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SEPTEMBER 2020

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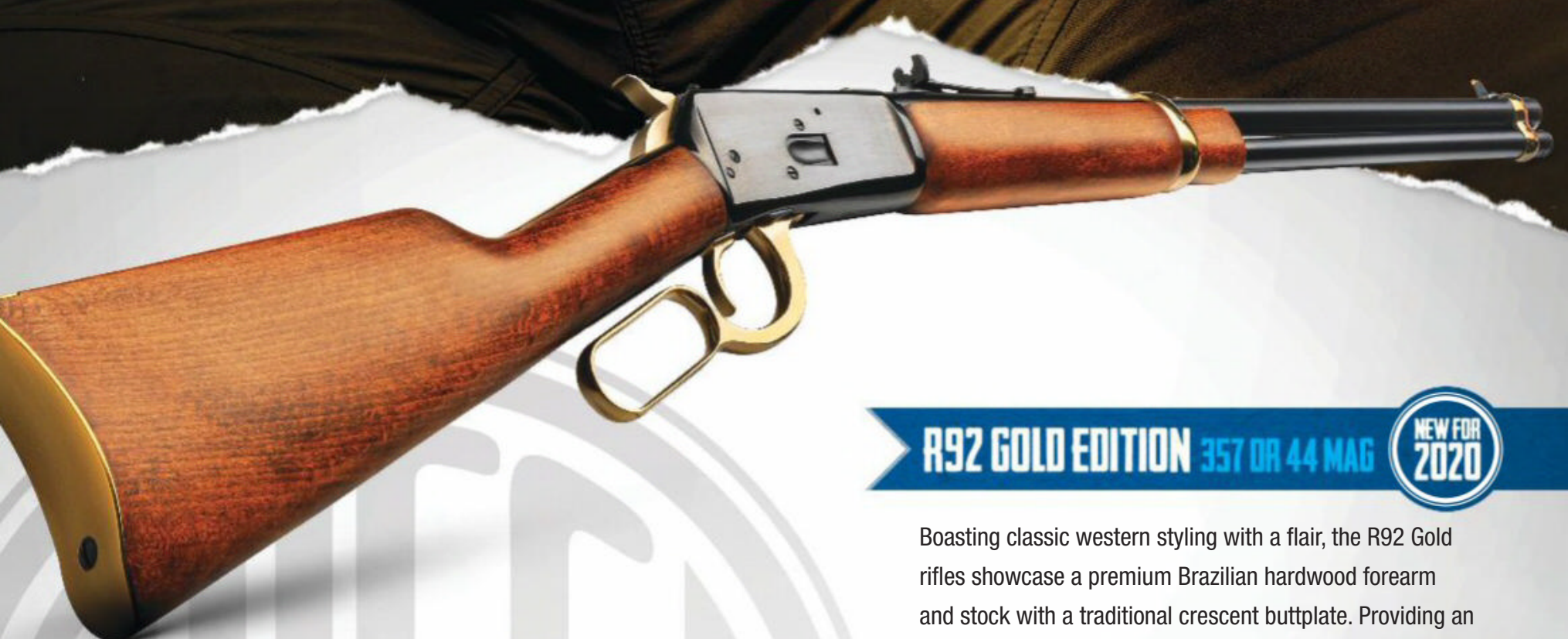
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By Joel J. Hutchcroft



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Jack and His 10/22® Carbine

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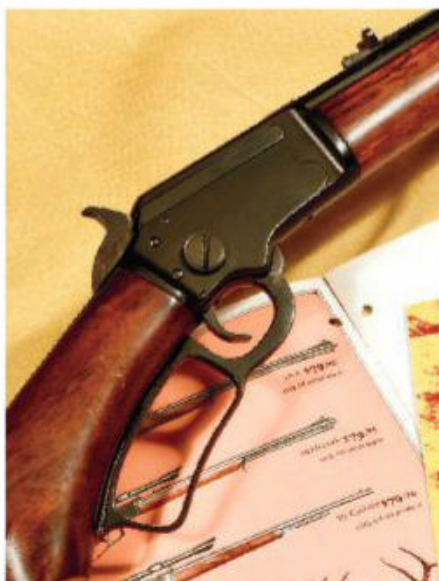
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Easy Way To Measure Racking Weight

IN THE EXCELLENT REVIEW OF THE NEW WALTHER CCP M2 IN THE June issue, Jake Edmondson said he had no way to measure the force required to rack the slide of the pistol. Well, I do, and it's simple.

About 30 years ago, I needed to measure the force required to rack the slides of a number of autoloaders. Having no proper tools, I improvised by using a kitchen/garden scale and a cleaning rod. Simply insert the cleaning rod into the muzzle of the pistol, press it down against the scale, and watch the arrow point to the numbers. The attached photo shows how to do it.

This setup is a little shaky and not as accurate as a proper tool, but it is capable of giving reasonable results. No doubt, with a little more thought, this rough setup could be improved.

Marshall Williams
Burlington, WV

Magnums Work!

Reading Terry Wieland's column on shotgun loads in the May issue, I found myself back in the 1960s and '70s where some writers advocated for the "unnecessary use of 2¾-inch shells." The 2½-inch shells would do the job just as well.

I have patterned numerous shells over the years, and in the days of lead (I am a waterfowler) by far the best goose payload I ever patterned was the Winchester 3-inch, 1⅞-ounce, No. 2 shot going out with just under 1,300 fps in my Winchester Model 1300 with a Full choke. It held the same number of pellets as a standard 2¾-inch shell with No. 4 shot, and those 170 pellets were evenly distributed with more than 80 percent hitting in the 30-inch circle at 40 yards. It was deadly on geese and patterned close enough to be used on ducks—except it was overkill and way too expensive.

For steel shot on geese, I have found the Winchester Xpert 3-inch, 1⅞-ounce, No. 2 shot at 1,550 fps to be excellent in my Winchester SX3, and Kent Fasteel 3-inch, 1-ounce, No. 2 shot at 1,700 fps patterns extremely well in my Benelli SBE2, all in factory Mod. chokes. They do the job on geese. That same gun shoots Winchester Supreme 3½-inch BBB shot flawlessly with an IC choke.

I have also found excellent 2¾-inch and 2⅝-inch shells do fine with smaller shot. But the bottom line is magnums work. Like with any other shell, it is a matter of finding the right combination of gun and load, and I think by saying that you don't need a magnum at all, Mr. Wieland makes the same mistake as those who claim you need a magnum for everything.

Niels Henriksen
Denmark

Handloading Is Worthwhile

In the May issue Mr. Rick Diekman lamented the lack of support for the Winchester Model 1895 in .405 caliber. His letter makes the point that being able to reload his empty cases, as many of us do, would keep that fine rifle in service.

Fifty or so years ago, I began shooting, but first I reloaded a supply of .38 Special cases that I had acquired. I purchased a reloading press, dies, a lead casting furnace, bullet molds, and various other odds and ends from advertisers current at the time, many of whom are still serving the shooting public. I think reloaded ammo costs about one-third the price of commercially loaded ammo, depending upon whether you buy bullets or cast your own.

In the beginning, my goal was to empty the cases by shooting targets at the range and reloading the empties that evening. As I shot more, I got better, and then accuracy became the goal. I was also able to purchase rifles for which factory ammo was not readily available, but with a few items of specific equipment added to my reloading tools, I was able to reload for them and shoot them.

As I write this, I realize that 2020 is still "shooting times."

D.H. Daniels
Via email



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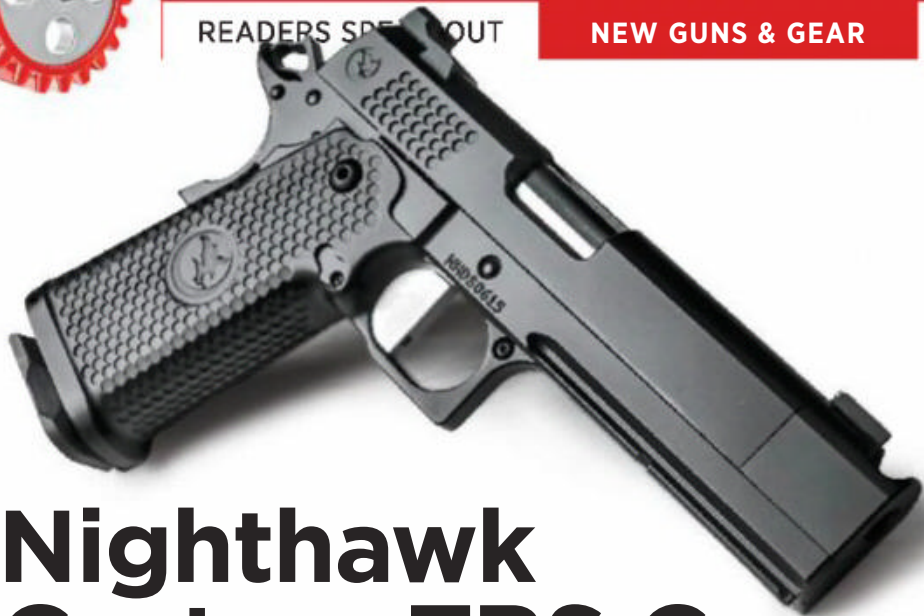


SHOOTER'S UPDATE

READERS SPEAK OUT

NEW GUNS & GEAR

ASK THE EXPERTS



Nighthawk Custom TRS Comp

THE NEW 9MM TRS COMP 1911 FROM NIGHTHAWK CUSTOM features a double-stack frame with a full-length dustcover, a monolithic slide, a match-grade 5.0-inch barrel, and an integrated compensator. The solid trigger has a striated flat face. The front sight is an 18-kt. gold bead, and the rear sight is an all-black Heinie Ledge. Magazine capacity is 17 rounds, and the finish is black nitride. Instead of traditional grasping grooves, the slide has a unique dimple pattern, and the same dimple pattern is repeated on the grip. TRS stands for Tactical Ready Series.

MSRP: \$4,599

nighthawkcustom.com

XS Sights

Second Generation Offset Iron Sights

XS Sights has unveiled its new second generation XT12 DXS Ember Standard Dot 45-Degree Offset Iron Sights for AR-15 rifles. These sights comprise a close-quarters, secondary sighting solution for rapid transition from a magnified primary optic. The new sights feature taller bases, and the base angle has been increased to accommodate wider-lens optics. The front sight measures 0.140 inch wide and features an Orange Ember Glow Dot for increased visibility. XS's proprietary Orange Ember Glow technology provides a high contrast front sight in bright light and is instantly charged by the sun's UV rays, causing it to glow in shadows and low-light settings. These sight sets mount in front of the primary optic to reduce snagging on chest rings, and they come with thread locker and a front sight adjustment tool.

MSRP: \$180

xssights.com

Safariland 7TS RDS Holsters

Safariland's new 7TS RDS holsters are designed specifically for pistols with red-dot optics. These holsters are constructed from durable SafariSeven material, a proprietary DuPont nylon blend that is practically impervious to the elements. These holsters require little maintenance and are non-abrasive to firearm finishes. A pivoting hood protects the red-dot optic from damage and the elements, and it automatically rotates forward to open as the user releases the ALS retention lever via the thumb upon the draw.

The new 7TS RDS holsters fit Glock 17MOS, 19MOS, 34MOS, 45MOS, and 47MOS pistols and are offered in plain black or FDE brown finishes.

MSRP: \$123.50 to \$270.50 depending on configuration

safariland.com



Rock River RRAGE 10.5 AR Pistol

Rock River Arms has added a 10.5-inch-barreled pistol to its line of RRAGE AR firearms. Chambered in 5.56 NATO, the pistol features a low-profile gas block; a five-position SB Tactical SBA3 stabilizing arm brace; a slim, smooth, aluminum, M-LOK-compatible RRAGE handguard; an A2 flashhider; a single-stage trigger; and an A2 pistol grip. The pistol weighs 5.7 pounds, is 28.25 inches long, and comes with one magazine.

MSRP: \$885

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SHOOTER'S UPDATE

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Franchi 20-Gauge Instinct L Patterns?

Q: I ENJOYED THE RECENT REPORT ON FRANCHI'S FLAGSHIP INSTINCT L 20-gauge over-under shotgun written by Layne Simpson. It looks like a fine gun, and I'd like a little more detail on how it patterned. What can you tell me?

Willie Washington
Via email

A: Yes, the Franchi Instinct L is a very nice over-under. I was so impressed with Layne's report that I decided to buy the gun he used for that article. He kindly put together the following chart showing how the gun patterned with five different Remington loads.

Joel J. Hutchcroft

FRANCHI INSTINCT L 20-GAUGE PATTERNS

AMMUNITION	LENGTH (IN.)	SHOT (OZ.)	(SIZE)	VEL. (FPS)	CHOKE	20 YDS.	30 YDS.	35 YDS.	40 YDS.
Remington Premier STS Target	2¾	7/8	No. 9	1200	IC	A	B	C	---
Remington Premier STS Target	2¾	7/8	No. 9	1200	Mod	----	----	B	B
Remington Lead Game Load	2¾	7/8	No. 7½	1225	IC	A	B	C	----
Remington Lead Game Load	2¾	7/8	No. 7½	1225	Mod	----	----	B	B
Remington Heavy Dove	2¾	1	No. 8	1165	IC	A	B	B	C
Remington Heavy Dove	2¾	1	No. 8	1165	Mod	----	A	B	C
Remington Nitro Pheasant	2¾	1	No. 6	1300	IC	A	B	C	----
Remington Nitro Pheasant	2¾	1	No. 6	1300	Mod	----	B	C	----
Remington Nitro Pheasant	2¾	1	No. 6	1300	Full	----	----	B	B
Remington Nitro Pheasant	3	1¼	No. 5	1185	IC	A	B	B	C
Remington Nitro Pheasant	3	1¼	No. 5	1185	Mod	----	B	B	B

NOTES: Pattern performance is for three rounds fired from a rest. Velocities are from Remington Arms Co.
 A: More pellet strikes over the entire diameter of the pattern than required for clean kills on clay targets and birds as small as bobwhite quail
 B: Adequate density for multiple pellet strikes over the entire diameter of the pattern
 C: Consistent patchiness with one or more holes in patterns large enough to miss or wound a bobwhite quail

Two-Tone Colt Vest Pocket Model 1908?

Q: I read with great interest Joel Hutchcroft's reply to Mr. Black's inquiry about his Colt .25-caliber Vest Pocket Model 1908 pistol in the June issue. I, too, inherited one of these cute, little pistols over three decades ago. Mine is a very early version with hard-rubber grips, no magazine disconnect, and a five-digit serial number. I checked the serial number on a website that indicated my pistol was made in 1910.

Mr. Hutchcroft told Mr. Black that Colt made these pistols in blue steel and nickel finish. My pistol has a nickel frame and a blue slide. So, my question is, to your knowledge, did Colt offer this pistol as a two-tone back in 1910 or is it simply mismatched parts?

I could see why somebody might want to put these parts together. The dark blue slide and black grips on a nickel frame are rather eye catching. I was surprised to learn when I was researching the serial number online that there is actually an owner's club for this little gun! I looked at hundreds of photos in its gallery. Half were blue steel, half were nickel, but none were two-tone. I'm pretty sure I know what your answer is going to be, but maybe you're going to

tell me mine is one of only two two-tones ever made, and it's worth a million dollars. You never know!

Mike Brewer
Via email

A: Unfortunately, none of my reference books mention anything about the Colt Vest Pocket Model 1908 being offered with a blue slide and nickel frame. I suppose it could be possible that it was a special-order configuration. The only thing I can think of is for you to obtain a factory letter from the Colt Archive

Services. The letter will contain information such as your pistol's original configuration, the original shipping date, and the original shipping destination. Typically, the specifications will include the original finish, the type of grips, and any custom features. It will be written on the Colt Archives stationery and embossed with the official seal and signature of the Colt historian. There is a fee for the service, but if you are truly interested in your gun's provenance, it may be worth the money to you.

You can contact the Colt Archive Services at (860) 554-8088 or through its website at coltarchives.com.

Joel J. Hutchcroft

Why Won't Rimfire Shotshells Cycle?

Q: Interesting column on handgun shotshells in the July issue. What I don't understand is why can't rimfire shotshells be made with enough power to cycle a semiautomatic? With my Ruger 10/22, I have to cycle each shot manually. It may as well be a bolt action. What's the deal? Why don't the shotshells have enough power?

Orlando La Rosa
Castella, CA

A: The most common reason cited is that any shotshell fired from a rifled barrel needs to be held to around 1,000 fps to avoid "blown" patterns due to centrifugal forces. The other is a more complicated issue that has to balance ballistics, manufacturing realities, and safe performance.

Long before CCI modernized the rimfire shotshell with a capsule, there were never rimfire shotshell loads that cycled reliably in semiautos. All require a tiny wad to separate propellant from shot. Because of the size

demands, rimfire wads are made from fiber or cardboard. Plastic does not scale down to that size without inducing additional issues that would severely complicate manufacturing and make such shotshells prohibitively expensive to the consumer. Even the capped CCI loads have a cardboard wad.

Interior ballistics are all about closed systems. More velocity requires more pressure, but tiny cardboard and fiber wads can only handle so much pressure before they tip or break apart. If over-pressured, the wad might give way, and the gas will mix with the shot, making the pattern worse and increasing the possibility of a wad or a piece of capsule remaining in the barrel. You lose the closed system prematurely, and without the closed system, the round won't operate a blowback semiauto anyway.

Therefore, the current velocity specs represent the best balance between patterning, ability to manufacture affordably, and ballistic realities.

Allan Jones

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SHOOTER'S GALLERY

THE SHOOTIST

THE BALLISTICIAN

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Winchester Model 74

Offering stellar accuracy and vintage charm, this classic autoloader is wonderfully unusual. **BY JOSEPH VON BENEDICT**

Fed by a 14-round magazine in the buttstock, the Winchester Model 74 features a top-side crossbolt safety.

INTRODUCED IN 1939, THE WINCHESTER MODEL 74 is an intriguing self-loading rimfire. The receiver is built on an 8.5-inch-long steel tube. An inch in diameter, the tubular receiver houses a simple blowback-operated bolt and is fed by a tubular magazine housed in the buttstock.

Unlike most vintage semiautomatic rimfire rifles, the Model 74 allows the bolt to be removed from the rear of the receiver, enabling easy maintenance and allowing the bore to be cleaned from the rear. These rifles can be spotted from a distance because of the squared-off rear of the action, which gives them a look nearly akin to the “humpback” appearance of the classic Browning Auto-5 shotgun.

Uniquely, the safety is a flat, knurl-ended crossbolt dovetailed into the *top* of the receiver. A petite charging handle rides in a slot machined into the left rear of the action, in a very ergonomic position. Situated directly above the trigger, its placement allows a right-handed shooter to simply rotate the shooting hand at the

wrist, snick the charging handle rearward with a hooked fore-finger, and let it drop to chamber a round.

For its first year of production, the Model 74 was available only in .22 Short. In 1940, a .22 Long Rifle version was added. The “Short” was discontinued in 1952, and the entire line was dropped from production in 1955. According to *Blue Book of Gun Values*, 406,574 were made during the 17-year run of the Model 74.

Back in the day, the rifle retailed somewhere between \$18.45 and \$19.25, depending on options. It was available with the “open rear sight” shown on the rifle spotlighted here, as well as with a “peep rear sight.” A .22 Short “Gallery Special” had a shell deflector. Late models featured a dovetail on top of the receiver for mounting a scope.

The Model 74 has a bit of unique war history. It saw service in Great Britain as a training rifle, and later over 600 were fitted with scopes and suppressors and issued to coastal British Resistance forces when it appeared that a German invasion was imminent. Their task? An undercover, close-range war from behind enemy lines, targeting enemy officers and sabotaging the German campaign.

Model 74s are uncommon, if not rare, and are known for their idiosyncrasies and for their accuracy.

Mechanicals

To load a Model 74, twist the magazine handle housed in the buttplate counterclockwise to unlock it and draw the magazine tube out of the stock. Drop cartridges into the angled loading hole in the right side of the stock. Keep the barrel pointed at a downward angle so gravity pulls the

WINCHESTER MODEL 74

MANUFACTURER	Winchester Repeating Arms
TYPE	Blowback-operated autoloader
CALIBER	.22 Long Rifle
MAGAZINE CAPACITY	14 rounds
BARREL	24 in.
OVERALL LENGTH	43.75 in.
WEIGHT, EMPTY	6.38 lbs. with scope and sling
STOCK	Walnut
LENGTH OF PULL	13.62 in.
FINISH	Gloss blue metal, satin wood
SIGHTS	Adjustable U-notch rear, brass bead front
TRIGGER	4.63-lb. pull (as tested)
SAFETY	Two-position crossbolt

WINCHESTER MODEL 74 ACCURACY & VELOCITY

shells into the magazine tube. Sometimes it's necessary to jiggle the rifle a bit. When adequately charged (up to 14 rounds), replace the magazine spring tube.

Pulling the charging handle back and letting it drop feeds a fresh cartridge into the chamber. Importantly, most literature on the Model 74 warns against functioning the charging handle to cock it with the safety in the "engaged" position. In fact, rifles originally came with a warning note included in the box. Apparently, the safety detent spring gets caught on the bolt and will lock up the action. Often, shooters destroy said spring while attempting to clear the action, and replacements are difficult if not impossible to find.

That's one of the idiosyncrasies of the Model 74. Another is its three-piece firing pin assembly, which is prone to breakage if the rifle is dry-fired. Unfortunately, there's no bolt catch to hold the bolt open when the magazine is empty, so unless the shooter counts shots, the rifle is often dry-fired when it runs empty. And let's be candid: Who counts shots when a herd of jackrabbits is underfoot?

With a fresh cartridge chambered, the crossbolt safety may be engaged. Slide the safety left to disengage, press the trigger to fire. Repeat until empty.

Provenance

I borrowed the rifle featured here from a friend. He had received it as a gift from his father, who had recently purchased it. Aside from that, I know nothing about it other than what I can interpret from examining the rifle.

From its appearance, I don't believe it's been fired much or used hard. The rifle was built in 1941, but there's very

WINCHESTER MODEL 74 ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	25-YD. ACC. (IN.)
.22 Long Rifle, 24-in. Barrel				
CCI Stinger 32-gr. HP	1574	83	31	0.52
American Eagle 38-gr. HP	1207	62	16	0.53
SK Flatnose Match 40-gr. FN	994	55	17	0.45

NOTES: Accuracy is the average of three, five-shot groups fired from a sandbag bench-rest. Velocity is the average of 15 rounds measured at the muzzle with a LabRadar.

little wear on the bluing, and from what I can tell, the finishes are all original. Aside from a couple large dings in the left side, the stock is in very good condition. The only sign of rust is on the buttplate, which likely picked up the very light freckling while left leaning in a closet corner for a decade—or three.

All the moving parts function smoothly and show little to no wear; the bore is bright; and everything appears to be original. This rifle was either loved and babied or not appreciated much and simply stored for most of its nearly 80 years.

While shooting it with his dad and his own son recently, my friend shot it extremely well and became quite enamored with it. Because my friend thought it was so cool, his dad gifted it to him.

Rangetime

At the range, I charged the Model 74 with a handful of CCI Stinger cartridges and fired a five-shot group on a 25-yard target. To my surprise, four of the five shots landed in a tiny 0.27-inch cluster. The rifle ran flawlessly and was easy to fire accurately. Following groups were nearly as good, and the zesty 32-grain CCI bullets (typically better known for impressive terminal performance on small game than for accuracy) averaged just 0.52 inch for a series of three, five-shot groups.

Impressively, the budget-priced American Eagle 38-grain HP and the high-grade SK 40-grain Flatnose Match loads I tested did just as well, averaging 0.53 and 0.45 inch respectively. And that's with iron sights and middle-aged eyes! This is one superbly accurate vintage rimfire. **ST**



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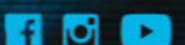
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SHOOTER'S GALLERY

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Tubular Magazines and Bullet Shape

A reader wanted to know if the pointed softpoint .35 Remington loading was discontinued because of safety concerns for tubular magazines. Here's our ballisticians' answer.

BY ALLAN JONES

FOLLOWING MY RECENT COLUMN ON THE .35 REMINGTON cartridge, I received an astute inquiry from a reader about the safety of centerfire cartridges and tubular-magazine rifles. His thoughts were triggered by my mention of the old 150-grain pointed softpoint factory loads.

I've read the cautions about pointed bullets and tubular magazines since I was a pup. The concern is that the recoil of normal firing can bounce the cartridges against each other end to end. In theory at least, a pointed bullet acts as a firing pin for the cartridge in front when recoil rattles the cartridges together. Today, having worked as a firearms professional for nearly 50 years, including investigating many alleged accidents, I can put this in context.

I never worked a case that was suspected of being a recoil-induced, in-magazine cartridge activation. However, through reliable contacts, I knew of two cases involving other cartridges where this was alleged. After

thorough investigation, both were determined to be a bullet-in-bore condition that burst the barrels downward, deforming the magazine, and setting off a cartridge. They were not caused by bullet shape and recoil.

The reader wanted to know if the old pointed .35 Remington 150-grain factory load was discontinued because of accidents in tubular magazines. I have to conclude that was not the reason.

First, that load was used for so many years. In my reference library I have a 1960 edition of *Gun Digest* that lists the load and a 2014 ammo catalog that also lists it. That's 54 years, and from old books and old hunters who talk about it, I know the pointy load was around before 1960.

Then there is the specific design. The .35 Remington's 150-grain pointed softpoint bullet has a bulge of soft lead above the jacket, and the jacket opening at the nose is about 0.130 inch in diameter, roughly

Is bullet shape the only factor in tubular magazine safety? Most likely, other concerns also play a role.

twice that of most firing pins. The more the force is spread out, the less likely it is to set off a primer. That jacket also thins dramatically to the tip, meaning the jacket metal is likely to deform under pressure and make the tip even bigger. And remember, firing pins are made of steel, not lead or gilding metal.

I do a “droop” test for ammo going into tubular magazines. I line the bullets end to end in a shallow trough. If you think about it, bullets are not going to align on-axis in a magazine when gravity is pushing the heavy end down. Even if they are on-axis when first loaded, they will not be once the first shot’s recoil momentarily takes the spring tension off the column of cartridges. The end with the heavy bullet is going to droop to the bottom of the magazine tube. That puts the bullet tip low on the cartridge in front of it. This is more pronounced in rimmed cartridges.

I used a lot of factory 170-grain .30-30 loads that had full-length jackets and a little hollowpoint. The jacket made partial contact with the primer pocket of the cartridge ahead in the droop test. No problems, and that product also has been on the market for decades.

There are far more .35 Remington rifles in service that have a conventional tubular magazine than have the “spiral” magazines used in slide-action Remington Models 14 and 141 that were supposed to keep bullet tips from contacting the primer ahead. If conventional magazine design induced a hazard with that load compared to the spiral mag tubes, I’m not

finding the evidence in accident reports, product-specific warnings, or availability of a particular bullet design.

Bullet designs and their popularity have shifted like sand on a beach since John Douglas Pedersen patented the magazine spirals for Remington in 1912. In the early 20th century, most sporting rifle cartridges could be bought factory loaded with FMJ bullets. Those put hard jacket metal all the way to the bullet tip. An early “tipped” bullet design had a pointy nose insert made of hard, non-ferrous metal. Could the concern that inspired the Model 14 and Model 141 spirals and warnings be for .35 Remington ammo that is no longer factory loaded?

Let’s look at other factors. The industry spec for primer seating is 0.001 to 0.010 inch below flush with the case head; most are in the 0.003- to 0.005-inch range. In the “drooped” position, it is possible for a bullet tip to be fully supported on the edge of the primer pocket without touching the primer.

Another issue is energy. The .35 Remington cartridge in the popular rifles chambered for it conceivably doesn’t produce enough recoil energy to initiate a primer in the magazine.

The .35 Remington case is rimless with little body taper, meaning the cases line up rather straight in the droop test, yet history shows not a hazard trend but rather a long history of surviving in the factory hunting ammo lineup. There is no warning on the box I have nor in a 2014 catalog.

For me, all the patterns I see tell me the bullet’s engineering was done right—the hazard was designed out of the product. The little bulge of lead and thin jacket seem to do the job for this cartridge. All indicators point to its demise being due to market pressure and customer and writer reports about it not being as effective on big game as the heavier bullets.

That said, let me state that I use flatnose or roundnose bullets in lever guns and always will, partly because I like them and partly because I don’t take chances—even tiny ones—with much-loved old Winchester rifles I cannot replace. ST

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SHOOTER'S GALLERY

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Dirty



Clean

Just Good Enough Is Not Okay

If you want to produce top-performing and safe handloads, start with clean brass. **BY LANE PEARCE**

LIKE CURRENT TV ADS THAT PORTRAY A COMPETITOR'S services as “just good enough” while the advertiser's services are superior, safe handloads are much better than “just good enough.” Reloading is relatively simple to accomplish, but a properly planned and executed handloading process is required.

The process begins with assessing whether a fired case should be reloaded, and that requires careful observation and evaluation. Questions to ask include: Was the fired case difficult to extract from the gun's chamber after it was fired? Is the primer in place? Is it pierced, cratered, or flattened? Is the case head partially or fully cracked above the rim? Is the neck split? Is the shoulder dented?

I've seen every one of those conditions too many times to count in nearly 50 years of reloading. If any answer is “yes,” then you must reevaluate your recipe and develop a corrective action plan.

Assuming no issues so far, next I tumble clean every case in corncob media before proceeding. If it's new brass or from factory rounds fired in my gun, I sometimes just dump them in an old bath towel and briskly rub them for a minute or so. If they're range pickups or dusty/dirty at all, I decap, wash, and dry the batch before tumbling.

Why Go to All that Trouble?

Well, the brass needs to be clean so you can carefully inspect it before it is resized. Plus, clean brass is easier to inspect for all those concerns I mentioned

earlier. In addition, the sizer die is an expensive piece of precision tooling, and you will quickly damage it by forcing dirty lubed cases in and out—you may even get one stuck! You'll also surely scratch or dent your expensive brass, and that can cause a case to split/rupture when it is fired.

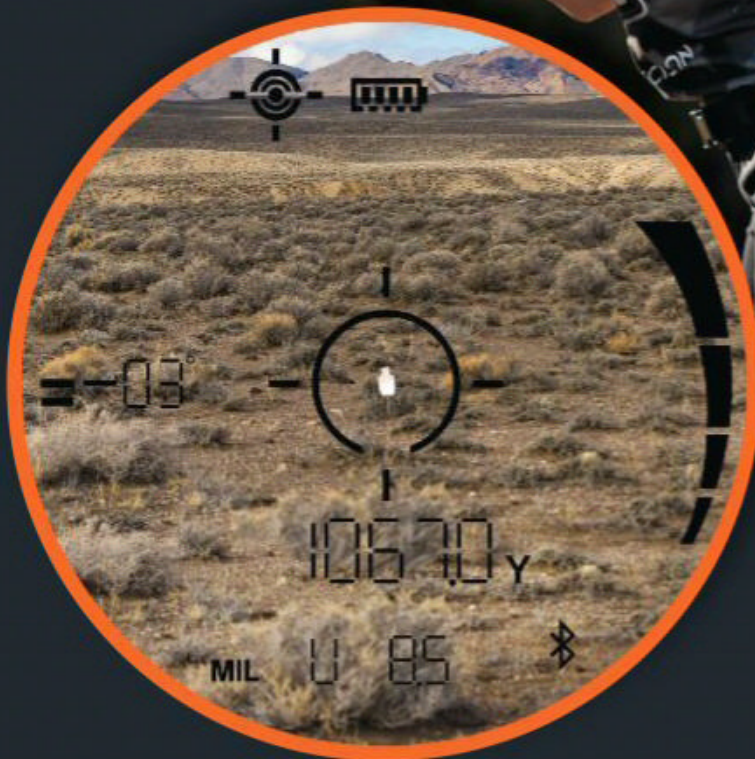
After resizing, you must check the cases again to see if they are too long, i.e., the case has stretched too much and exceeds maximum case length. Or if you intend to crimp the case mouth onto the bullet shank, then they all must be the same length, within a couple thousandths of an inch. Why? If case length varies too much, you can't apply a uniform crimp and/or you'll buckle the case neck if it's only a little too long.

I almost always clean and uniform the primer pockets before seating fresh primers, and I typically use an off-the-press priming tool simply because the leverage of a bench-mounted press is too great to allow me to “feel” the primer seat in the pocket. That's important to ensure the pocket is tight enough to retain the primer properly. If you “feel” several loose pockets when priming a batch of cases, it's smart and safe to trash the whole lot.

Implementing a case-inspection routine helps ensure that your handloads will be safe and reliable. You are responsible for your safety and your handloads' performance, so act responsibly. A responsible handloader never reloads “just good enough” ammo if he or she has any regard for their personal safety or achieving satisfactory performance. **ST**

Starting the handloading process with clean brass allows the cases to be better inspected, and that enhances safety as well as the loads' performance.

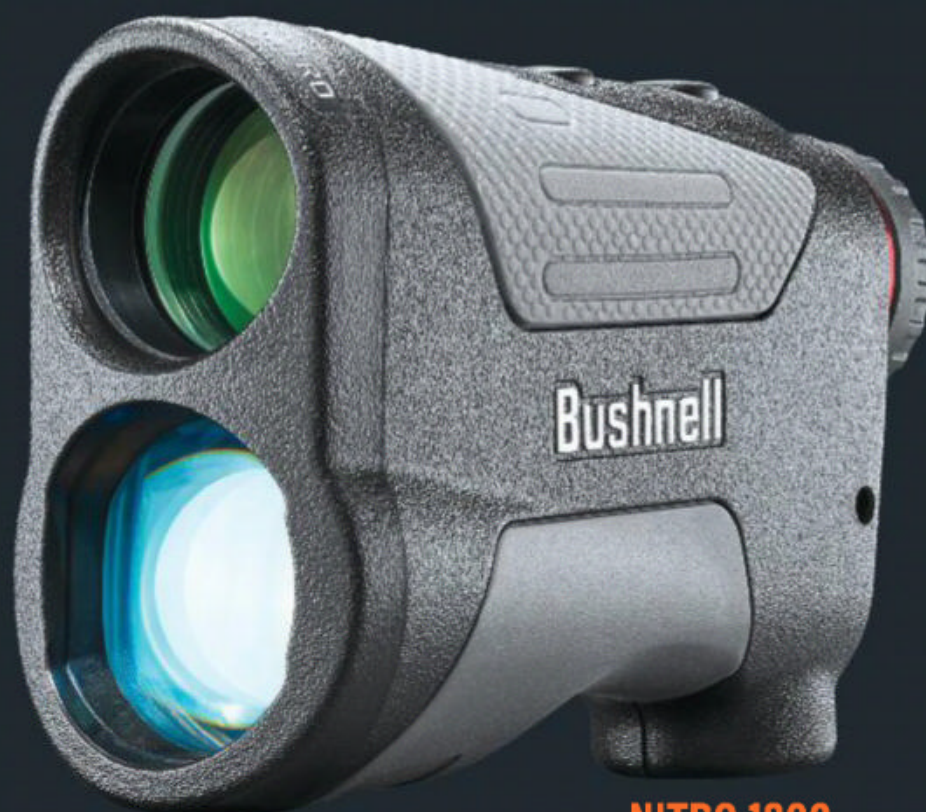
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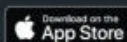
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SAKO SETS THE STANDARD

SAKO'S NEW S20 HYBRID RIFLE EVOLVES WITH THE OWNER, AND IT COMBINES BEST-IN-CLASS VERSATILITY WITH SUPERB ACCURACY.

BY JOSEPH VON BENEDIKT

SAKO'S NEW S20 MODULAR RIFLE IS arguably the most user-adaptable bolt-action rifle. Designed to be ultimately configurable and capable across the full spectrum of potential uses, from hunting to precision/tactical competition, it's a very intriguing firearm.

SAKO SETS THE STANDARD

According to Sako literature, the S20 is designed to be a rifle that evolves with the owner, eliminating the need to purchase a new rifle every time your interest in a new shooting sport germinates. Here's how Sako accomplished that.

Each rifle can be fitted with two sets of stocks composed of two different fore-ends and two different buttstocks. They can be mixed and matched to suit just about any need. Additionally, the trigger, scope-mounting setup, magazine, and other elements are user-configurable and adaptable. However, the stocks are the major players in this new system. More about them in a moment.

While S20 rifles will come configured as either the S20 Hunter or the S20 Precision, and alternate stock configurations will be available as optional accessories, the rifle I used arrived in a very nice hard case with a full bevy of parts and accessories. Included were the various stocks as well as four different sets of scope rings, a muzzle brake (the barrel is threaded 5/8x24), a monopod, two different thumbrests for the vertical-grip stock engineered for precision shooting, a five-round magazine (10-rounders are available), a barrier stop compatible with the M-LOK slots in the fore-end, a sling, tools, and other various accessories.

The action is a combination of excellent features from other Sako models. The S20 sports a three-lug bolt made of stainless steel, fitted with a classic Sako-type extractor and plunger ejector. A red-dot "cocked" indicator protrudes from beneath the rear of the composite bolt shroud. As for the bolt handle, it's interchangeable. The one fitted to my rifle features a slightly extended tactical-type bolt knob that's elegantly grooved around its radius,



The magazines are made of impact-resistant composite. Standard-cartridge capacity is five rounds (left), but optional 10-round magazines (right) are available.

providing a no-slip grasping surface. A two-position safety resides just behind the bolt handle. It locks the bolt closed when in the "On" position, which I like, and there's a small tab just forward of the safety lever that releases it so the chamber may be cleared without disengaging the safety. A sleek, striated bolt release button is located on the left rear side of the receiver.

Interestingly, the S20 action is intended to serve all short, standard, and magnum cartridges. Historically, Sako has designed size-appropriate variations for each. Not this time. The S20 magazine clearly shows that most cartridges will fit and function into one size.

Undoubtedly, the biggest departure from the Sako norm is the scope-mounting system. Sako is known for its proprietary scope ring system, which is excellent but difficult to find rings for in the United States. In a very savvy move, however, Sako chose to machine a 1913-spec Picatinny rail atop the S20's receiver, making it compatible with all MIL-STD cross-slot rings. Being machined integral to the action, it offers unbeatable strength, too.

Beautiful Engineering

Important to the interchangeable stock system is the way the action mates with its bedding, which is a machined aluminum V-block. Rather than possessing a traditional recoil lug integral to or attached to the action, a slot machined across the bottom of the front receiver ring interfaces with a steel lug embedded in the aircraft-grade aluminum V-shaped bedding block.

While nearly seamless in appearance, the front and rear stocks are distinct, separate parts. Each has a composite exterior inhabited by an aircraft-grade chassis. This provides an excellent combination of accuracy- and consistency-enhancing rigidity, easy configurability, and robust strength.

Swapping the buttstocks is easy. Simply loosen the top receiver tang screw and the rear receiver screw just behind the trigger guard and pull the stock rearward. Insert the alternate stock into the machined-aluminum interface and snug those screws up to 7 Nm (Newton meters), which is about 62 inch-pounds on your American torque wrench.



Featuring ultimate configurability for a multitude of shooting tasks, Sako's new S20 rifle system is an extraordinarily versatile firearm.



Changing out the fore-end is a bit more complex. Loosen those same two rear action screws and remove the stock. Remove the front action screw or screws (one on the Hunter fore-end; two on the Precision fore-end). Remove the two side screws from inside the QD sling attachment cups, one on each side of the fore-end tip, and the traditional-looking sling swivel stud from the bottom of the fore-end tip. Give a gentle tug and the composite part of the fore-end will come free.

To this point, the barreled action is still firmly locked into the V-block chassis. Next, remove the action screws located at the bottom of the front receiver ring and just forward of the trigger assembly, as well as the rear tang screw, and lift the barreled action from the chassis.

While complex, it's a beautifully engineered system. Because I couldn't help myself, I fully disassembled the stock system and spent a happy 30 minutes playing with different stock/fore-end combinations and marveling at the ingenuity of the Finnish designers. Finally, I put the S20 together using the Precision stock and fore-end. I actually prefer the look and feel of the Hunter stock and fore-end, but I decided the Precision version would help me milk the best performance out of the rifle during accuracy testing.

In addition to the several M-LOK slots incorporated into the Precision fore-end that made mounting my favorite Spartan bipod easy, there's an M-LOK slot just forward of the magazine and a compatible Sako-provided barrier stop, which helps shooters make the most of improvised rests in field-type shooting positions. Aft,

S20

MANUFACTURER	Sako
TYPE	Bolt-action repeater
CALIBER	6.5 Creedmoor
MAGAZINE CAPACITY	5 rounds
BARREL	24 in.
OVERALL LENGTH	45 to 45.5 in.
WEIGHT, EMPTY	8.38 lbs.
STOCK	Composite-clad aluminum chassis
LENGTH OF PULL	13.75 to 14.25 in.
FINISH	Gray Cerakote on stainless barrel and action
SIGHTS	None; integral Picatinny rail
TRIGGER	2-lb. pull (as tested)
SAFETY	Two position
MSRP	\$1,700 (Hunter), \$1,800 (Precision)

the Precision stock comes with two thumbrests that help the shooter maintain a consistent, comfortable firing-hand grip; a quick-adjustable comb so you can finesse cheekweld to perfection; and a buttpad that's adjustable for length of pull (LOP) via included spacers and for height by sliding the pad up or down in the screw slots. It's worth noting that both stocks feature comb height, LOP, and buttpad position adjustments.

The trigger is adjustable, too. A hex-head screw accessible through the magazine well allows the shooter to adjust weight of pull between 2 and 4

pounds. I adjusted the trigger on my rifle all the way down, encountered a hard stop (which I like), and shot, happy with the 2-pound precision trigger feel. In addition to pull weight, the trigger blade is adjustable for position by a few millimeters in each direction. This enables the owner to position it perfectly for reach, benefiting feel and control.

Sako touts increased barrel life and excellent accuracy from its cold-hammer-forged (CHF) barrels. In creating a CHF barrel, the blank is first drilled and then inner-surface-honed to a very smooth surface. Then a mandrel is inserted, and the barrel is hammered from all sides. The hammering transfers the reverse image of the rifling from the mandrel and work-hardens the steel, which provides the increased resistance to erosion and the resulting longer



The S20 action utilizes a stainless-steel three-lug bolt fitted with a classic Sako-type extractor and plunger ejector. It also features an integral Picatinny rail machined into the top.



The author used both the Precision (left) and the Hunter (right) buttstocks for his S20. Both buttstocks feature adjustable comb height, length of pull, and buttpad positioning.

SAKO SETS THE STANDARD

barrel life. As for accuracy, although some detractors claim a hammer-forged barrel cannot be as accurate as a button- or cut-rifled barrel, consider this: Unlike most of its competitors in the production-rifle world, Sako offers a sub-MOA guarantee for five-round groups, not just the three-round groups most companies guarantee.

Each S20 comes with a five-round magazine (three rounds in magnum cartridges), and 10-rounders are available. Made of a high-impact composite, the double-stack, center-feed magazines are designed to accept cartridges loaded longer than usual, enabling handloaders to finesse bulletseating depth for maximum performance. This is the first factory rifle I've seen that not only provides this feature but also advertises it. Kudos to Sako.

For those wondering, in order to prevent cartridges from moving forward and back in the magazine during recoil, the company designed internal contouring that interfaces with the cartridge's shoulders, holding them rearward and preventing projectile tips from contacting the inside front of the magazine. It's a nice touch that minimizes potential accuracy-inhibiting damage to bullets.

As I mentioned, Sako provides a beautifully engineered bridge-type scope base that clamps atop the Picatinny rails machined into the front and rear receiver rings. My rifle came with four different ring sets, including rings for 1 inch, 30mm, 34mm, and 36mm scope tubes. Each ring's flat base features four small posts that are machined integral to the ring and mate with corresponding holes in the flat top of the bridge-type scope base. The attaching screws are inserted from the bottom, so ring bottom halves must be installed prior to the base being mounted to the receiver.

Superb as the new S20 system is, I can't love everything engineered for it. Although the Sako scope-mounting accessory bridge mount and system are beautifully thought out and executed, I think it's unnecessary unless you order a version with built-in MOA so you can dial a scope for extreme distances. My sample is marked 0 MOA, so it's not an improvement. Also, because of the cross-slot bases machined into the top of the S20's action, the bridge elevates any given scope's position above the axis of the bore by more than a quarter-inch.

I don't like high-riding scopes, and I don't like fiddling with unnecessary bits of hardware, so I went the simple route and just installed a Leupold VX-5HD scope in 30mm Nightforce rings directly to the Picatinny rail machined into the action. The result is lovely, the optic sitting tight to the barrel, with just a whisker of clearance between the barrel and the objective lens housing.



Multiple fore-ends are available for the S20. The author used Hunter (top) and Precision (bottom) versions. Both feature side-mounted QD cups for attaching a sling, and the Precision stock has M-LOK slots for adding accessories like a bipod and a barrier stop.

Admirable Accuracy

At the range, I bore-sighted the Leupold scope and began firing test groups. From the very first three-shot test, the S20 clustered bullets in admirably tiny groups. My rifle is chambered for 6.5 Creedmoor, and the 24-inch barrel has a twist rate of 1:8. The magazine loads easily, the action feeds cartridges smoothly into the chamber, and the rifle feels great in shooting positions and through recoil. Having an icicle-crisp 2-pound trigger doesn't hurt, either.

Two of the four loads tested averaged well under 0.75 MOA. Of the two, the S20's favorite was Hornady's 147-grain ELD Match ammo, which turned in an impressive 0.64-inch average. Federal's 135-grain Hybrid Hunting ammo wasn't far behind, averaging 0.68-inch groups.

I'm guessing the S20 has a minimum-dimension, match-type chamber because Federal's Hybrid Hunting match-grade ammo with the Berger bullet was snug. Two cartridges out of the box were tight enough that the bolt wouldn't close on them. Tight chambers are both good and bad. Without a tight chamber, you usually can't achieve the sort of accuracy the S20 is capable of. On the flip side, you'll want to chamber-check all ammo at the range before hunting or competing with it.

Aside from those two rounds of Federal ammo, the S20 functioned perfectly, feeding, firing, extracting, and ejecting smoothly and reliably. In addition to the 6.5 Creedmoor chambering I tested, the S20 is offered in .243 Winchester, 6.5 PRC, .270 Winchester, 7mm Remington Magnum, .308 Winchester, .30-06, and .300 Winchester Magnum.

The S20 is a very innovative rifle, offering features that few others, if any, can compete with. It has the rigidity, stability, and accuracy of a machined-aluminum chassis paired with the comfortable handling feel of good composite material. In my opinion, it has the best scope compatibility of any rifle Sako has ever produced. It's ergonomic and smooth to function and fire. Without qualms, I can say the S20 is one of the most interesting new rifles on the market. **ST**

SAKO S20 ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	100-YD. ACC. (IN.)
6.5 Creedmoor, 24-in. Barrel				
Hornady 120-gr. Full Boar GMX	2931	14	5	2.09
Browning 129-gr. BXR	2935	42	14	1.20
Federal 135-gr. Berger Hybrid	2737	35	20	0.68
Hornady 147-gr. ELD Match	2641	25	9	0.64

NOTES: Accuracy is the average of three, three-shot groups fired from a bipod. Velocity is the average of 10 rounds measured 12 feet from the gun's muzzle.

SAR★USA

by SARSILMAZ

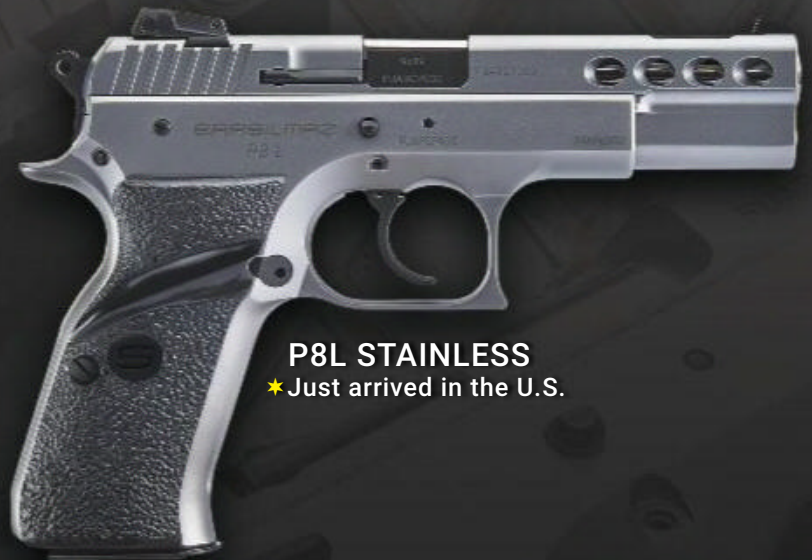
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GLOCK'S RIMFIRE

IT TOOK A LONG TIME FOR GLOCK TO BRING OUT A .22 LR PISTOL, BUT IT WAS WORTH THE WAIT.

BY PAUL SCARLATA

I AM A FAN OF Glock pistols. I bought my first one about a year after they first hit the United States in the late 1980s, and over the decades, I've owned just about every model that's been produced. I have used them for home defense, concealed carry, and competitive shooting with complete satisfaction.

Surprisingly, until this year, Glock's product line lacked a model chambered in .22 LR. I say surprisingly because I have always thought that .22 rimfire firearms are some of the most practical any shooter could own. Plus, a lot of *Shooting Times* readers have asked for a .22 LR Glock for decades.

As readers know, .22 LR ammo is inexpensive. While the price has gone up over the years, even the thriftiest shooters can afford a couple of boxes without busting their weekly budget.



In addition, .22s don't make a lot of noise, which means they can be fired in areas where touching off a 9mm or a .223 might cause anxiety among those living nearby, the results of which might be a visit by the local constabulary. And on top of all that, firearms firing the .22 LR produce almost no recoil, making them perfect for new shooters to learn on as well as enabling experienced shooters to practice more. Because .22s have much less penetration than larger/

more powerful cartridges, they are especially practical for use on indoor shooting ranges. And the .22 LR is capable of taking small game and vermin, everything from prairie dogs to foxes, without undue noise or meat and hide damage. With match-grade ammunition, a .22 pistol can be extraordinarily accurate. All of which leads me to Glock's new G44 .22 LR pistol.



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The new G44 features a composite steel/polymer slide, a polymer frame with integral accessory rail, a 4.02-inch barrel, a reversible magazine release, an ambidextrous slide stop, grasping grooves at the front and rear of the slide, and a fully adjustable white-outline rear sight with a white-dot front sight.

G44

MANUFACTURER	Glock us.glock.com
TYPE	Blowback-operated autoloader
CALIBER	.22 LR
MAGAZINE CAPACITY	10 rounds
BARREL	4.02 in.
OVERALL LENGTH	7.28 in.
WIDTH	1.26 in.
HEIGHT	5.04 in.
WEIGHT, EMPTY	14.6 oz.
GRIPS	Integral to polymer frame
FINISH	nDLC
SIGHTS	Fully adjustable white-outline rear, white-dot front
TRIGGER	6.1-lb. pull (as tested)
SAFETY	Glock Safe Action trigger
MSRP	\$439

The G44 Inside & Out

No one has ever accused Glock's marketing department of not understanding their potential customers. And while it has taken them a fair amount of time to come around to the notion, in late 2019 I received a very hush-hush press release from Glock's headquarters in Smyrna, Georgia, informing me that the company was going to introduce a new pistol at the 2020 SHOT Show in Las Vegas. A bit of inquiry to sources that will remain unnamed led me to believe that the new pistol would be chambered for the .22 LR. It turned out I was right!



The .22 LR G44 disassembles just like centerfire Glock pistols, and it comes with interchangeable backstraps that feature RTF3 texturing.

Over the years I have said "a Glock, is a Glock, is a Glock." By that I mean every Glock pistol has the same operating drill, functions the same way, disassembles in the same manner, and many of the parts are interchangeable. Those elements make Glocks especially useful for training, maintenance, or transitioning to new equipment. The new G44 looks just like every other Glock. It has the same squared-off profile, the same dull black finish, the same Safe Action trigger. However, its construction and operation are radically different.

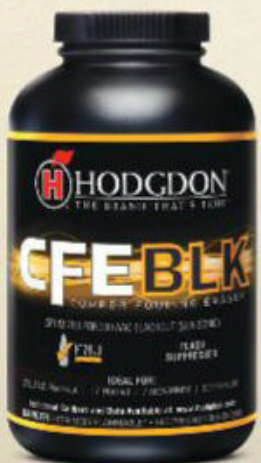
Unlike many .22 pistols, the G44 does not have a metal or alloy slide. Instead, Glock devised a two-part, hybrid slide that provides durability with lightweight performance. The steel rail system of the slide reciprocates on the frame rails and is surrounded by a polymer shell that contains the firing mechanism, extractor, passive safety, and other components.

The G44's frame is dimensionally identical to that of the G19, which happens to be Glock's most popular pistol, so it is compatible with all holsters intended for the G19 and the larger G17. The magazines also share the dimensions of their centerfire brethren, which means you can use the same magazine pouches.

Because of the low operating pressures of the .22 LR cartridge, the G44 is blowback operated. That means when the pistol is

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fired, the weight of the slide and the tension of the recoil spring hold the slide closed long enough for the bullet to leave the barrel. This form of operation negates the need of a tilting barrel and steel locking block in the frame, simplifying the manufacturing process and thereby holding down costs.

The G44's barrel is 4.02 inches long, and it is a genuine Glock Marksman barrel with enhanced hexagonal rifling and a counterbored muzzle. A threaded barrel kit is offered for shooters who live in regions where a suppressor is legal, and it includes a right-hand-threaded barrel, 500-28 adapter, and a thread protector. The MSRP of the kit is \$155.

Like all Gen5 Glocks, the G44's magazine release is reversible, and it has ambidextrous slide releases. The firing pin has a square profile with ramping on both sides, the striker safety plunger has an angled ramp configuration, and the trigger return spring has been moved inside the mechanism housing. A more aggressive undercut trigger guard allows the shooter to get a higher grip on the pistol. And the grip frame features interchangeable backstraps with RTF3 texturing for an extremely firm purchase even with wet or oily hands.



The 10-round magazines have loading assist tabs for compressing the springs, and that greatly eases the process of loading them to capacity.

Enlarged magazine base pads allow complete seating during reloads and permit the shooter to pull a recalcitrant magazine free if necessary. Magazine capacity is 10 rounds, and Glock's engineers thoughtfully included loading assist tabs on both sides of the magazine follower that allow you to depress the follower, greatly easing the process of topping off the magazines to capacity without tearing your fingernails. The gun comes with two magazines.

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As with other Gen5 Glocks, the G44's slide has forward grasping grooves. I approve of them as they make press checking (retracting the slide slightly to verify if there is a round in the chamber) easier and allow the shooter to retract the slide with a number of different holds.

A fully adjustable white-outline rear sight graces the rear of the slide, and the front sight has a white dot. Both are made of polymer.

Safety features include Glock's Safe Action trigger and a loaded chamber indicator in the form of a half-moon cutout in the top of the barrel hood.

The G44 at the Range

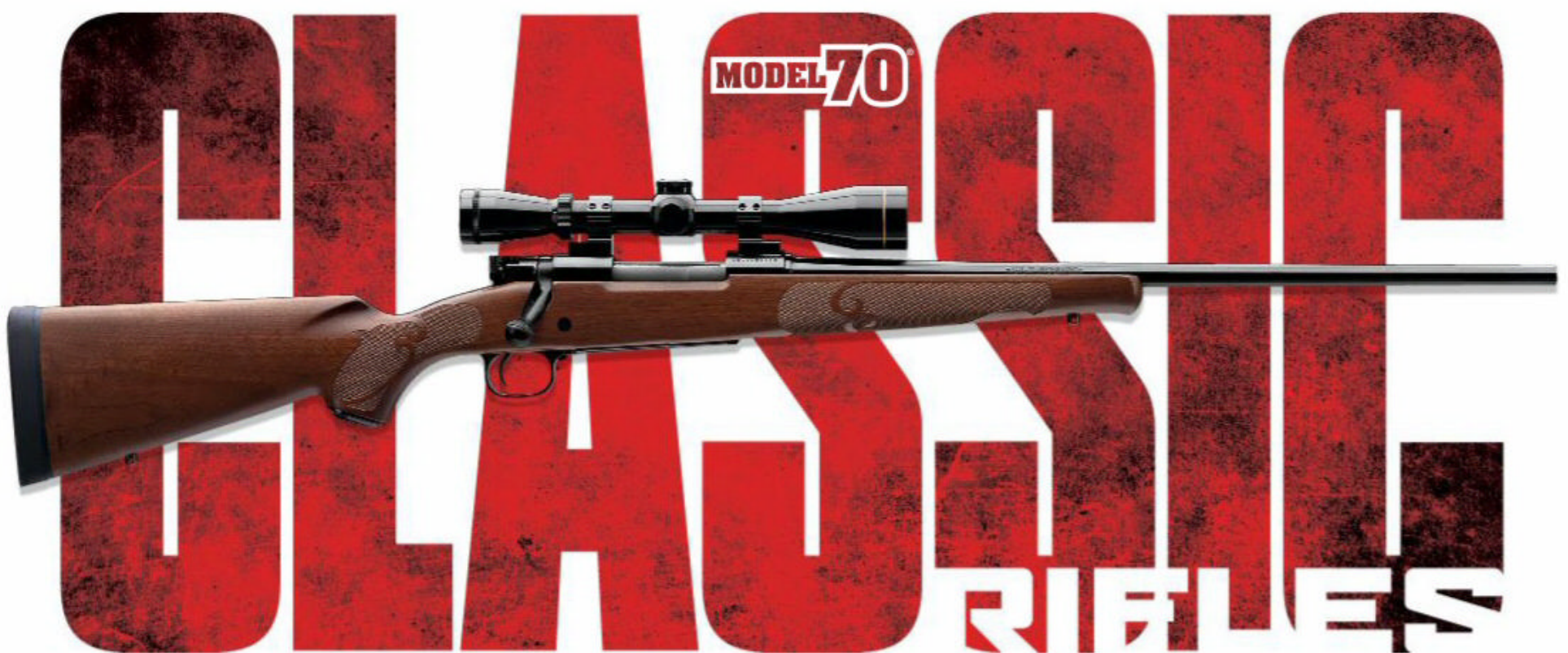
When I received the G44 for this report, I was taken aback by how lightweight it was. It weighs only 14.6 ounces with an empty magazine inserted. When I handed it to my wife, Becky, she said, "It feels sort of like a toy gun." While I have to admit she was correct, I assured her that it was indeed a real pistol.



Shooting five-shot groups from a benchrest at 50 feet proved the .22 rimfire G44 is capable of very good accuracy.

Longtime shooting buddies Richard Cole and Dick Jones met me at the Piedmont Handgunners Association Range in Lexington, North Carolina, on a very cold morning. Our first tasks were sighting-in the G44 and testing it for accuracy with five types of .22 LR ammo. A few turns of the rear sight's adjustment screws were necessary to get the G44 hitting where we wanted, and we were pleased to see that it was capable of producing groups in the 2-inch range. The accuracy results are listed in the accompanying chart.

Then we moved over to the club's steel range and ran racks of plates at a distance of 10 yards. The .22 bullets did not consistently tip over the plates, so we decided ringing them was sufficient. The G44 handled very well, and the three of us went six for six on most of the racks, although we found an extra round or two very useful on a few of our runs.



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Paul fired the new G44 on steel plates in mock combat drills. He found it to handle well, and optimal reliability came with high-velocity ammunition.

After that, we put the G44 through a “combat” drill by engaging a pair of USPSA targets at seven yards. Starting with the G44 held in the low-ready position, on the signal, the shooter lifted the pistol and engaged the first target with 10 rounds in rapid fire, performed a combat reload, and engaged the second target in the same manner. The drill was then repeated a second time for a total of 40 rounds fired by each shooter.

After this profligate expenditure of rimfire ammo, we were pleased to see that the majority of our rounds impacted inside the A zones of the targets. This caused one shooter to comment, “While I wouldn’t choose a .22 LR for a defensive

GLOCK G44 ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	50-FT. ACC. (IN.)
Federal Champion 36-gr. CPHP	1167	2.00
Aguila Super Extra 40-gr. CPSP	1121	2.13
Remington Target 40-gr. LRN	1039	2.25
Winchester M22 40-gr. CPRN	1117	2.00
Winchester Wildcat 40-gr. Dynapoint	1142	1.80

NOTES: Accuracy is the average of three, five-shot groups fired from an MTM K-Zone rest. Velocity is the average of five rounds measured 10 feet from the gun’s muzzle.

pistol, you have to admit we put a lot of rounds in the A-zone very quickly!”

It is common knowledge that .22 pistols can be finicky about the type of ammo you run through them, and the G44 was no different. We experienced a number of failures to extract/eject with the standard-velocity Remington ammunition, although the pistol performed quite reliably with the faster-stepping brands and ran flawlessly with the Winchester Wildcat 40-grain ammo. I recommend that G44 owners test-fire their pistols with a variety of .22 LR ammunition to find which loads provide the best reliability.

In closing, I must voice two minor complaints about the trigger

and the magazines. Anyone familiar with Glock’s Safe Action trigger knows that it tends to be gritty, and that can be problematic for precision shooting. While this is understandable on pistols intended for defensive/police/military service, on a .22 designed for target shooting or hunting small game, it can be a disadvantage. A number of aftermarket manufacturers and gunsmiths offer upgrades for Glock triggers, and I hope Glock takes advantage of such technology to improve the trigger on the G44.

From the size of the magazines, it would appear that that they could be designed to hold more than 10 rounds of ammunition. And I wish they did because I like to shoot .22 LR quickly, and it would be a lot more fun if I didn’t have to reload magazines so often.

My two compadres and I found the G44 to be reliable with the proper ammunition, easy to use, simple to maintain, and accurate enough for its intended purposes. In other words, it’s a Glock!

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PRECISION RELOADING, PART 1

THE ACCURATE

RIFLE

THE PROCESS OF *PRECISION* HANDLOADING BEGINS WITH AN ACCURATE RIFLE.

BY LAYNE SIMPSON

PRECISION HANDLOADING as we know it today started during the late 1940s when a group of varmint shooters got together to see who could place five bullets into the smallest group at 100 yards and 200 yards. In the beginning standard handloading tools made by Lyman, Belding & Mull, and HollyWood Gun Shop were used to reload the .220 Swift along with wildcat cartridges like .22-250, .220 Wilson Arrow, and .219 Donaldson Wasp. Two organizations, the National Benchrest Shooters Association (NBRSA) and the International Benchrest Shooters (IBS), were eventually formed, and the sport was off and running.

The Backstory

Continued efforts to shrink group size by improving the quality and consistency of ammunition resulted in the development of precision-made handloading tools. Some were made by individual shooters for their own use, while others were made by gunsmiths who specialized in building accurate rifles. Then, during the early 1950s, champion benchrest shooter L.E. "Sam"



Wilson of Cashmere, Washington, began selling his straight-line bulletseater, case trimmer, and other tools, and the accuracy race picked up speed. Sam passed away in 1985, but his company is still family-owned and his bulletseating die is still preferred by many benchrest shooters. Another leap forward came with the formation of Sinclair International by benchrest shooter Fred Sinclair. Now owned by Brownells, that company offers a mind-boggling number of tools designed specifically for precision handloading.

While everything needed to produce precision ammunition was available, few outside of a small fraternity of dedicated perfectionists were interested. Several events changed that, and one was the introduction of precision loading equipment by big reloading die makers, such as Redding, RCBS, Hornady, and Forster. Whereas the availability of precision equipment had previously been mostly known by a small group of shooters, everyone who handloads is now aware of them. And just as it goes with eating potato chips, once you try one of those tools, it is unlikely that you will stop there. Regardless of whether you have a factory rifle or a custom build, the challenge of shrinking groups on paper is both fun and habit-forming.



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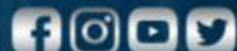


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THE ACCURATE RIFLE



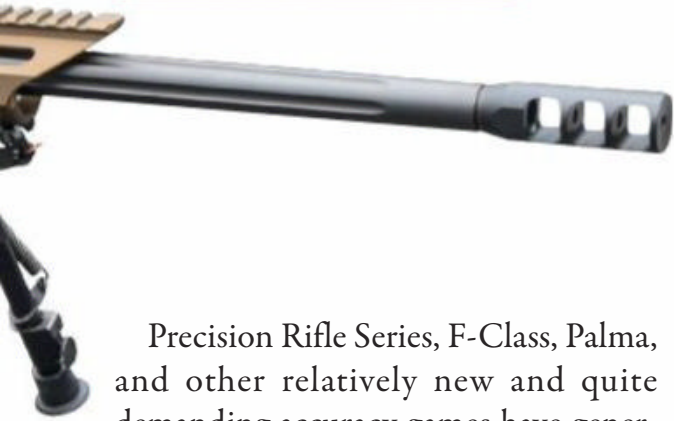
Another factor that has increased interest in precision handloading is improvement in the accuracy of factory rifles due to advances in CNC machinery. Leadership in that field has changed hands through the years simply because corporate priorities change. For many years Remington held a big lead with its series of target and varmint rifles based on the 40X action, but eventually the baton was passed to Savage. Savage introduced a superbly accurate F-Class rifle when very few people had even heard of the sport, and it was followed by the Model 12 Palma and a number of other affordable yet extremely accurate target rifles. Other companies have since joined the chase.

The accuracy of factory-built, bolt-action hunting rifles has improved enough through the years to make precision handloading worthwhile to many who own them. They may already deliver minute-of-whitetail accuracy with factory loads and regular handloads, but many riflemen cannot resist the challenge of making them drive tacks. Game animals have also benefited because a superbly accurate rifle instills confidence, and a confident hunter is more likely to make clean kills.

The price of a rifle is not always a true indicator of its accuracy potential. My first economy-grade rifle capable of half-minute accuracy with precision handloads was the Remington 788 introduced way back in 1967. Those in .223 Remington, .243 Winchester, 7mm-08 Remington, and .308 Winchester responded nicely to precision handloading. A carbine in 7mm-08 was accurate enough to consistently win the non-modified, factory deer rifle class in casual benchrest matches held at my gun club. Several companies offer good, low-budget rifles today, and I have had exceptionally good luck with a couple of Ruger American rifles in .243 Win. and 6mm Creedmoor. Marlin XL7 rifles that I shot also delivered surprisingly small groups, but sadly, that model is no longer with us.



For several years Savage has been a leader in accurate rifles at affordable prices, and this Model 10/110 Stealth Evolution in .223 Remington earned its keep when averaging 0.322 inch with its favorite precision handload.



Precision Rifle Series, F-Class, Palma, and other relatively new and quite demanding accuracy games have generated a considerable amount of interest in precision handloading, and while 1,000-yard benchrest shooting has been with us for a very long time, there is far more interest in the sport now than in years past. The 1,000-yard Wimbledon Cup match began in the United Kingdom in 1866 and eventually migrated to the National Rifle and Pistol Matches at Camp Perry, Ohio. Competition at The Original Pennsylvania 1,000-Yard Benchrest Club began in 1967, and for many years, it and Camp Perry were about the only places offering competition at such great distance. That's a very long way from rifle to target, but it's not as far away as the King of 2 Miles competition held each year at the NRA Whittington Center in Raton, New Mexico. According to my trusty calculator, that's 3,520 yards. Many other long-distance shooting matches are now held each year.



This rifle built by Rifles Inc. on a blue-printed Remington 700 action weighs 20.5 pounds with its Nightforce 12-42X scope and 28-inch 6.5 Creedmoor Bartlein barrel. The best precision handload accuracy to date is 0.210 inch.



It would be difficult to find a better long-distance varmint rifle than this Remington 40XKS with a 27.5-inch barrel in .220 Swift. Precision handloading made it even better with an average accuracy of 0.310 inch.

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seats in the receiver, and the face of the bolt, the front of the receiver, and the recoil lug must be concentric. Bolt travel should be smooth with minimal wobble. When the firing pin is released, it should travel forward smoothly and freely with no binding against the interior of its spring or the wall of the bolt. The firing pin simply must deliver shot-to-shot consistency in the amount of energy it delivers to primers.

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PRECISION HANDLOAD ACCURACY

BULLET	POWDER		CASE	PRIMER	BULLET JUMP (IN.)	VEL. (FPS)	E.S. (FPS)	100-YD. ACC. (IN.)
	(TYPE)	(GRS.)						
.17 Remington Cooper Model 21, 24-in. Barrel, 1:10 Twist								
Nosler 20-gr. VGFB Tipped	IMR 8208 XBR	22.7	Rem.	Rem. 7½	0.005	4166	20	0.412
.223 Remington Savage M10/110 Stealth Evolution, 20-in. Barrel, 1:9 Twist								
Berger 70-gr. Match VLD Target	VV N135	27.5	Lapua	Fed. GM205M	0.010	3116	18	0.322
.22 PPC Sako L461 Palmisano Special, 24-in. Barrel, 1:14 Twist								
Sierra 52-gr. HP MatchKing	Varget	29.9	Norma	Fed. GM205M	0.005	3459	14	0.311
.220 Swift Remington 40XKS, 27.5-in. Barrel, 1:14 Twist								
Sierra 53-gr. HP MatchKing	Accurate 2520	38.2	Horn.	Fed. GM210M	0.005	3873	22	0.310
.243 Winchester Remington M700 SPS Varmint, 26-in. Barrel, 1:9 Twist								
Hornady 75-gr. V-Max	VV N160	44.8	Lapua	Fed. GM210M	0.020	3510	28	0.394
6mm PPC Jarrett Light Varmint BR Rifle, 20-in. Jarrett Barrel 1:15 Twist								
Bart's 68-gr. FBHP	VV N133	26.8	Lapua	Fed. GM205M	-0.005*	3144	11	0.172
6mm GT G.A. Precision Templar, 27.5-in. Bartlein Barrel, 1:7 Twist								
Berger 105-gr. Hybrid Target	StaBALL 6.5	39.2	Alpha	Fed. GM205M	-0.010*	3022	5	0.227
6mm Creedmoor Rifles Inc. M700, 28-in. Bartlein Barrel, 1:7 Twist								
Berger 105-gr. Match Target	IMR 4451	39.8	Lapua	Fed. GM205M	0.025	2974	7	0.219
6mm Creedmoor Ruger American, 22-in. Barrel, 1:7 Twist								
Swift 90-gr. Scirocco II	StaBALL 6.5	44.7	Nosler	Fed. GM210M	0.030	3254	23	0.511
6.5 Creedmoor Rifles Inc. M700, 28-in. Bartlein Barrel, 1:8 Twist								
Nosler 140-gr. Custom Competition	H4350	39.4	Lapua	Fed. GM205M	0.005	2741	14	0.210
6.5-284 Norma Cooper M22, 26-in. Barrel, 1:8 Twist								
Barnes 120-gr. TTSX BT	VV N160	52.3	Lapua	Fed. GM210M	0.045	3154	9	0.397
6.5 PRC Advanced Weapons M700, 26-in. Shilen Barrel, 1:8 Twist								
Berger 140-gr. VLD Hunting	IMR 7977	55.9	Horn.	Fed. GM215M	0.020	2846	8	0.261
6.5 Rem. SAUM Custom M700, 26-in. Shilen Barrel, 1:8 Twist								
Lapua 139-gr. Scenar	US 869	69.6	Norma	Fed. GM215M	0.020	3043	12	0.273
7mm-08 Remington Jarrett Model Seven, 22-in. Jarrett Barrel, 1:9 Twist								
Nosler 140-gr. Ballistic Tip	Reloder 19	48.2	Star.	Fed. GM210M	0.015	2887	18	0.302
.308 Winchester Savage Model 12 F-Class, 30-in. Barrel, 1:10 Twist								
Lapua 185-gr. Scenar	Varget	40.9	Nosler	Fed. GM210M	0.010	2565	10	0.334
.300 WSM Browning X-Bolt Pro Long Range, 26-in. Barrel, 1:10 Twist								
Sierra 165-gr. Tipped GameKing	Superformance	70.8	Fed.	Fed. GM210M	0.025	3218	19	0.441
.338 Lapua Magnum Jarrett M700 Long Ranger, 26-in. Jarrett Barrel, 1:9 Twist								
Barnes 280-gr. LRX BT	IMR 7828 SSC	80.3	Lapua	Fed. GM215M	0.070	2784	14	0.317

*Bullet seated into rifling by indicated amount

NOTES: Accuracy is the average of four or more five-shot groups fired from a sandbag benchrest. Velocity is the average of 10 rounds measured 12 feet from the guns' muzzles.

These are the most accurate precision handloads developed for various accurate rifles. All powder charges are maximum or close to it and should be reduced by 10 percent for starting loads in other rifles.

All load data should be used with caution. Always start with reduced loads first and make sure they are safe in each of your guns before proceeding to the high test loads listed. Since *Shooting Times* has no control over your choice of components, guns, or actual loadings, neither *Shooting Times* nor the various firearms and components manufacturers assume any responsibility for the use of this data.

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Rifles don't have to be extremely heavy to deliver excellent accuracy with a precision handload. This rifle built by Kenny Jarrett around a blueprinted Remington 700 action with a 26-inch Jarrett barrel in .338 Lapua Magnum weighs a bit less than 10.25 pounds with the scope. Its best accuracy to date is 0.317 inch.

among the very best available. Blueprinted Remington 700, 40X, and XP-100 actions continue to win matches, and my Light Varmint class rifle on a sleeved 40X action in 6mm PPC is still the most consistently accurate rifle I have owned. Going that route can save money up-front, but resale value of the rifle will likely be considerably less than if it is built around one of the custom actions.

A top-notch trigger is also important, and while I have long leaned toward those built by Arnold Jewell and the 2-ounce trigger from Shilen, excellent precision-built triggers are available from Accuracy International, Timney, Huber Concepts, and Tubb. When properly maintained, they can be extremely light of pull and consistent in pull-to-pull weight while remaining quite reliable. The Diamond-grade trigger from TriggerTech on an 18-pound Templar rifle built by G.A. Precision in 6mm GT breaks crisply at a mere three ounces, and not once has it released without being lightly caressed by my finger.

The chamber of a precision rifle often has minimum dimensions for the cartridge chosen, and to assist in aligning a bullet with the bore, chamber throat diameter is usually no more than 0.0005 inch larger than bullet diameter. Some builders of precision rifles believe that throat angle should closely match the ogive shape of the bullet used. After being reamed, the toolmarks in the surface of the chamber should be lightly polished away.

Top-quality barrels made by Bartlein, Krieger, Jarrett, Lilja, Shilen, Hart, Schneider, Proof Research, and others have several things in common. First, the bore is drilled perfectly straight. Barrels with crooked bores that are straightened by bending in a special jig tend gradually to return toward their original shape when heated by continuous firing, and that can cause wide dispersion of bullets.

Equally important is little to no variation in the bore and groove diameters. In fact, the top-tier barrelmakers guarantee a deviation no greater than 0.0001 inch from chamber to muzzle.

There was a time when it was thought that gain-twist rifling had advantages, but today's barrelmakers generally agree that rifling twist should be uniformly the same from one end of a barrel to the other. Regardless of what method is used to rifle and finish a barrel, microscopic marks will remain, and that's acceptable as long as the marks are in the same direction as bullet travel. Toolmarks across the tops of the lands will collect bullet jacket fouling, and that's not a good thing for accuracy. A precision-machined crown at the muzzle ensures clean bullet exit.

We must not overlook the contribution advancements in telescopic sights have made. During the early days of benchrest competition, the long, externally adjusted Lyman Super Targetspot in 20X with both of its bases attached to the barrel or one attached to the receiver and the other attached to the barrel ruled the accuracy roost. I have two of those scopes, and as good as they are, they do not hold a candle in durability, precision, and optical clarity to those made today by Nightforce, Trijicon, Valdada, Burris, Bushnell, Swarovski, Weaver, Leupold, Schmidt & Bender, and a host of others. My first short-distance benchrest rifle (100 and 200 yards) wore a Lyman All American 20X scope, and while that seemed to be enough magnification at the time, many of today's competitors prefer magnifications of 40X and higher.

Next month I will take a close look at precision handloading ammunition capable of delivering the highest level of accuracy from accurate rifles.

ST



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.410 FEVER

SHOOTING SKEET WITH A SINGLE-SHOT .410
WILL MAKE YOU A BETTER SHOOTER.

BY PAYTON MILLER

MY FIRST DOVE gun was a Full choke .410. At age 11, I hated it, and my father, in his infinite mercy, got me a 20 gauge. Now, more than a half-century later, I still think that giving a youngster a .410 as his or her first shotgun borders on child abuse. Forget the so-called “light recoil” attributes of a .410. If you want your kids to have a fighting chance at smoking aerial targets, they’re far better off with a cut-down, junior-size 20 gauge. And if recoil’s an issue, preferably a gas-operated auto with an IC choke tube installed.

But this article isn’t about kids. It’s about me and why—in my dotage—I now love .410s. And I’m not talking highly collectible Winchester Model 42 pumps, Remington 1100 semiautos, or Browning Citori over-unders with .410 Briley tubes installed (although I’d love to have all three). I’m talking inexpensive, break-open, single shots sporting brand names like Stevens, Harrington and Richardson, Rossi,



and Iver Johnson. Some current, some, like the one that haunted my childhood, out of production. Not exactly labels to drive serious shooters wild with desire—no Perazzis, Ithacas, Berettas, or the like.

Truth be told, many of those external-hammer, break-open rigs were, and still are, used for pest control, small game, and venomous snakes (anybody else remember the late, lamented Snake Charmer?). It’s tough to think of a more useful “garden gun” than a single-shot .410. But they work for busting clay targets as well—not to mention doves and quail. No, definitely not the optimal tool for the job but, to me, the most fun.

In fact, my current “Most Favored Skeet Gun” is a single-shot Stevens .410—a long-out-of-print Model 940D, to be precise. It has an external hammer; a side-mounted, break-open lever; and a curb weight of just under 5.5 pounds. The stock is battered, nondescript hardwood. Its sole bit of token embellishment is a rather minimalist etching of a bird dog on the receiver, a pointer by its stance, although the



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.410 FEVER

exact breed is a bit tough to ID. I'm talking no-frills here—if you were to look up “Utility Gun” in the dictionary, you'd probably see a picture of it.

Value estimates I've encountered for similar 940s (but in arguably better cosmetic shape) have ranged from just around \$120 to a cryptic “whatever you can get for it.” The lack of a serial number indicates a pre-1968 manufacture date, and the circled “48T” narrows things down to 1966. The choke? Fixed and Full—like most vintage .410s—at a measured 0.396 inch.

I'm not altogether sold on just how much of a handicap a Full-choked .410 is for skeet. The practical differences in choke constriction in .410s isn't all that dramatic. Skeet yardages are usually 17 to 18 yards and max out at 21 yards.

Lots of experienced smallbore types prefer a Modified choke, claiming that with anything more open, you're going to give up pattern density, which, I suppose, is a consideration when you're dealing with a half-ounce of No. 8s from a 2.5-inch shotshell. And pattern density would really become an issue if you're obsessively nutty enough to dabble in trap or sporting clays with a .410. For me, skeet represents more than enough challenge.

I've used different .410 choke tubes in a Browning BPS and have never been able to tell the difference between IC, M, and F, and to be honest, I like the old-timey “fixed F” on my Stevens and Iver Johnson guns. After all, it's what I'd use on doves

or rabbits. But if you don't have a similarly Luddite proclivity for fixed chokes, current Stevens single-shot .410s are threaded for Win-Choke tubes.

One at a Time

So why a gun that looks like it was discovered in a Midwestern uncle's tool shed? Well, it's simple to operate, is very light and nimble, and brings a satisfying level of “reverse snobbery” to the table—no small thing when you're putting in a decent round against guys shooting high-dollar over-unders. Then there's the lack of recoil, plus the fact that you can dump an entire box of 2.5-inch .410 shotshells in a single pants pocket—just in case you've forgotten your Bob Allen shooting vest.

Seriously, though, using the Stevens 940D has made me a better shot on clay birds. I love skeet and try to shoot a round or two weekly, but I don't have a religious intensity about it. As long as I'm just north of the “high teens” score-wise, I'm happy. I've yet to shoot a perfect round with the 940D, but I've come up only a bird or two short. And I don't miss the doubles all that much. In fact, I tend to concentrate more on that one shot I'm going to get without the inevitable “report double” looming in back of my mind. Besides, I grew up hunting doves and quail in scrubby, high desert chapparal without benefit of retrieving dogs, a situation requiring a certain amount of fire discipline:

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f t i y

“Shoot one bird, stop everything, and find it first. Get greedy, shoot two, lose ’em both.”

I’ve had some seriously good shotgunners give me advice over the years, but regardless of gauge, or whether I’m using a Mossberg pump, a Benelli semiauto, a Stevens single shot, or a Beretta DT-11, I try to keep my mind on a “Holy Trinity” of actions. (1) Concentrate on the bird. Simply put, I try to spend almost as much time tracking the bird as figuring out when and where to shoot it, but I try to compress things and shoot quickly. If I focus on the bird, my swing will (I hope) automatically assume the right speed. (2) I fight like hell to keep my head down. Raise your head; shoot over the bird. (3) I force myself to keep the gun moving by repeating the “follow-through” mantra to myself while simultaneously trying to use my conscious mental computer as little as possible.

With any shotgun, regardless of bore size, I’ve found that once I start thinking simply in terms of how many feet to lead the bird, I’ve already missed. If your brain says “three feet,”



Don’t let the utilitarian engraving fool you. Payton’s 1966-vintage Stevens 940D is one solid little .410, and that side-mounted break-open lever provides an ergonomic advantage for speedy reloads—provided you’re right-handed.



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.410 FEVER

there's a tendency to stop the gun and slap the trigger once you've dragged the gun to where you think is "far enough" ahead.

I generally shoot from a low-gun position, which forces me to watch the bird for a bit longer. As well, mounting the gun is all part of the "keep the gun moving" process. I try to keep my stance relaxed and balanced in comparison to some of the stylized, almost contorted stances I've seen. Although many shooters a lot better than me prefer a heavier gun, for the way I shoot, my feathery little Stevens 940D single shot is fine. Point fast, swing fast, shoot fast. And don't over-think things. I just have to remember to hold it tight all the way through the shot.

What's more important is that it fits me. Of course, fit is important for any gun, but the reduced margin for error with a .410—it seems to me—makes a good fit loom a bit larger. If you're going the peewee single-shot route, you're going to need all the help you can get.

To be honest, as nontraditional as that little side lever seems on the Stevens 940D, it made perfect sense to me after my first round of skeet. Depress it with your right thumb and the action pops open just enough so you can cheat the ejector and catch the empty with your left hand. Beats scrambling around and straining your elderly back muscles to pick up those pricey hulls (everything about .410 ammo is small except the price tag). Speedy reloads are out of the question, unless you're three-armed. Thankfully, that lever lives on—although reconfigured—in Stevens's current 301 line.

I was having so much fun with the Stevens 940D, when the chance came to pick up an old Iver Johnson Champion for next to nothing, I jumped at it. This one—although made earlier (late 1940s)—is a significant cosmetic upgrade over my



Compared to the 12-gauge Winchester AA target load with 1 1/8 ounces of No. 8 shot (left), the .410 AA has 1/2 ounce of No. 8 shot. The 12-gauge load has 461 pellets, whereas the .410 load has 205.

swingin' '60s Stevens, featuring an honest-to-God black walnut stock and a casehardened receiver and a more conventional top-lever break. It, too, is choked Full, but considerably more so than the 940D at a tight 0.375 inch.

Today's .410 Single-Shot Scene

The Stevens 940 series was discontinued in 1970, but Stevens currently offers the very reasonably priced Chinese-made 301 line of shotguns that even includes a dedicated .410 turkey model—which definitely pushes the single-shot template out of the utility category, thanks to a synthetic Mossy Oak Bottomlands camo stock, optics rail, and extended "Extra Full" choke tube.

Iver Johnson ceased operation in 1993, but the name lives on as an importer with a line of imported Turkish-made single shots, including a couple of intriguing folding .410 models. And there are far worse "backpacking" options than a .410. I like .22 pistols as much as the next guy, but for potting small game, well....

Rossi USA's .410 Tuffy line offers several synthetic-stocked Brazilian-made single shots. Although Harrington and Richardson went out of business a couple years ago, its .410s of the old Topper and Handi-Gun lines are excellent and can still be found in used racks. Then there's what to me is the Holy Grail of discontinued .410 single shots: Winchester's Model 37 "Steelbilt" (R.I.P 1963). If I ever see one that's priced right, I'll grab it.

After all, if you have a .410 fetish, why not push it?

ST



While plenty of used .410 single-shot shotguns ride the racks in gunshops, available brand-new guns include the Stevens 301 (top) and the Rossi Tuffy (bottom). Both are offered in several interesting configurations.

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LESS IS MORE

THE NEW MINIMALIST BOLT-ACTION RIMFIRE RIFLES FROM SAVAGE ARE FUN GUNS INDEED.

BY STEVE GASH



WITH ALL THE HUBBUB SURROUNDING CHASSIS rifles with monster scopes, long-range shooting, and pencil-length bullets with stratospheric ballistic coefficients, it would seem that .22 rimfires have been left in the dust. Not so. They are alive and well, and this year many companies have fleshed out their rimfire lines with new models and updates of old ones.

Throughout its 126-year lifetime, Savage Arms's working principle has been to "design each firearm for a specific purpose," and the new Minimalist rifles are true to that tenet. These new bantamweight bolt-action rifles advance a refreshingly different approach to rimfire rifles.

Lightweight Yet Strong

I got a look at them at the 2020 SHOT Show, and as soon as I escaped Las Vegas, I ordered two of them, one in .22 LR and one in .22 WMR. The .22 LR's barrel is marked "Mark II," while the .22 WMR barrel has "Model 93" roll-marked on it. A Minimalist chambered for .17 HMR is also offered. Like most of Savage's rimfire rifles, the Minimalists are made at the plant in Lakefield, Ontario, Canada.

My new Minimalist rifles are indeed unique and, well, darn cute to boot. They are sleek bolt-action repeaters with distinctive laminate stocks that are super-strong yet lightweight. The stock comes in either brown or green, according to Savage, but I would describe them as "light brown on dark brown" and "green on dark brown." I think they're attractive, particularly the green version. Either color pattern can be had in any of the three chamberings.

The butt portion of the stock has a large cutout right behind the pistol grip, which has stippled gripping surfaces on each side, and the new stylized Savage logo laser engraved on both sides.

The stock also has a hard plastic buttplate, and sling-swivel studs are installed fore and aft. The tubular action and barrel are made of carbon steel, and the rifle comes with Savage's delightful AccuTrigger, which

is user-adjustable from 2.5 to 6 pounds with the special tool provided. The trigger pulls of my rifles were 3 pounds, 2.1 ounces for the .22 LR version and 2 pounds, 15.3 ounces for the .22 WMR. Both triggers were nice and crisp.

The barrel is button-rifled, 18 inches long, and comes threaded 1/2-28, should you want to add a muzzle brake or a suppressor. When I examined the bore of each rifle with my Hawkeye borescope, I noticed they looked a little rough. However, I was to find out later both rifles shot great and did not foul badly.

The barrel and action are finished in flat matte black, and a 10-round, single-stack removable box magazine is provided.

The .22 LR magazine is curved and reminds me of an AK-47 magazine.

The .22 WMR magazine is straight.

Be advised that the magazine releases and the bottoms of the magazines are sharp, and you could scratch or cut your support hand on them if you don't pay attention.

The two-position safety lever is located at the right rear of the action, and forward is the "Fire" position. When engaged, the safety does not lock the bolt, so the gun can be unloaded with the safety "On."



The new Minimalist rifles from Savage feature 18-inch barrels, laminated hardwood stocks, and Savage AccuTriggers.

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The bolt handle is 2.25 inches long, and it and the smooth knob make working the action easy. The root of the bolt handle serves as the locking lug, and the action cocks on opening.

The action does not have the typical 3/8-inch grooves like a lot of .22 rimfire rifles. Instead, the Minimalist comes with two Weaver-type bases installed. (Be sure to check the tightness of the base screws before you install your scope.) One of the scopes I used for this report is the miniature Gru-Bee 4X 24mm after a little jury-rigging to make a base (see the accompanying sidebar), and I think it makes for a nice little scope for a rimfire rifle.

Small Game's Worst Nightmare

As I've stated often, about the only disadvantage of rimfire cartridges is that you can't reload the darn things. Other than that,

a bevy of rimfires is a staple of most riflemen's batteries. I had lots of different .22 LR and .22 WMR ammo on hand, so I gave both guns a serious workout. I fired five-shot groups at 50 yards from a Caldwell DTF Lead Sled. In a nutshell, both rifles shot very well—as well, or better, than other rimfires I have tested.

The average accuracy for the 23 loads fired in the .22 LR rifle was 1.02 inches, and the range in group sizes was 1.38 inches. Some of the

velocity standard deviations (SD) were rather large, but in my experience, this is not uncommon with .22 rimfires. It did not appear to hurt accuracy, however, as such loads produced some of the better groups. The Lapua Center-X and Biathlon Xtreme had impressive SDs of 5 fps and 4 fps respectively, and the CCI Sub Sonic and the SK Rifle Match loads also were quite uniform.

MINIMALIST

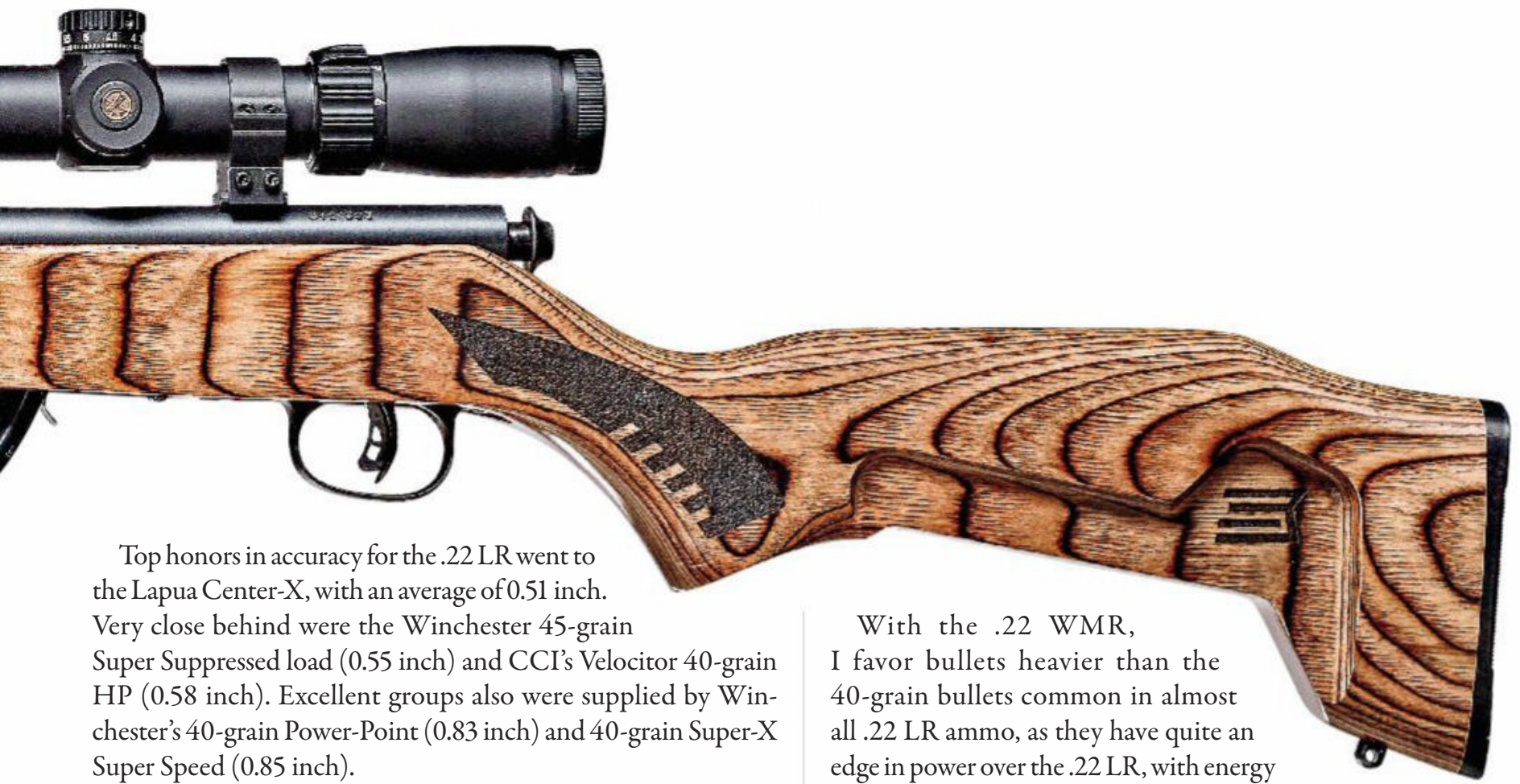
MANUFACTURER	Savage Arms savagearms.com
TYPE	Bolt-action repeater
CALIBER	.22 LR, .22 WMR
MAGAZINE CAPACITY	10 rounds
BARREL	18 in.
OVERALL LENGTH	37 in.
WEIGHT, EMPTY	5.7 lbs.
STOCK	Laminated hardwood
LENGTH OF PULL	13.75 in.
FINISH	Matte black barrel and action, semigloss stock
SIGHTS	None; scope mount bases installed
TRIGGER	3.13-lb. pull .22 LR; 2.96-lb. pull .22 WMR (as tested)
SAFETY	Two position
MSRP	\$359



The Minimalists don't have sights, but they come with scope-mount bases already installed.



The Minimalist rifles are chambered for .22 LR, .22 WMR, and .17 HMR. They come with steel detachable box magazines that hold 10 rounds.



Top honors in accuracy for the .22 LR went to the Lapua Center-X, with an average of 0.51 inch. Very close behind were the Winchester 45-grain Super Suppressed load (0.55 inch) and CCI's Velocitor 40-grain HP (0.58 inch). Excellent groups also were supplied by Winchester's 40-grain Power-Point (0.83 inch) and 40-grain Super-X Super Speed (0.85 inch).

The .22 WMR is one of my favorite cartridges, and the little Minimalist really shined with it. Overall, the .22 WMR version slightly outshot its .22 LR littermate, but only slightly, and either would be the worst nightmare of a tree squirrel or a cottontail. The average accuracy of the 14 .22 WMR loads I tested was exactly one inch, the range was only 0.87 inch, and seven loads averaged under one inch. The CCI Maxi-Mag 40-grain HP averaged 0.59 inch, at a velocity of 1,764 fps.

With the .22 WMR, I favor bullets heavier than the 40-grain bullets common in almost all .22 LR ammo, as they have quite an edge in power over the .22 LR, with energy levels of the 45- and 50-grain bullets of 212 ft-lbs and 236 ft-lbs respectively. A real sleeper is the Speer 40-grain Gold Dot load that clocked a sizzling 1,877 fps, produced a whopping 313 ft-lbs of muzzle energy, and averaged 0.93 inch, making the little rifle serious turkey medicine, indeed.

For years Federal has made a 50-grain JHP .22 WMR load and has recently added it to the "Bring your Own Bottle" (BYOB) line. This load registered 1,431 fps and averaged

Gru-Bee Miniature Scopes

AS I SAID IN THE MAIN ARTICLE, THE NEW SAVAGE Minimalist rifles do not have the 3/8-inch scope-mounting grooves common on many .22 rifles. They come with two Weaver-type bases installed that are 4.88 inches apart (center to center), so mounting a "full-sized" scope is a snap, but installing a miniature scope like the Gru-Bee 4X 24mm Wolf Pup and Fox Pup scopes can be a challenge.

These scopes have 0.75-inch tubes and are exact replicas of the small, 0.75-inch-tube scopes made by Redfield many years ago. Gru-Bee offers 0.75-inch rings for rifles with 3/8-inch grooves, 11mm grooves, and Weaver-type bases.

The Fox Pup is listed as having an eye relief of 2.5 inches and is specifically designed for the 11.5- to 11.63-inch LOP of the Cricket and Chipmunk .22s from Keystone Sporting Arms. This means little kids don't have to hold their heads way back to see through the scope. The Fox Pup would also be appropriate for the youth-size Savage Rascal single-shot rifle. The Wolf Pup has a 4-inch eye relief.



I received two Fox Pup scopes that curiously have a 4-inch eye relief for rifles with longer LOPs and the 0.75-inch rings for 3/8-inch grooves.

As such, they are perfectly applicable to the Minimalist rifles. These scopes are short, measuring only 8.25 inches long. More importantly, the length of the tube on either side of the turret is 1.13 inches (front) and 1.5 inches (rear), and the maximum distance possible between the rings is 3.25 inches. So the 0.75-inch Weaver-style rings available from Gru-Bee won't work with these bases.

I successfully used a Fox Pup on one of the Minimalists by removing the Weaver bases and making my own one-piece base out of a 6.5-inch-long piece of 0.5x0.13-inch flat steel bar stock. I drilled two holes for attaching it to the gun's receiver (using longer screws) and filed two 45-degree bevels on the underside of the base where the Gru-Bee rings attach. It's as solid as a rock.

LESS IS MORE

0.71 inch. In the states where rifles are legal for turkeys, it is a terrific load. All my shooting results are shown in the accompanying chart.

Both of the new Minimalist bolt guns shot very well, and there were no gun malfunctions over the course of shooting many hundreds of rounds. There were, however, two ammo-related issues. I had one “dud” round with the Federal BYOB .22

LR ammo. I’m sure it wasn’t the gun’s fault, as the Minimalist’s rectangular firing pin put a serious dent in the cartridge rim. In the .22 WMR, the relatively blunt point on the Hornady Critical Defense 45-grain FTX bullet sometimes hung up a little on its way to the chamber, but all eventually chambered. This is a great load and is the ammo I use in my .22 WMR “DCR” (dedicated coon rifle). It is deadly.

Both Minimalist rifles are the definition of a good ol’ plinking fun gun. In fact, that led to my only impediment in testing the guns. During testing, I let my wife shoot the .22 LR Minimalist while I was cleaning the .22 WMR rifle. Big mistake, as she quickly claimed it as her very own, confiscated several boxes of my ammo, and proceeded to perforate a bunch of my crow and prairie dog targets. She says we have to keep it.

It can be safely assumed that the popularity of .22 rimfire cartridges will continue unabated for the foreseeable future. Kids of all ages dote on .22s, and ammo companies offer a vast array of loads for just about any shooting activity. The availability of attractive, functional, and economical rifles like the Savage Minimalists will certainly contribute to the continuation of this legacy. ST



Steve’s bantamweight Minimalist rifles in .22 LR and .22 WMR were accurate, averaging 1.02 inches and 1.00 inch respectively for five-shot groups at 50 yards.

SAVAGE MINIMALIST ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	S.D. (FPS)	ENERGY (FT-LBS)	50-YD. ACC. (IN.)
.22 LR, 18-in. Barrel				
Federal Champion 36-gr. CPHP BYOB	1173	20	110	1.40
Remington Viper 36-gr. Truncated Cone Solid	1296	18	134	1.75
Browning BPR 37-gr. Fragmenting Bullet	1241	26	127	1.42
Browning BPR 40-gr. HP	1369	26	167	1.46
CCI Clean High Velocity 40-gr. CLRN	1170	24	122	1.10
CCI Clean Sub Sonic 40-gr. CLRN	1031	6	94	1.42
CCI Velocitor 40-gr. CPHP	1268	16	143	0.58
Federal #510 Champion 40-gr. LRN	1186	15	125	1.04
Federal #711 Gold Medal Target 40-gr. LRN	1086	13	105	0.96
Federal #719 Gold Medal Target 40-gr. LRN	1182	28	124	1.06
Lapua Biathlon Xtreme 40-gr. Solid	1081	4	104	0.79
Lapua Center-X 40-gr. Solid	996	5	88	0.51
Lapua Midas + 40-gr. Solid	1008	24	90	0.83
Remington High Velocity 40-gr. PHP Golden	1190	17	126	0.94
SK Long Range Match 40-gr. RN	1056	13	99	0.67
SK Long Rifle Match 40-gr. RN	998	7	88	0.56
SK Standard Plus 40-gr. RN	999	17	89	0.91
Winchester M22 40-gr. CPRN	1179	13	123	1.40
Winchester Super-X 40-gr. High Velocity	1223	16	133	1.18
Winchester Super-X 40-gr. Power-Point	1142	19	116	0.83
Winchester Super-X Super Speed 40-gr. CPRN	1163	27	120	0.85
Winchester Wildcat 40-gr. LRN	1131	13	114	1.26
Winchester Super Suppressed 45-gr. CPRN	1056	20	111	0.55
.22 WMR, 18-in. Barrel				
Federal 30-gr. TNT HP	2171	35	314	0.75
Hornady 30-gr. V-Max	2140	33	305	0.73
Winchester HV 30-gr. V-Max	2106	24	296	1.06
Remington 33-gr. V-Max	1883	7	260	0.81
Winchester Supreme 34-gr. JHP	1953	10	288	1.24
CCI Maxi-Mag 40-gr. HP	1764	16	276	0.59
Federal Champion 40-gr. FMJ	1840	10	301	1.46
Remington 40-gr. PSP	1683	8	252	1.14
Speer Gold Dot Personal Protection 40-gr. Solid Base	1877	44	313	0.93
Winchester Super-X 40-gr. JHP	1717	17	262	1.24
Hornady Critical Defense 45-gr. FTX	1673	37	280	0.94
Winchester Magnum 45-gr. Dynapoint	1458	6	212	0.79
Federal 50-gr. JHP BYOB	1431	13	227	0.71
Federal 50-gr. JHP	1459	33	236	1.06

NOTES: Accuracy is the average of three, five-shot groups fired from a benchrest. Velocity is the average of five rounds measured 12 feet from the guns’ muzzles. Range temperatures were 43 to 56 degrees Fahrenheit.



IT'S TIME FOR AN UPGRADE

The best-selling HK pistol just got even better. HK VP9 2020 pistols now include the following upgrades.

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QUICKSHOT

Browning Buck Mark Plus Vision .22 LR

BY JOEL J. HUTCHCROFT

ONE OF BROWNING'S 2020 SHOT SHOW SPECIAL PISTOLS IS THE .22 LR BUCK Mark Plus Vision Red that features a lightweight, alloy-sleeved, 5.9-inch, steel "Vision" suppressor-ready barrel that comes with a removable muzzle brake. The pistol also has a top-mounted optics rail; UFX overmolded rubber grips; a TRUGLO/Marbles Arms fiber-optic front sight; and a 16-click, adjustable Pro-Target rear sight with white outline that is recessed into the top of the optics rail. The lateral cuts in the barrel sleeve reduce weight and give the gun its distinctive look. The frame and barrel sleeve are anodized red; the trigger is gold; and the slide, grips, top rail, sights, and muzzle brake are matte black. The pistol comes with two 10-round magazines and a pistol rug. Browning also offers the Buck Mark Plus Vision in blue and black finishes, and the shape of the sleeve cuts differs depending on the color. The black pistol has sawtooth cuts, and the blue pistol has hexagonal cuts. All three pistols are visually distinctive.

BUCK MARK PLUS VISION

MANUFACTURER	Browning browning.com
TYPE	Blowback-operated autoloader
CALIBER	.22 LR
MAGAZINE CAPACITY	10 rounds
BARREL	5.9 in.
OVERALL LENGTH	11.5 in. (with muzzle brake)
WIDTH	1.25 in.
HEIGHT	5.35 in.
WEIGHT, EMPTY	27 oz.
GRIPS	UFX black rubber overmolded
FINISH	Red anodized
SIGHTS	Pro Target fully adjustable rear, TRUGLO/Marbles green fiber-optic front
TRIGGER	4.5-lb. pull (as tested)
SAFETY	Manual thumb safety, magazine disconnect
MSRP	\$699.99



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The Browning Buck Mark Plus Vision .22 LR semiautomatic pistol features an alloy-sleeved, 5.9-inch threaded barrel; a removable muzzle brake; a fiber-optic front sight; rubber overmolded grips; and a fully adjustable, white-outline rear sight.

I put close to 500 rounds of .22 LR ammunition through the red Buck Mark Plus Vision during my accuracy test and plinking sessions and didn't have a single failure to feed, extract, or eject. It proved to be extremely reliable, and that was with ammo ranging from standard-velocity target types to high-velocity small-game-hunting types.

The accompanying chart shows the average accuracies for five, five-shot groups fired with those seven .22 LR factory loads. All shooting was done from a sandbag benchrest at 25 yards. For the accuracy test, I installed a Leupold 2.5-8X pistol scope and cranked it up to 8X. Overall average accuracy for all seven loads was 1.16 inches. The best accuracy came with the Aguila Target 40-grain LRN ammo; it averaged 0.84 inch.

As I've stated numerous times in the past, I am a mediocre shooter at best, so the Buck Mark Plus Vision undoubtedly is capable of better accuracy in the hands of a more skillful

shooter. In fact, I read one report written by another writer, and his Buck Mark Plus Vision consistently achieved 1.0-inch groups with a variety of ammunition.

I also fired the Buck Mark Plus Vision offhand on a bouncing ball target and on swinging steel rimfire targets using the iron sights, and I found the green fiber-optic front sight easy to see in daylight as well as low light. The rubber UFX grips were comfortable and tacky enough that the pistol was easy to control even with sweaty hands. And my pistol's trigger pull was crisp and consistent with just a bit of take-up. Average trigger pull for five measurements with an RCBS trigger pull scale was 4 pounds, 8 ounces with 10 ounces of variation over those five measurements.

I think the Buck Mark Plus Vision is very cool looking. I am happy to report that it shoots as good as it looks.

MSRP: \$699.99

browning.com **ST**



BROWNING BUCK MARK PLUS VISION ACCURACY & VELOCITY				
AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	25-YD. ACC. (IN.)
.22 LR, 5.9-in. Barrel				
CCI Stinger 32-gr. HP	1298	40	16	1.66
Aguila Target 40-gr. LRN	904	27	12	0.84
Eley Edge 40-gr. LRN	930	48	20	1.17
Federal #711 Gold Medal 40-gr. LRN	974	56	20	1.01
Federal #720 Hunter Match 40-gr. HP	997	96	44	1.13
SK Pistol Match 40-gr. LRN	885	33	11	1.06
Winchester Wildcat 40-gr. LRN	1062	82	30	1.22

NOTES: Accuracy is the average of five, five-shot groups fired from a sandbag benchrest. Velocity is the average of 10 rounds measured 12 feet from the gun's muzzle.

QUICKSHOT

TETRA AlphaShield 60 Hearing Devices

JOEL J. HUTCHCROFT

TETRA'S COMPANY MOTTO IS "HEAR THE HUNT," AND IT PROVIDES HEARING protection and enhancement in the form of electronic ear pieces. One of its most popular products is the AlphaShield 60 Waterfowl series (\$699).

I've been using a pair and have found them to be effective and comfortable.

The founders of TETRA are audiologists, working in a clinic that specializes in hearing loss, and they are avid duck hunters, too. They developed the AlphaShield devices to enhance and amplify the common sounds of a duck blind while protecting the ears from the sudden blast of a shotgun and the ear-splitting squeals from a duck call. The AlphaShield devices even pick up the sounds of wings overhead and the distant quacks of passing ducks.

The development process was very involved and took a lot of time, but basically, the earbuds operate similarly to the hearing devices worn by musicians. TETRA calls its technology STO, which stands for Specialized Target Optimization. The devices are digitally programmed to isolate and enhance the exact frequencies needed to improve hearing for the specific hunting environment. They allow specific sounds to be heard while blocking out other hearing-damaging sounds.

The AlphaShield devices come with silicone and memory foam inserts in three sizes, so they don't require an ear impression. However, a custom-molded version is available if the hunter desires it.

The AlphaShield 60s I've been using provide a noise reduction of 20dB, and each earbud is powered by a 10A battery.

Each device has three volume settings (Normal, Boost, and Magnum), but it's not necessary for both devices to be set on the same volume setting.

The AlphaShield 60 electronic hearing devices come with a waterproof carrying case; two smaller, pocket-sized soft cases; silicone tips (small, medium, and large); foam tips (small, medium, and large); a pack of batteries; and a cleaning tool.

Other models are offered that range in price from \$999 to \$1,099, but whichever ones you choose, these devices were conceptualized and developed by PhD audiologists who also happen to be passionate duck hunters, so you might say they were developed by the most discerning sportsmen you can imagine.

MSRP: \$699 (AlphaShield 60)

tetrahearing.com





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QUICKSHOT

Leupold VX-5HD 3-15X 44mm CDS-ZL2

BY JOEL J. HUTCHCROFT

THE LEUPOLD VX-5HD 3-15X 44MM CDS-ZL2 RIFLESCOPE IS PACKED WITH great features, including a 30mm tube, a fast-focus eyepiece, and a zoom ratio of 5:1.

The lenses wear a Guard-Ion lens coating that sheds dirt and water to provide clear, crisp images. The scope has ergonomically enhanced controls with tactile, audible click adjustments; large numbers; and a “high-speed” throw lever.

The scope’s CDS (Custom Dial System) elevation dial provides fast elevation adjustments to different ranges with a custom dial matched to the user’s specific ballistic information. The scope comes with an MOA-scale dial to get you on target while you wait for your free custom laser-marked dial from Leupold’s Custom Shop with your exact ballistics information.

The ZL2 push-button ZeroLock system provides two revolutions of adjustment. This scope also has a side-focus parallax adjustment.

The VX-5HD 3-15X 44mm scope comes with Leupold’s “absolute waterproof and fogproof integrity.” Like all Leupold scopes, it is designed to survive 5,000 impacts on Leupold’s recoil-simulation machine, with each impact force being three times the recoil of a .308 Winchester rifle.

This lightweight but rugged scope is offered with Leupold’s Duplex, HTMR, FireDot Duplex, Impact-29 MOA, and Boone and Crockett reticles located in the rear focal plane.

The scope is 13.5 inches long, weighs 19.7 ounces, and wears a matte black finish. Eye relief is from 3.7 inches to 3.8 inches, exit pupil is 2.9mm, and field of view ranges from 38.3 feet (3X) to 7.9 feet (15X) at 100 yards. This model has 75 MOA of elevation adjustment and 75 MOA of windage adjustment.

MSRP: \$1,234.99 to \$1,559.99 depending on the reticle

leupold.com



VX-5HD 3-15X 44MM CDS-ZL2

MANUFACTURER	Leupold
MAGNIFICATION	3X to 15X
OBJECTIVE LENS DIAMETER	44mm
TUBE DIAMETER	30mm
EYE RELIEF	3.7 to 3.8 in.
FIELD OF VIEW	38.3 ft. (3X) to 7.9 ft. (15X) @ 100 yds.
ELEVATION RANGE	75 MOA
WINDAGE RANGE	75 MOA
LENGTH	13.5 in.
WEIGHT	19.7 oz.
FINISH	Matte black
MSRP	\$1,234.99 to \$1,559.99



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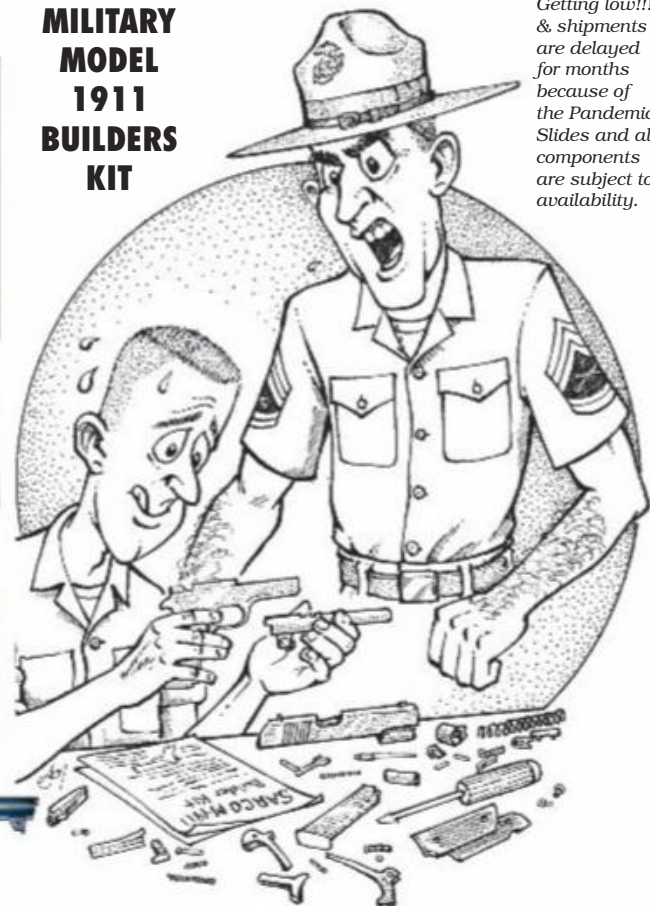
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- Black Drum (with black pouch) **\$115.00 AR383B**
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Super price! Includes all parts shown except for the receiver. Comes with late model pistol grip
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Good used condition - 9mm - Striker fire double action - 4" barrel - Black polymer frame - Manual safety - Typical Steyr trapezoidal sights (FFL req'd) **\$349.00 GUN799**



AR15 FLAT TOP UPPER COMPLETE PARTS SETS

Double time it and get these before they're gone..... Everything present in this Kit to make an AR15 type rifle except for the Lower Receiver. All parts included are new mfg parts. Sling and magazine are not included. Buttstock supplied is the telescoping 6 position M4 stock with correct buffer and spring and the 16" barrel is brand new and has the front sight assy. installed. We use the industry standard hammer/trigger pin with a diameter of .154"



- A. KIT w/ Flat top upper rec. w/ carry handle and rear sight
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Miss Oakley's Choice

If there exists such a rifle as the definitive American .22, the Marlin Model 39 must be it. **BY TERRY WIELAND**

Between 1891, when the rifle that would later be called the Marlin Model 39 made its first appearance, and today, Marlin has produced more than 2.2 million of these classic rifles.

TRY AS ONE MIGHT, IT'S AWFULLY HARD TO MAKE a case for any small-game cartridge other than the .22 Long Rifle. It's cheap and readily available in loads to suit any occasion. More effort has gone into perfecting it, worldwide, than any other cartridge in history. As a result, you can buy target and game loads of superlative quality.

If the object of the game is a passel of fat squirrels to make a stew, and head shots are the ticket, standard match solids work well out to 50 yards or even beyond, depending on the rifle. If you want to take out pesky possums, or woodchucks in the back garden where noise is an issue, .22 LR hollowpoints will knock 'em dead if placed in the right spot.

In England, from about 1870 to 1910, there was a whole class of "Rook & Rabbit" rifles and cartridges.

As the name implies, they were intended for hunting rooks—a species of blackbird—and bunnies, both of which make tasty fare if prepared right. Cartridges ranged from .25 caliber up to about .35, corresponding roughly to the .25-20 WCF and .32-20 WCF. When the .22 Long Rifle came along, it consigned them all to the dusty back shelves. After 1914, the traditional rook-and-rabbit rifle disappeared, and the British embraced the .22 Long Rifle like it was their own.

The trick with using the .22 LR for small game is to have a rifle accurate enough to place the bullet where you want it but comfortable enough to carry or to have handy in a truck when you spot a target of opportunity. Specialized varmint rigs, like a .22-250 with a bipod and topped with a massive scope, are great for long-range varmints, where you want to

vaporize the critter and have no intention of eating it. For small game, however, they are too heavy, too awkward, and not quick enough into action to get that armadillo before he disappears into the brush—even if you could pick him up in an 18X scope.

There are many good .22 rimfire rifles on the market, of every shape and description. But if you're a guy who likes rifles for their own sake—and admires the solid walnut and steel that went into American rifles in the old days—here's a suggestion. Last year I happened to pick up just such a rifle at an auction. It was part of a two-rifle lot, and I wanted its running mate, a Savage 99. The “unwanted” one was a Marlin Model 39 dating back to about 1930, but you can always use another .22. Little did I know it would become my favorite—and make several others surplus to requirements.

The Model 39, which is still available on special order, is the longest-lived commercial rifle in history. Allowing for a few name changes and cosmetic alterations, it has been around since 1891, beginning life as the Model 1891, evolving into the take-down 1897, and, finally, in 1921 and for no apparent reason, the Model 39. It was the rifle Annie Oakley made famous, performing with it on several continents and wowing the paying customers at every turn.

It was the first lever-action .22 Long Rifle, using a tubular magazine that could accommodate Shorts, Longs, and Long Rifles interchangeably, and afforded tremendous firepower—15 rounds or more without reloading. Designed by Lewis Hepburn (of Remington Hepburn fame), it set a standard for reliability and durability like no other. If the kid down the block had a Stevens Favorite and you showed up with a Marlin '91, then you were the lad. It became every boy's dream rifle and stayed that way right up to the 1970s.

If there is such a thing as the definitive American .22, then my candidate is the Marlin 39. If you don't agree, tell me what is. I'm listening, 39 in hand. **ST**

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The Record Rimfire Shoot

Fast-forward to 1985. After almost 30 years of various endeavors, including attending Bible college and ministering throughout the Midwest, founding and running a boy's academy, working as a stringer for a CBS station, winning the Mr. Illinois and Mr. Great Lakes Bodybuilding Championships, and attending Ruger Collectors Association events, John witnessed a shooting exhibition by trick shooter Mike Blackburn. At that event Blackburn announced he would attempt to break Tom Frye's long-standing aerial shooting record (32,860 straight hits) over the next several days. John volunteered to help with the event, and when Blackburn did not show up at the scheduled time, John attempted to entertain the audience. The rifles were Winchester lever actions, and John did not care for them. But his dream of setting a new aerial shooting record was born.

Over the next couple of years, John honed his aerial shooting skills at gun shows and other events, using his preferred rifle—you guessed it, the Ruger 10/22. By the end of 1986 John had planned a world-record shoot to begin on March 14, 1987.

The shoot took place as planned, and over eight grueling days, battling indescribable pain, the wind, and other obstacles, John succeeded in shooting 40,060 2.5-inch-square pine blocks without a single miss. For 14 hours each day, John held a 10/22 in his left hand, tossed a block into the air with his right hand, immediately shouldered the rifle while he moved his right hand to the fore-end of the 10/22, tracked the block, fired, and followed through with the rifle. He used a total of 18 rifles and a bunch of high-capacity Ramline magazines that assistants loaded for him.

Interestingly, shooting 10/22s isn't John's only skill. He has set several records for shooting aerial targets with long bows, and at the age of 70, he set a Guinness World Record for slingshot aerial shooting. He has written an instruction manual and made a video for his style of point shooting. And he has developed and endorsed many shooting-related products, including a Daisy BB gun based on the modified model he uses for daily practice.

U.S. Marine, bodybuilder, preacher, exhibition shooter, entrepreneur. John "Chief AJ" Huffer is definitely an interesting character. ST



509 Tactical with FDE Slide
#66-100600
9mm Luger
(1) 17+1 & (2) 24+1
4.5" Barrel



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509

TACTICAL

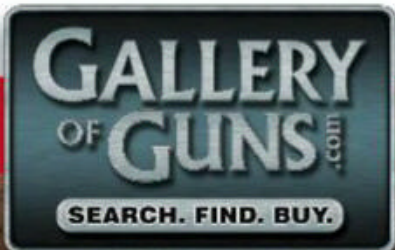
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5 hour run time

63cc air-cooled 2 cycle gas engine

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12" x 12" Microfiber Cleaning Cloths Pack of 4

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86638191

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Heavy Duty Foldable Aluminum Sports Chairs (4549) NEW

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Green Blue

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86642769 LIMIT 4 - Exp. 9/14/20*

Compare to Coleman 635394 \$39.99

WOW! SUPER COUPON

7 ft. 4" x 9 ft. 6" Camouflage Weather Resistant Tarp (417)

\$4⁴⁹

\$6²⁹

Save 50%



Use Online & In-Store



86643939 LIMIT 4 - Exp. 9/14/20*

Compare to Weathermaster 300083999 \$8.99

WOW! SUPER COUPON

drillmaster (5959)

4-1/2" Angle Grinder

\$9⁹⁹

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WOW! SUPER COUPON

HARDY (295)

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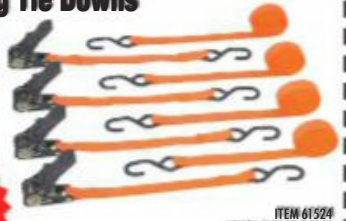
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4 Piece, 1" x 15 ft. Ratcheting Tie Downs

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McGRAW (564)

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PITTSBURGH (3442)

Click-Type Torque Wrenches

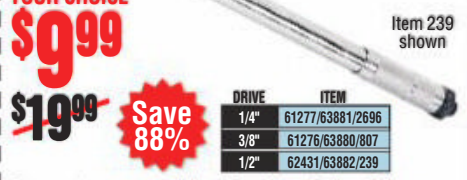
\$9⁹⁹

\$19⁹⁹

Save 88%

LIFETIME WARRANTY

Item 239 shown



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86645655 LIMIT 4 - Exp. 9/14/20*

Compare to Husky H2DTWA \$89.97

DRIVE	ITEM
1/4"	61277/63881/2696
3/8"	61276/63880/807
1/2"	62431/63882/239

WOW! SUPER COUPON

COVERPRO (1184)

10 ft. x 20 ft. Portable Car Canopy

\$94⁹⁹

\$119⁹⁹

Save \$104

Compare to Shelter Logic 23522 \$199

ITEM 63054 62858 shown



Use Online & In-Store



86647367 LIMIT 1 - Exp. 9/14/20*

WOW! SUPER COUPON

HaulMaster (4642)

18" Working Platform Step Stool

\$19⁹⁹

\$29⁹⁹

Save 50%



Use Online & In-Store



86647678 LIMIT 4 - Exp. 9/14/20*

Compare to Neocraft 60635 \$39.99

WOW! SUPER COUPON

HaulMaster (1210)

3/8" x 14 ft., Grade 43 Towing Chain

\$19⁹⁹

\$39⁹⁹

Save 69%

Compare to Mibro 426920 \$64.99

ITEM 40462 60658/97711 shown



Use Online & In-Store



86650089 LIMIT 3 - Exp. 9/14/20*

WOW! SUPER COUPON

PREDATOR (732)

2 HP Gas Powered Earth Auger with 6" Bit

\$179⁹⁹

\$214⁹⁹

Save \$259

Compare to Earthquake E43, EA6F \$439.98

ITEM 63022/57341 56257 shown



31"

Use Online & In-Store



86648518 LIMIT 1 - Exp. 9/14/20*

WOW! SUPER COUPON

PITTSBURGH (1490)

40 Piece, 1/4" and 3/8" Drive SAE and Metric Socket Set

\$5⁹⁹

\$4⁹⁹

Save 90%

Compare to Craftsman CMMT12018 \$49.98

ITEM 42902/975 61328/63015 62843 shown



Use Online & In-Store



86649243 LIMIT 4 - Exp. 9/14/20*

WOW! SUPER COUPON

20-60x60 MM Spotting Scope with Tripod (362)

\$39⁹⁹

\$47⁹⁹

Save 45%

Compare to Celestron 14593491 \$72.99

ITEM 62774



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86649754 LIMIT 2 - Exp. 9/14/20*

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A Rimfire Record-Setter

Using 18 Ruger 10/22 rimfire rifles, John “Chief AJ” Huffer consecutively shot 40,060 2.5-inch wood blocks without a single miss. **BY JOEL J. HUTCHCROFT**

In March 1987, over eight days of shooting, John “Chief AJ” Huffer broke the longstanding aerial shooting record held by Tom Frye.

YOU MAY HAVE NOTICED THAT WE HAVE A LOT of rimfire material in this issue. One of the greatest rimfire rifles of all time has to be the classic Ruger 10/22 semiautomatic rifle. One of the greatest rimfire shooting feats of all time was accomplished by John “Chief AJ” Huffer in 1987. He was 50 years old, and he used 10/22 rifles for the deed.

John Huffer was born on Christmas Day 1937 in the Florence Crittenton Home for Unwed Mothers in Peoria, Illinois, and given the name Clarence Moore. He was the child of a Cherokee father and a Menominee mother. Six months later, he was adopted by Charles and Dorothy Huffer of Urbana, Illinois, and renamed John Huffer. He graduated from Urbana High School and attended the University of Illinois, where he was a member of the ROTC rifle team.

Before that, during seventh and eighth grades, John participated every Wednesday night in shooting .22 rifles at the local armory with the Junior NRA rifle team. Shooting a box of 50 rounds each Wednesday evening, John shot his way to the level of “expert” in prone, sitting, kneeling, and offhand positions.

Later, as a teenager, John was inspired to try aerial shooting after watching the antics of Annie Oakley in a movie about Buffalo Bill’s Wild West traveling show. With that, he found his calling.

At 18, John joined the U.S. Marine Corps and relocated to Barstow, California. Among his many activities at the time, John shot on the Barstow Base rifle team and also took up bodybuilding. He excelled at both.



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UNDERCUT

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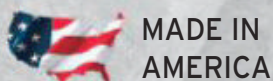
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