke tubes (cylinder, improved cylinder and full), original factory box and paperwork, manufactured 2002-2008, new in box.

- 117-N Mossberg 20 Gauge Model 185K-B Clip Feed Bolt Shotgun 26" factory ported barrel with mint bore, 2 ¾" chamber and factory "C-lect" external adjustable choke device, 95% original blue, receiver shows (4) open drilled and tapped holes for a sidemount scope, very good+ light colored Walnut pistol grip stock with Monte Carlo, (2) round magazine, excellent function (C&R)......\$195
- 118-N N.R. Davis 12 Gauge Boxlock Side By Side Hammerless Shotgun 28" barrels with excellent bright bores, 2 ¾" chambers and fixed full and modified chokes, 95% original blue and case colors with some light spotty pitting, good solid plain Walnut pistol grip stock with checkered hard rubber buttplate and matching splinter style forend, double triggers, extractors, excellent function and not bad looking (C&R)......\$265

RECEIVERS:

- 128-N Sako L61R Long Magnum Action Complete Receiver, Bolt, trigger and Push button Release Floorplate and Magazine Assembly "Finnbear" 99% crisp original high polish blue, adjustable trigger, receiver has factory milled tapered scope bases for Sako base and rings, sliding side safety and pushbutton bolt release, triggerguard to action screws are present, whole assembly looks new, ready for your choice of barrel and wood\$595 129-N Sako "Forrester" Model L579 Receiver Action Complete With Bolt, trigger
- 130-N Sako Bolt Action Upper Complete Receiver With Bolt, complete Adjustable Trigger and Push button Release Floorplate and Magazine Assembly drilled and tapped receiver that needs final polish and bluing, polished bolt with checkered perimeter, complete factory adjustable trigger mechanism with sliding side safety, polished bult release, push button floorplate and triggerguard to action screws, medium 30/06 length action, perfect for that custom bolt rifle, no model number......\$395

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Rifles:

Browning BLR-22 LR Grade 2 Engraved 100% NIB \$895 Mannlicher/Schoenauer Model 1903 Carbine 6.5x54 Mannlicher/Schoenauer Model 61 MCA 30-06 Rifle Mts, Rings/Scope S.Tgr 99.9%\$1995 Remington U.S.M.C. 40-X Target .22LR Olympic Sights99+%\$1995 Win 74"Gallery Gun"22 Short First Year 1939 Ammo&Tubes\$995 Win Model 1906 22 S,L,LR Mfg 1919 The Factory 20"inch Barrel has a Mint Bore & 80% Blue Finish Win Mdl 9422 "Annie Oakley"22 long rifle 20"Carbine #AOK292 mfg.1982. Beautiful! XX Walnut Gold EngravedNIB\$2295 Shotguns: Chas-Daly 12/26"Skt/Skt MirokuRARE-Anshutz SKB XL900 12/26"VR Col. Applegate Provenance with Letter NIB\$1495 Win Mdl 9410 Lever Action .410 Gauge NIB \$1995 **Pistols:** Astra 9mmPara 600/43 1 of 800 M.R.P Portuguese Navv ... Colt 22 Ace SN# 2,606 Made 1931 6th Month Colt 22 Ace Service Mdl #SM14,02x First Day ProducedLNIB\$2495 Colt 45 Combat Comander Model "O" Lew Horton SpecialNIB\$2495 High-Std 22LR Victor 5.5" Steel Solid-Rib ML-Tgt NIB \$1495 High-Std G-380 First Year Production The 603rd Luger 22LR Erma ET-22 Germany 12"Bbl Japanese Type 94 date 18.11 Two Mags, Rod & Reising Target 22 LR #13xx First Year Rod & Holster...... 99%\$1995 Rem-UMC 1911 WWI Comm.45acp Turnbull Special Rem-Box + Glasstop Display-Case, 3clips & Holster.....NIB \$2395 Sig Sauer Model 556 Cal .223 & .556Nato Pistol

Smith & Wessons:

22LR Mdl of 1953 4" First Year#1,934 22/32"	
Kit Gun"	99+%\$1495
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<u>5 screw, mfg 1932</u>	99+% \$2995
22LR Prewar Outdoorsman First Model with Humph	
#669,795 6"inch 5 screw, mfg 1937	
22LR Pre-Mdl 17 Early 5 Screw Narrow-Rib #10,775	6"inch
mfg <u>1947</u>	%LNIB \$2195

22LR Pre-Mdl 17 #30,945 6" 1948
Red-Bead King Sight
22LR Mdl 17-2 #K652,889 6"inch mfg 1965LNIB \$1495
22LR Pre-Mdl 34 "Kit Gun" 2"inch #17xxx mfg 1955 99.5% \$1395
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22LR Model 34-1 "Kit Gun" 2"inch #103,237 mfg 1963
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22LR Model 43 Airweight Kit-gun 3.5"inch
#M38,805 NIB \$1695
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38 Terrier 5-Screw 1953 Pre-32 Holster +
Ivory Grips
38 Special U.S. Victory" VIP-England-Conversion 99% \$895
38 S&W Ctg, 5 Screw PRE-36-Model Chiefs-Special
Scarce 2"inch Nickel #74,911 mfg 1955,
38 Special 2"inch Model 60"Chiefs Special" SN# R747
Stnls/StL First month in <u>1969</u>
38 Special 2"inch Model 60"Chiefs Special" SN# R78xxx Stnls/
StL <u>1972</u>
SIL 1972
StL 1982
38 Special + P", Model 442, 2"inch Airlite "Titanium" NIB\$1995
357 Pre-19 5 Screw 4"Combat Mag #K264xxx 1955 S&WLetter
10-11-1956 Jonas Arms&Aircraft NY,NY. FIRST YR Prod
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357 Combat Magnum 4"inch Model 19-4 #51K3,067 99.9% \$1295
357 Combat Mag 2.5" Mdl 19-5 1983 #ABM9.378 100%NIB\$1595
357 M-66-1 Stnls 4" P&R 1980 #70K6214
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Stnls-Steel'Target'
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<u>S-218,803</u>
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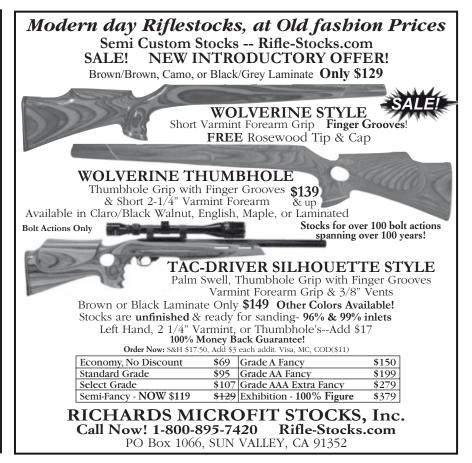
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