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SHOOTING TIMES

JULY 2024

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By Craig Boddington





Garrison
4.25" MODEL
NOW AVAILABLE *1911*



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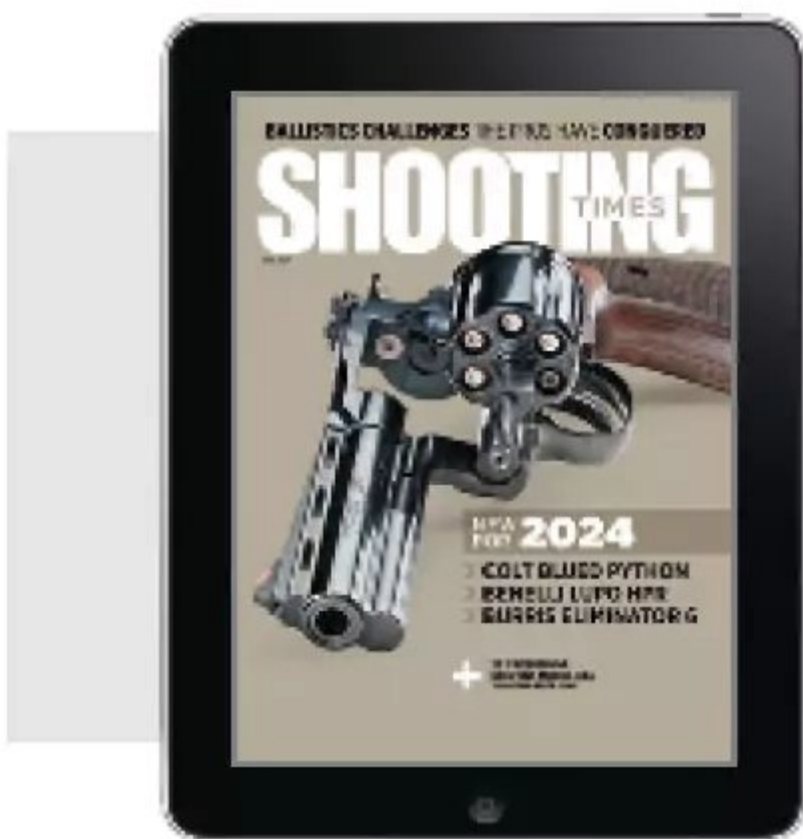
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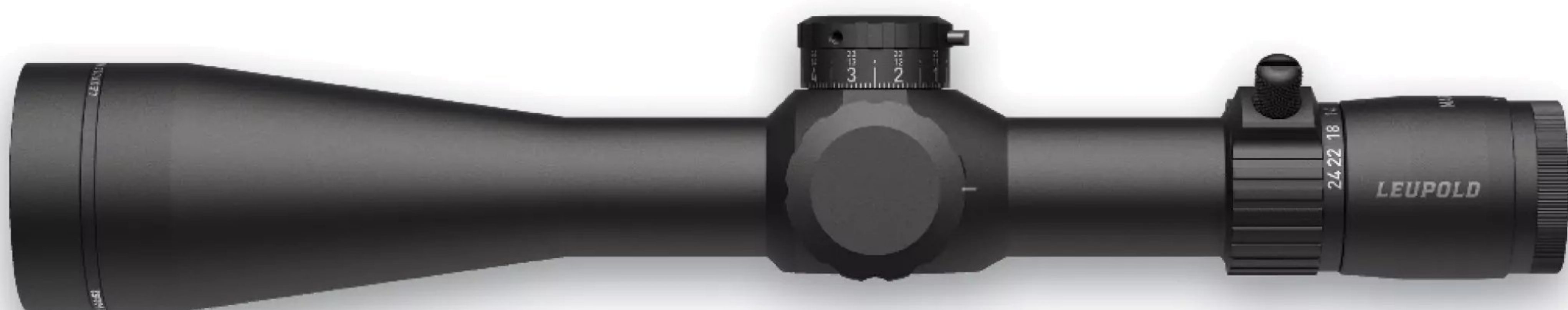
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Our Aussie friend would approve of our rendition of his "knife." Forged of high grade 420 surgical stainless steel, this knife is an impressive 16" from pommel to point. And, the blade is full tang, meaning it runs the entirety of the knife, even though part of it is under wraps in the natural bone and wood handle. We found full tang, stainless steel blades with bone handles in excess of \$2,000. Well, that won't cut it around here.

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SHOOTER'S UPDATE

READERS SPEAK OUT

NEW GUNS & GEAR

ASK THE EXPERTS

Best Issue Ever!

THE APRIL 2024 ISSUE IS THE BEST ISSUE I HAVE EVER READ.

Warren Graumann's letter about the Ithaca 37 reminded me of one of John Browning's guns I collected years ago, the Remington Model 1917. If you like the Ithaca, you should see the original by Remington. I enjoyed Joel Hutchcroft's answer in "Ask the Experts" about the 9mm Browning Long. I have an FN Model 1903, another John Browning design. I also liked the Shiloh Sharps column by Joseph von Benedikt. Sharps were great guns. Allan Jones's column about the .405 and .348 Winchesters was great. It reminded me of two of my ex-Winchesters, you guessed it, the 1886 and 1905. And I enjoyed the column by Terry Wieland about the .220 Swift. His writings are right up my alley, old guns! Last but not least, Joel Hutchcroft's column about Thell Reed Jr. brought back some memories. I haven't read about him for a long time. I'm sure it will shock you to know I'm 71 years old. I now collect S&W antique SA revolvers, hint, hint! Thanks for the memories.

Rich Baird

Fayetteville, OH



Kicked Like a Mule!

I am contacting you concerning a column in the February 2024 issue written by Allan Jones with a headline of "Ballistic Bits." In the "The Realities of Calculated Versus Felt Recoil" section, Jones tells about a Pre-'64 Winchester Model 88 having brutal recoil. I had the same experience a few years ago with a Mauser .30-06 rifle. In my instance a friend and I were at a range checking our

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BALLISTIC**



sighting. I was done, but my friend told me he was having trouble getting zeroed. He asked me to shoot his rifle a few times to make sure he wasn't doing something wrong. I shot it, and wow, it kicked like a mule smacking me in the face. I shot it a few more times with the same result. I decided there must be something wrong. I checked the bore and found that the barrel was slightly bent. I could see a slight oval shape when looking down the bore. I told my friend that the barrel was bent and needed to be replaced. From the previous hunting season, I remembered him strapping the Mauser to the front rack on his 4 wheeler, from side to side. Our trail was narrow with trees on each side, so I concluded that at some point he had hit a tree with the barrel hard enough to bend it.

Arne Halleen
Via email

More About Thell Reed

I enjoyed reading Joel J. Hutchcroft's tribute to fast-draw shootist Thell Reed. Joel mentions that he got much of his information from a February 1964 issue of *Guns & Ammo*. Being a longtime fan of both *Shooting Times* and *G&A*, I was able to find my copy of that original story.

Of note is that a few months after that issue appeared, Reed enlisted in the United States Marine Corps. This was in the early days of the Vietnam War.

G&A did a follow-up story (an official USMC release) in the May 1965 issue, which detailed Reed's progress through both basic and advanced training.

Prior to entering the Marine Corps, his quick draw had been timed at six one hundredths of a second. According to that press release, with his entry into the service, he became the "world's fastest combat shot."

As most folks know, every Marine is a rifleman, required to maintain periodic qualifications in both rifle and pistol. Reed, using standard-issue firearms, shot High Expert rating scores with both the M14 rifle and the US 1911 .45 ACP pistol.

Knowing of his fame as a pistol shooter, the Marine Corps marksmanship instructors allowed him to re-shoot the pistol course with his own personal 1911, and he scored (an unofficial) 398 out of a possible 400.

Thell Reed did special shooting exhibitions throughout his time in the Marine Corps and later in the Marine Corps Reserve. Semper Fi, Marine!

Richard Bergren
Via email

ST



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SHOOTER'S UPDATE

READERS SPEAK OUT

NEW GUNS & GEAR

ASK THE EXPERTS



Arken LH-4 4-16X 44mm

The Arken LH-4 4-16X 44mm is a lightweight hunting scope that features an illuminated red reticle positioned in the first focal plane. It has a 30mm tube and capped turrets. Available reticles include the company's VHR MIL/VHR MOA and VPR MIL/VPR MOA. VHR stands for variable hunter reticle. The illumination is powered by a CR2032 battery, and the scope is constructed of aluminum. The scope is parallax adjustable from 10 yards to infinity, and it has an eye relief of 3.6 inches. The LH-4 4-16X 44mm is waterproof and shockproof, and it's backed by a lifetime warranty. It is 13.2 inches long and weighs 24.45 ounces.

MSRP: \$265.99

arkenopticsusa.com

Burris FastFire C

The all-new 1X FastFire C is a red-dot sight specifically engineered for use on micro-compact pistols. The unit weighs 0.44 ounce, and its housing is made of durable composite polymer. Powered by a CR2032 battery, the sight features "Always On" technology (25,000-hour runtime on medium brightness) and "Auto-Bright" automatic brightness adjustment, as well as five manual brightness settings. It has built-in backup sights, and it fits the RMSc footprint. It is shockproof, fogproof, and water-resistant. The red dot is 6 MOA in size.

MSRP: \$276

burrisoptics.com



Bushnell Match Pro ED MOA 5-30X 56mm

Bushnell's award-winning Match Pro ED 5-30X 56mm long-range riflescope is now available with the Deploy MOA 2 reticle. In response to customer requests, Bushnell is giving users the option of working in MOA adjustments rather than MRAD. Turret adjustments are in 0.25 MOA, and the first focal plane, illuminated reticle has an extra row of numbers to help shooters keep track of their dial into the second revolution up from zero.

The riflescope has an extra-low-dispersion Prime 56mm objective with EXO barrier coating, a 34mm main tube, Easy Set zero-stop turrets, a two-stage pop-up rev indicator, and a three-position power-change lever. The eye relief is 3.8 inches, and the weight is 32 ounces.

MSRP: \$749.99

bushnell.com



Holosun SCS Carry

Joining Holosun's line of solar-charging sights is the new SCS Carry, which is designed for compact pistols. The SCS Carry has an internal solar-charging battery with a 20,000-hour power reserve. Its multisensor brightness system adapts to varying light conditions, and a brightness intensity override allows the user to manually set the brightness. It uses the company's multiple reticle system that provides a 32-MOA circle and a 2-MOA dot or a stand-alone 32-MOA circle or a standalone 2-MOA dot. The sight comes with an RMSc to K adapter plate. The housing is made of aluminum, and it is IPX8 certified waterproof.

MSRP: \$399.99

holosun.com



EOTech Vudu X Series

EOTech's new Vudu X Series scopes are designed to meet a variety of needs—everything from 3-gun competition, through hunting, to recreational shooting. Both new models (1-6X 24mm and 2-12X 40mm) feature 30mm tubes, illuminated SFP reticles powered by CR2032 batteries, and removable throw levers. The PD1 duplex reticle and the BD1 reticle with circular ballistic hold adjustments are offered. The zero-reset type turrets are capped, and the adjustments are in MOA.

MSRP: \$799 (1-6X), \$859 (2-12X)

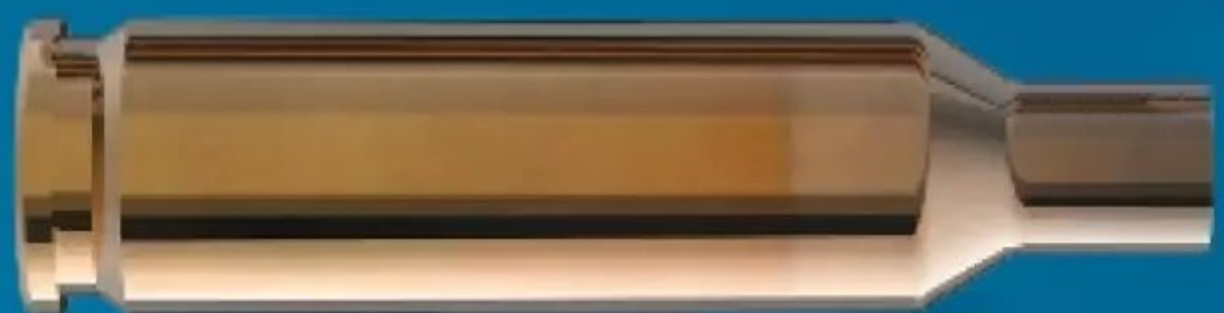
eotechinc.com

NEW LAPUA Cases for 2024



Lapua 300 WSM Cases

Spring of 2024, Lapua will showcase our legendary quality and consistency with the introduction of 300 WSM cartridge cases. Made of the finest materials and manufacturing processes, you can expect brass that offers exceptional longevity, even in the most demanding circumstances of hunting and competitive shooting.



Lapua 6mm GT Cases

Fall of 2024, Lapua will begin our support of the wildly popular 6mm GT cartridge. Optimized internal geometry based upon the 6.5x47 Lapua parent case will set our cases apart from the rest -- shooters will experience improved propellant efficiency and increased longevity along with the superb quality and consistency you would expect with a Lapua headstamp.



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Leapers/UTG INTEGRIX iX8 1-8X 28mm

The new INTEGRIX iX8 1-8X 28mm FFP LPVO scope from Leapers has a 34mm tube, a 28mm objective lens diameter, and red and green illumination with 10 brightness settings. It is rated at minimum for .338 Lapua Magnum. This scope comes with the A1 MOA reticle, and it has 92 percent light transmittance, IPX7 waterproof rating, a 12-hour automatic shutoff, intuitive lockable and zero resettable oversized turrets, a serrated power ring, and an oversized throw lever. It is 10.9 inches long and weighs 25.3 ounces.

MSRP: \$1,399.97
leapers.com



Leica Geovid Pro 10X42 AB+ Laser Rangefinding Binocular

Leica says its new Geovid Pro 10X42 AB+ binocular is a groundbreaking optic that sets a new benchmark in precision and features. This binocular incorporates a top-tier laser rangefinder that is enhanced with Applied Ballistics® Elite software. One of the coolest new aspects is the Shot Probability Analysis function that is designed to enhance shooting and hunting accuracy and offer unparalleled support in real-time decision making. The unit can range to 3,200 yards with an accuracy of +/- 0.5 yard, and the binocular also features Leica ProTrack and best-in-class optics. It weighs 34.2 ounces.

MSRP: \$3,499.99
leica-camera.com



Leupold Mark 4HD 2.5-10X 42mm

As shown on the new-for-2024 Browning X-Bolt 2 rifle reviewed elsewhere in this issue of the magazine, the new Mark 4 HD 2.5-10X 42mm scope from Leupold has a 30mm tube, is 12.5 inches long, and weighs 21.5 ounces. The scope is shockproof, fogproof, and waterproof, and it features motion sensor technology, zero-stops, zero lock dial, a removable throw lever, and an electronic reticle level. It is compatible with night vision, and it is compatible with Leupold's custom dial system. The illuminated reticle is powered by a CR2032 battery.

MSRP: \$1,199.99
leupold.com

Nightforce CFS Spotting Scope

The 6-36X straight-line and compact Nightforce Configurable Field Spotting Scope (CFS) was designed for practical field use and features balanced ergonomics, flexible configurations, and refined optical quality, and it is offered with first focal plane MIL-XTs, MOA-XTs, and Horus TREMOR4 reticles that are adapted from the riflescope reticles. The optional spotting scope accessory cage allows for attaching thermals, night vision, red dots, laser rangefinders, data cards, and other devices. The CFS is 14.1 inches long, weighs 33.7 ounces, and has a 50mm objective lens diameter.

MSRP: \$2,950 (without optional cage)
nightforceoptics.com



Riton 1 Tactix EED

The new 1 Tactix EED red-dot sight from Riton features an enclosed emitter design that projects a crisp and bright red dot onto the lens. It has a 2-MOA dot and a large viewing screen. It is parallax free and has unlimited eye relief. It also features 1X magnification, multi-coated lens coatings, and 45 MOA of adjustment. Its dimensions are 1.06x1.73x1.06 inches, and it weighs 1.3 ounces. The housing is 6061-T6 aluminum, and it fits the Acro footprint. It's covered by a limited lifetime warranty.

MSRP: \$249.99
ritonoptics.com



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Sightmark MTS 1x30 Red-Dot Sight

The Sightmark MTS 1x30 red-dot sight features a precise 2-MOA red dot, improved brightness settings, and two night-vision settings. The sight features a rugged and compact aluminum-alloy housing, a streamlined clamp mount, unlimited eye relief, and an IP67 waterproof rating. It comes with a CR2032 battery, flip-up lens covers, and a user manual. A very nice touch is that the MTS windage/elevation caps can be flipped and used as tools for making adjustments.

MSRP: \$139.97
sightmark.com



Trijicon RCR Red-Dot Reflex Sight

Trijicon's new RCR red-dot reflex sight features a closed emitter, and its red 3.25-MOA dot has 10 brightness settings (adjusted manually), three night-vision options, and one super-bright setting. It is built to be as rugged and durable as the company's legendary ACOG, and it uses the RMR footprint. Powered by a top-loaded CR2032 battery, the RCR weighs 1.98 ounces, and its dimensions are 1.8x1.2x1.0 inches. The housing is made of 7075-T6 aluminum.

MSRP: \$849
trijicon.com



Sightron S6 10-60X 56mm

Sightron's new-for-2024 S6 10-60X 56mm ED Field Target scope was designed to set a new standard for airgun and .22 rimfire competition shooting. It features a 34mm tube, extra-low-dispersion glass elements, and a redesigned parallax cam system with 291 degrees of precision field target rotation, plus an extra 39 degrees of diopter and environmental condition protection, for a total 330 degrees of parallax control. It also has an exclusive Garima magnetic 145mm side-wheel for faster adjustments. This scope is offered with MOA-2FT and MH-FT reticles, and it is airgun-tested and shock-rated to 1,000Gs for 10,000 cycles. It weighs 33.6 ounces and is 16.7 inches long.

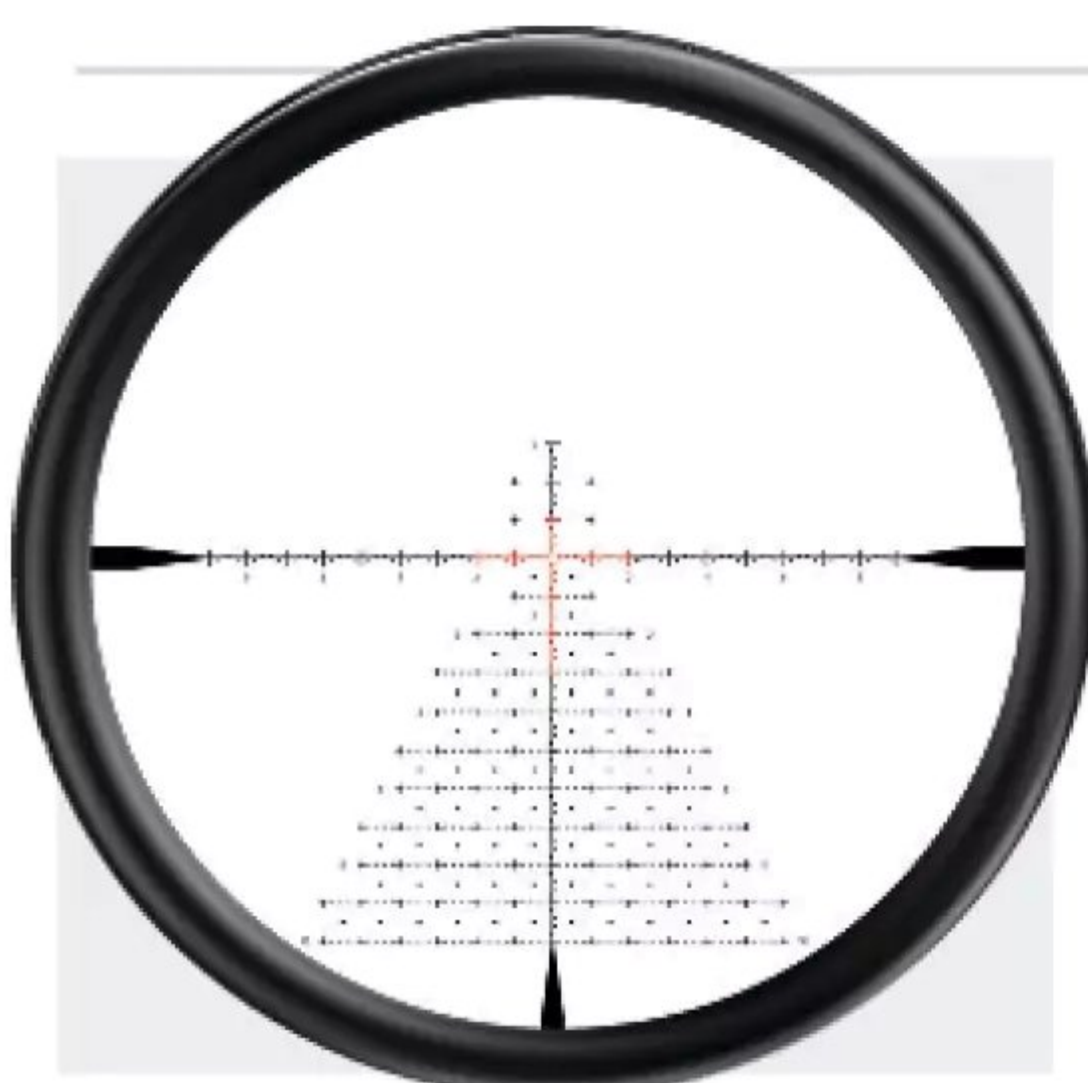
MSRP: \$1,999.99 (with Garima magnetic wheel)
sightron.com



Viridian RFX44 Green-Dot Reflex Sight

The new Viridian RFX44 closed-emitter reflex sight has a 5-MOA green dot, a top-loading battery, auto shut-off and instant-on technology, and tactile and audible adjustments. Made of 6061 aluminum, the unit is 1.59x1.02x1.15 inches and weighs 1.59 ounces. It fits the Acro footprint and comes with multiple adapters. It is IPX6 rated for environmental conditions.

MSRP: \$459
viridianweapontech.com



Steiner STR Reticle

Steiner's H6Xi riflescopes are now available with a new MIL reticle called the Steiner Tree Reticle (STR) that is said to bridge the gap between Steiner's military heritage and its hunting-style reticles. This illuminated tree-style reticle features 0.2 MRAD subtensions, and the H6Xi scopes are offered in 2-12X 42mm, 3-18X 50mm, and 5-30X 50mm configurations.

**MSRP: \$2,299 (H6Xi 2-12X 42mm),
\$2,529 (H6Xi 3-18X 50mm),
and \$2,874 (H6Xi 5-30X 50mm)**
steiner-optics.com

Vortex Venom 1-6X 24mm SFP

The new Venom 1-6X 24mm SFP scope from Vortex features a second focal plane, illuminated AR-BDC3 reticle; a 30mm tube; a 24mm objective lens; and true 1-6X magnification. It weighs 19.5 ounces and is 10.3 inches long. It has 3.7 inches of eye relief and comes with a sunshade, a throw lever, lens covers, a lens cloth, a CR2032 battery, and a 2mm hex wrench. The company says it's built for entry-level carbine users.

MSRP: \$449.99

vortexoptics.com



Zeiss DTI 6 Thermal Imaging Camera

The new-for-2024 DTI 6 thermal imaging camera from Zeiss is intended to provide incomparable image quality when hunting via its proprietary Zeiss Smart Image Processing algorithm. This optic features an intuitive operating concept and smart power management. The algorithm optimizes contrast by dividing the entire image into several quadrants and optimizing them individually. In addition, the device intelligently adapts and sharpens the image so that the heat sources from the game stand out from the background with high contrast and sharpness. The optic has a 640x480 sensor with 12-micron pixel pitch, a high-resolution 1,024x768 HD AMOLED display, and the new DynamicZoom concept with optical magnification of 1.5X or 3.0X and digital zoom of up to 10X.

MSRP: \$4,499.99 to \$4,799.99 depending on configuration

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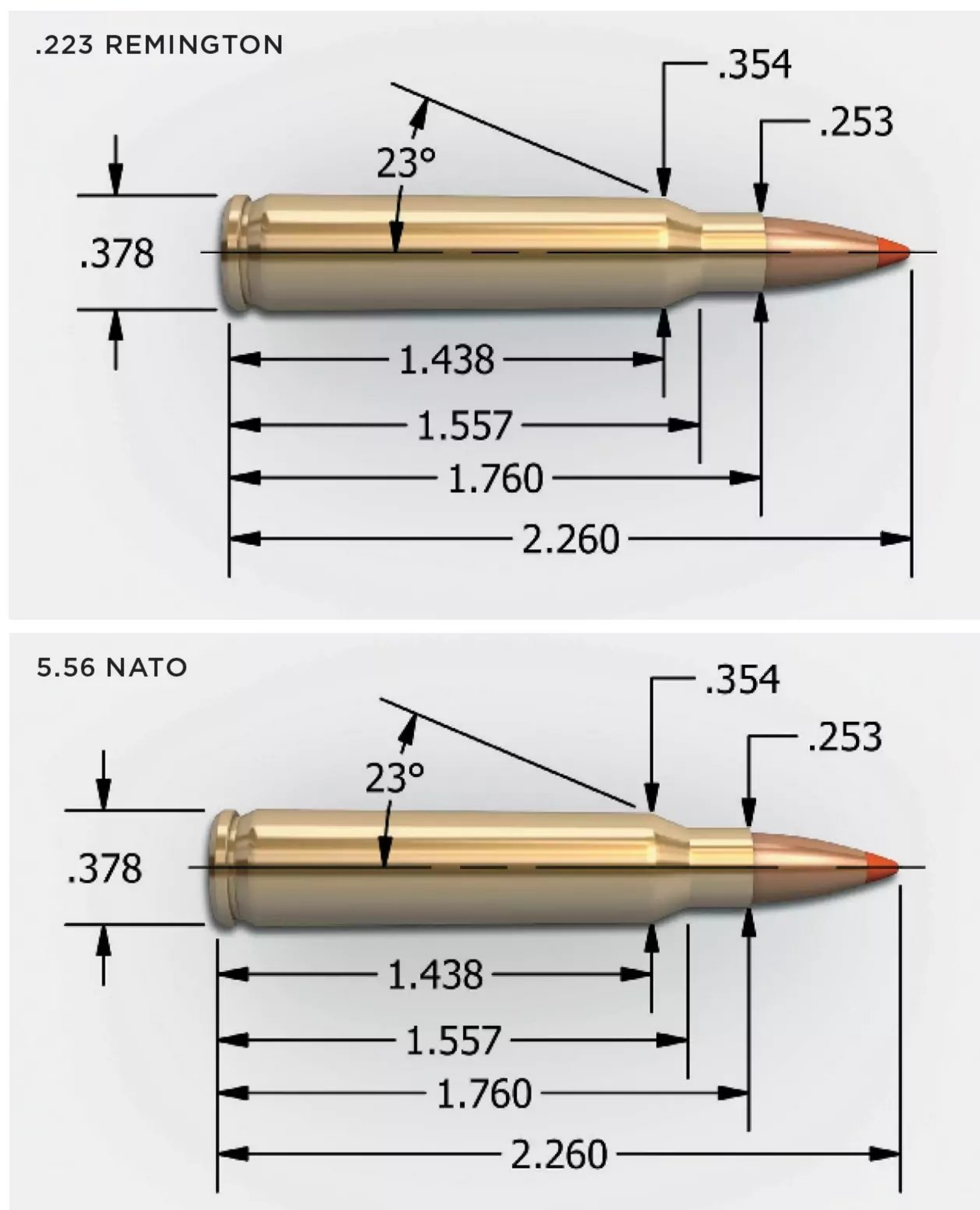
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.223 Remington & 5.56 NATO Interchangeability?

Q. I HAVE A QUESTION FOR LANE PEARCE, AND IT STEMS FROM A former coworker who was strongly opinionated that .223 Remington and 5.56 NATO are not interchangeable due to headspace issues. Can Lane shed any light on that?

Greg Bell
Via email

A. Although I've answered this question before, I conducted some fresh research in order to provide a thorough answer. In addition, I came across a treatise recently prepared by my friend Richard Mann, so I want to acknowledge his contribution right here and now.

For all practical purposes, the two rounds are dimensionally identical, although there may be some minimal differences that would most likely be within the tolerance limits of either round. Because it's a commercial cartridge, the .223 Remington's physical and ballistic criteria are controlled by SAAMI specifications. But the 5.56 NATO is a military cartridge used by the United States and several international armed forces, so it is not listed in SAAMI records. That said, some sources report that the 5.56 NATO case walls are slightly thicker, so the .223 Remington has a bit more case capacity. I've compared the weights of commercial and military brass, and the delta was in the noise level of normal lot-to-lot variation. Therefore, I do not reduce charges when reloading military brass versus commercial brass. The only extra case-prep step required is a one-time removal of the primer crimp in the military brass. Please note, you'll likely run into some commercial headstamp ammo with the military primer pocket crimp. Pay attention!

According to Mann's report, the .223 Remington was introduced around 1962. The 5.56 NATO round wasn't official until about 1970 and was not adopted by our international partners until 1979. As many readers know, the AR-15/M16 was deployed to our troops in Vietnam from the mid-1960s to the early 1970s, so the 5.56 round's specifications were still in transition. Today, the two significant differences are 1) allowable chamber pressure limits and 2) actual physical differences in the chamber leade dimensions. The .223 Remington's maximum average pressure (MAP) is specified at 55,000 psi by SAAMI. The 5.56 NATO is significantly greater at 62,000 psi. In addition, the chamber dimensions for the .223 Remington have a substantially shorter leade (or freebore) and a sharper angle at the origin of the rifling.

The original .223 Remington ammo was loaded to a MAP of 55,000 psi with 55-grain JSP bullets as a varmint cartridge, so commercial rifles were/are chambered to allow minimal bullet jump to achieve optimal

accuracy. The original 5.56 ammo was topped with 55-grain FMJ bullets at who knows what pressure. While the M16 and 5.56 were involved in real-world field testing in the jungles of Southeast Asia, the cartridge and rifle were significantly altered based on unexpected numbers of casualties.

The rifles' chambers and bores were chrome lined, and the untested double-base spherical powder that left residual calcium carbonate in the chamber was replaced by the original, single-base extruded propellant that did not foul the bore. That eliminated the problem with the extractor ripping the rim off, causing a fired case to stick in the chamber, and render the rifle inoperable. And, of course, over the years the military revised the 5.56 specs repeatedly to "enhance" battle-field performance. Bullet weight increased to 62 grains, then 77 grains, etc., etc.

Heavier .22-caliber bullets are longer, hence the need for an extended chamber throat and shallower leade angle into the rifling to avoid excessive chamber pressures. Mann stated that firing a current-production, heavy-bullet 5.56 NATO round in a commercial .223 Remington-chambered rifle could result in chamber pressures reaching/exceeding 70,000 psi. (SAAMI specs for .223 Remington proof pressure is 78,500 psi.) He acknowledges you might get by with shooting one round or maybe even 10 or more, but the potential for a catastrophic event is lurking every time you press the trigger on a NATO round in a .223 Remington chamber.

The reverse scenario (firing .223 Remington ammo in a 5.56-chambered rifle) is totally acceptable. The only downside is accuracy will likely suffer because the lightweight/shorter bullet is not adequately supported in the longer 5.56 throat. Someone developed the .223 Wylde chamber concept years ago to help alleviate this incompatibility. It's not a different cartridge. It is a chamber reamer that's sort of a dimensional hybrid of the two original chambers. The good news is rifles so chambered seem to work well with either type of ammo.

To be safe, do not fire 5.56 ammo in rifles marked .223 Remington.

Lane Pearce

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Winchester Model 12 “Heavy Duck”

The first of its kind, Winchester’s magnum pump-action shotgun paved the way for generations of waterfowl guns. **BY JOSEPH VON BENEDIKT**

WINCHESTER’S HEAVY MODEL 12 WAS ARGUABLY the best vintage pump-action duck gun ever made. Now, that’s a bold statement, but I stand by it.

Duck hunting was a national pastime leading up to and between the World Wars. After researching whether a heavy double-barrel Model 21 with 3.0-inch chambers or a repeating “magazine” gun would be most welcomed by the hunting public, Winchester wisely opted to create a special Model 12. It was the first-ever pump-action gun chambered for heavy 3.0-inch magnum shotshells.

Initial versions featured 32-inch barrels with thicker-than-average walls, lengthened ejection ports to cough out fired 3.0-inch hulls, and lead weights inside the buttstock. The weight was a robust 8.5 pounds—nearly 2 pounds heavier than a Model 12 upland gun chambered in 20 gauge or 16 gauge.

This weight was intentional. Winchester concurrently introduced magnum 3.0-inch shotshells with an unprecedented payload of 1 ounce of shot. The lead weight in the buttstock made the Model 12 “Heavy Duck”—as it came to be called—balance properly, and the overall weight tamed the bite of the heavy 3.0-inch magnum shotshells.

Before long the 32-inch barrels were shortened to 30 inches; the standard-length buttstock was reduced to 13 inches to cater to coat-wearing waterfowl hunters; and the hard rubber buttplate was replaced with a softer red rubber version. Barrel ribs were available by special order, but most Heavy Duck guns were built with clean-cut round barrels.

Aside from a few minor on-the-go adjustments to the forearm/slide shape and whatnot, this was the configuration that would remain standard until the

Heavy Duck Model 12s were manufactured with the best steel Winchester could source, and the guns were beautifully engineered.

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13+1 CAPACITY
Overall length - 6.1"



STR-9

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STR-9, 9MM
15+1 CAPACITY

Overall length - 7.44"
Distressed FDE Cerakote



STR-9, 9MM
15+1 CAPACITY

Overall length - 7.44"
Tungsten, Meprolight sights



STR-9 COMBAT X, 9MM
17+1 CAPACITY

Overall length - 7.44"

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model was discontinued in 1963.

Duck populations were at an all-time low in the mid-1930s when the Model 12 Heavy Duck was introduced. Pass-shooting wary birds at long range was common, leading to the need for 3.0-inch magnum shotshells with generous payloads. Naturally, Heavy Duck guns were choked Full. Toward the final years of Model 12 production, the guns were cut with very technical choke geometry, as

Winchester conducted extensive research on the patterning characteristics of heavy No. 4 payloads. Patterning percentages at 40 yards were expected to be in excess of 80 percent and near 40 percent at 60 to 65 yards. The price, when introduced, was less than \$50.

To demonstrate just how enthusiastically the Model 12 Heavy Duck guns were welcomed, about 18,000 were sold between the 1935 introduction and the United States’s entry into World War II in 1941. In comparison, according to the late, great shotgunning legend Michael McIntosh, only a few thousand heavy double-barreled duck guns with 3.0-inch chambers were manufactured and sold during that same period.

Nearly two million Winchester Model 12 guns were manufactured between 1912 and 1963. I’ve been unable to determine how many were Heavy Duck models. Certainly, it’s the least common of the 12-gauge versions.

I’ve described the mechanicals of the Model 12 in general before, so I won’t waste any time repeating that here. I’ll just say the Model 12 is known for smooth functioning, elegant handling, and beautiful quality. It’s considered by many to be the epitome of fine pump guns, the pinnacle, if you will.

Provenance

A friend who’s aware of my addiction to Model 12 Winchesters saw the relatively decent Heavy Duck gun profiled here listed for a very decent price and called me. I made the purchase and brought the gun home. It was manufactured in 1955, and as is it’s worth anywhere from \$350 to \$700.

The metal is well worn at the carrying point around the front of the action but shows no sign of rust. The

MODEL 12 “HEAVY DUCK”	
MANUFACTURER	Winchester Repeating Arms
TYPE	Pump-action repeater
GAUGE	12 gauge, 3.0-in. chamber
MAGAZINE CAPACITY	5 rounds
BARREL	30 in., Full choke
OVERALL LENGTH	49 in.
WEIGHT, EMPTY	8.8 lbs.
STOCK	Walnut
LENGTH OF PULL	13.75 in.
FINISH	Blued action and barrel, lacquer-finished wood
SIGHTS	Silver bead front
TRIGGER	7-lb. pull (as tested)
SAFETY	Crossbolt

bluing is quite good everywhere else. The bore is bright and free of ripples or bulges. The only unsightly aspect of the gun is the severe flaking of the lacquer-type finish on the buttstock. I believe it to be original, as Winchester’s guns from that era frequently exhibit some flaking in the finish.

Rangetime

Model 12 Heavy Duck guns have an ejection port optimized for paper-hulled 3.0-inch shells. As a result, fired 3.0-inch plastic hulls

sometimes hang up in the ejection port. This led to the oft-repeated humorous statement that “...a Heavy Duck is the best 2¾-inch pump gun ever made.”

The only appropriate 3.0-inch shotshells I had on hand with nonsteel shot (remember, steel shot should never be fired through vintage fixed-choke shotguns) were Federal’s Prairie Storm pheasant loads with 1 ounce of No. 6 lead pellets. Not the No. 4 pellets the gun’s original owner likely considered optimal for long-range ducks, but at least the payload was correct.

Unfortunately, when I ran the first shell through the gun to function-test it, the shell didn’t eject, and I discovered the ejector was missing—not worn, not broken, missing. Thankfully one of my favorite little gunshops in Smithfield, Utah, had a part in stock. I made the not-too-lengthy drive and had the part installed.

On the range, the gun shouldered smoothly, pointed naturally, and swung beautifully. However, it is heavy. Will I hunt much with it? Doubtful. I’d like to, but nontoxic waterfowl shotshell regulations pretty much rule it out for its intended purpose. Unless you’re willing to shell out significant funds for nontoxic shot that’s safe in old barrels, such as bismuth or polymer-buffered tungsten, these once-legendary Model 12 Heavy Duck guns are rendered obsolete in the waterfowl swamps. However, they’re wonderfully balanced and smooth to shoot. For the vintage enthusiast willing to buy expensive shotshells, they’ll still perform wonderfully. Ironically, probably the most “at home” place for a Model 12 Heavy Duck these days is in the turkey woods, where a massive payload of lead through a well-engineered Full choke is still considered magic. I think I’ll try that.

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SHOOTER'S GALLERY

THE SHOOTIST

THE BALLISTICIAN

THE RELOADER



Ballistic Challenges for the Home Reloader

Allan has made ammo as a hobbyist and as a pro. Here's some of what he's learned along the way. **BY ALLAN JONES**

LAST MONTH I DISCUSSED SOME BALLISTICS challenges that commercial ammomakers must overcome. This month I'm looking at home challenges and how to improve your reloading, often using what the pros learned.

Statistics

This factor is highly critical but also highly ignored, especially proper sample size. I've whipped that horse so long in these pages that the ASPCA probably has a warrant out for me. My most puzzling reloading problems happened before I embraced the benefits that simple statistical principles provide. Look up some of my past articles on statistics. Sample size is

critical to understanding your handloads' true quality and accuracy.

Measuring Tools

The critical reloading tool to regularly monitor for accuracy is your reloading scale. Mechanical scales must be re-leveled whenever their location changes. Leveling adjustment is built into most, but that does not ensure they are calibrated to read accurately. That is where check weights come in.

Check weights are brass or stainless steel, calibrated in a range of values. However, most are metric, marked in grams (g), not the Imperial units U.S. reloaders use, grains avoirdupois (gr. or gn.). Unless you are quick

Regardless of the type or age of your powder scale, check weights ensure safe, accurate charges.

and accurate with metric to Imperial conversions, go for reloading check sets marked in grains, such as those sold by Lyman and RCBS.

Should a mechanical scale be level but not reading correctly with check weights, suspect dirt. The beam's pivot points rest in notches that can collect dust in the V-shaped contact area. Even high-end models with agate bearings and protective pivot covers can get dirty or worn.

Most electronic scales come with calibration weights that also function as check weights. Almost all electronic scales must be calibrated before using, and in the location where they will be used. If the work surface is not level, the scale may fail to calibrate. Different makes have different calibration procedures, so follow the instructions your scalemaker provides.

Pro labs have strict calibration and inspection protocols. Where I worked, QA engineers calibrated every measuring device annually against reference gauges traceable to the National Bureau of Standards.

Propellant Dispensing

Most of us use a powder measure if loading more than a handful of cartridges. So do the pros, who focus a lot of attention on developing, testing, and constant inspection of dispensing devices. Do you know if yours is throwing uniform charges? Your now-verified powder scale comes into play.

A friend checked his powder measure by throwing five charges and dividing the result by five. He got an average, but no useful data on throw-to-throw variation. You need to throw charges one at a time into a pan, then weigh and record each one.

Propellant metering of uniform charges has variables due to device design and propellant grain shape and size, but your personal metering technique has the most influence. Checking multiple charges will help you establish a consistent action. I was taught to detect settings' "drift" by weighing every 15 to 20 throws during charging. The challenge here is to avoid the urge to rush. This is a hobby, not a race.

Inspect!

This is a challenge both for industry and hobbyists. Too many handload kabooms and "remodeled" firearms could have been prevented by basic inspection. One caller said we sold him bad primers—none would fire. Later he called back apologizing; not a single round of 200 had propellant. He was an experienced reloader but had a case of the "hurry ups."

Use a loading block so you have your charged cases in line for inspection. A good penlight is a must.

When the pressure is "get 'er done," up go the chances of breaking routine—and your firearm. Eliminate the pressure.

If your binocular vision is impaired or nonexistent, use a wood dowel to confirm each charge. A small O-ring or rubber band slipped over the dowel can be adjusted to indicate the height of a proper charge. Powder level detectors are available for progressive presses. Some are visual and some halt the press. Virtually all commercial charging stations have them.

Inspection includes checking the loaded rounds. Pros may use vision systems that use small cameras and lasers to detect loaded cartridges with external defects with astonishing reliability. You can augment your visual inspection with a tactile one. An "educated" finger can detect a high primer or a burred case mouth fast.

Workspace

The greater workspace challenge for home loaders is eliminating distractions. No TV, phone calls, or bull sessions while you are loading. That cartridge that is going to be fired just ahead of your face deserves your undivided attention.

Test!

In my youth, the single factor that inspired me to be a better handloader was chronograph access. I thought I was doing pretty well until I started at the crime lab, which back in the day, had an old Oehler Model 10. Although lacking a digital readout and being slow to use, it was accurate.

I was loading mostly .38 Special at the time. When I saw the range of variation in the results of my ammo, my reaction was, "I loaded *that*!?" It was awful, with velocity variations of almost ± 200 fps for ammo averaging 850 fps! That was far worse than the least consistent factory ammo we'd tested, and I looked for ways to make it "not awful."

I found a litany of issues—mixed case makes and types, case length variations causing inconsistent crimping, and primer seating variations. However, the big factor was my powder measure technique. My mentor in reloading suggested making my RCBS Uniflow "clack" at both ends of the handle motion and to make it sound the same for every stroke of the handle. Practice made those EVs grow lower and lower.

I've had the benefit of making ammo as a hobbyist and as a pro. The "pro" time taught me that challenges in a factory and those in a home shop usually vary only in scale, and they deserve the same attention.

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SHOOTER'S GALLERY

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Resurrecting the .25 Remington

While it may have become an obscure footnote in cartridge history, the .25 Remington was once a modestly popular chambering. **BY LANE PEARCE**

Plenty of current component bullets and powders are suitable for handloading the .25 Remington, but coming up with brass can be a challenge.

I'VE BEEN HANDLOADING AN EXCITING ROUND that's perfect for the young or novice hunter. I'm talking about the .25 Remington.

Haven't ever heard of it? Well. It's a century-plus vintage rifle cartridge that, if I had my way, would become as popular as the 6.5 Creedmoor.

Although the .25 Remington became an obscure footnote in rifle/cartridge history many years ago, it was a modestly popular chambering from the early 1900s until the 1930s. It was one of four bottlenecked, rimless rounds Remington developed for their first autoloading rifle—the .25, .30, .32, and .35 Remingtons. The three smaller-caliber rounds were identical except for the neck diameters, and they closely copied Winchester's corresponding rimmed cartridges. So the .25-35 WCF is the .25 Remington's close ballistic twin. Factory loads offered a 117-grain JSP-RN bullet for hunting deer and black bears. In addition to

the autoloader, the .25 Remington was chambered in Remington's pump-action Model 14 and their much stronger bolt-action Model 30S (and also the Stevens Model 425 lever action). Rem-UMC, Peters, and Western stopped making .25 Remington factory-loaded ammo sometime in the 1950s.

I recently lucked into a large batch of .30 Remington brass that had been reformed to .25 caliber and loaded years ago by a long-forgotten boutique ammomaker. The fellow I got it from had salvaged the bullets before trading the primed cases and a set of dies to me. I decapped the live primers intending to anneal and expand the necks back to .30 caliber. Instead, I decided to save them until I could acquire a rifle chambered for .25 Remington. Months passed, and I couldn't find one that met my standards. If you've followed my column, you know I've pursued off-the-wall endeavors regarding wildcat cartridges

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and maybe less-than-practical rifle conversions. Who else do you know who has a Ruger American rifle converted from .450 Bushmaster to .30 Remington AR (RAR) and a new Ruger-made Marlin 336 that's been rebored and chambered to .35/.30-30? These successful efforts prompted the idea for the project I'm about to detail.

I had a T&E prototype Ruger American rifle chambered in .224 Valkyrie. Coincidentally, that cartridge shares the same case head dimensions as the now-obsolete trio of Remington cartridges. Although the magazine is too short, the action will accommodate the longer .25 Remington round. Fortunately, Ruger offers a stock accessory that, with minor parts swapping, blocks the magazine well to allow loading a single cartridge.

I was off and running!

Dave Kiff at Pacific Tool and Gauge provided a reamer using resurrected CIP chamber specifications. My gunsmith, Isaac Gallagher, did the earlier Ruger American .30 RAR conversion and was familiar with the process, so he removed the Valkyrie barrel and shipped it to Lothar Walther U.S.A. in Cumming, Georgia. They made a .25-caliber 1:10 twist, button-rifled barrel, duplicating the barrel profile and threading the breech end to match the action. Upon receipt of the new barrel and the PTG tooling, Gallagher torqued it into the action, chambered it, and black Cerakoted the barreled action. After reworking the stock with the single-shot kit, he mounted a Burris 3-9X Fullfield II scope and returned the "custom" rifle to me.

The .25 Remington's maximum average pressure (MAP) is lost to history. In fact, it may have only been a CIP standard round because their specs were

used to make the reamer. But it had to be close to the corresponding Winchester rounds, i.e., in the 40,000 to 45,000 psi range. Of course, like the super-strong Remington Model 30S, the Ruger American can safely handle a modest increase in chamber pressure. The .25 Remington's case capacity is nearly 10 percent greater than the .25-35 Winchester's. All that means is handloads assembled for lever- and pump-action rifles using recipes from old manuals stating "this data is also applicable for the .25 Remington" should provide for adequate margins of safety in stronger, bolt-action rifles. I'm not trying to set velocity records, just enjoy reloading and shooting a "new" cartridge.

As you can see in the limited data I've developed so far (listed in the accompanying chart), the .25 Remington is a viable medium-size varmint cartridge topped with Speer's 87-grain TNT bullets. With today's modern propellants, velocities approach the performance of the .250-3000 Savage. It'll also perform as well on whitetails, antelopes, and black bears within a reasonable range (up to 150 yards) with Hornady's 110-grain and 117-grain bullets.

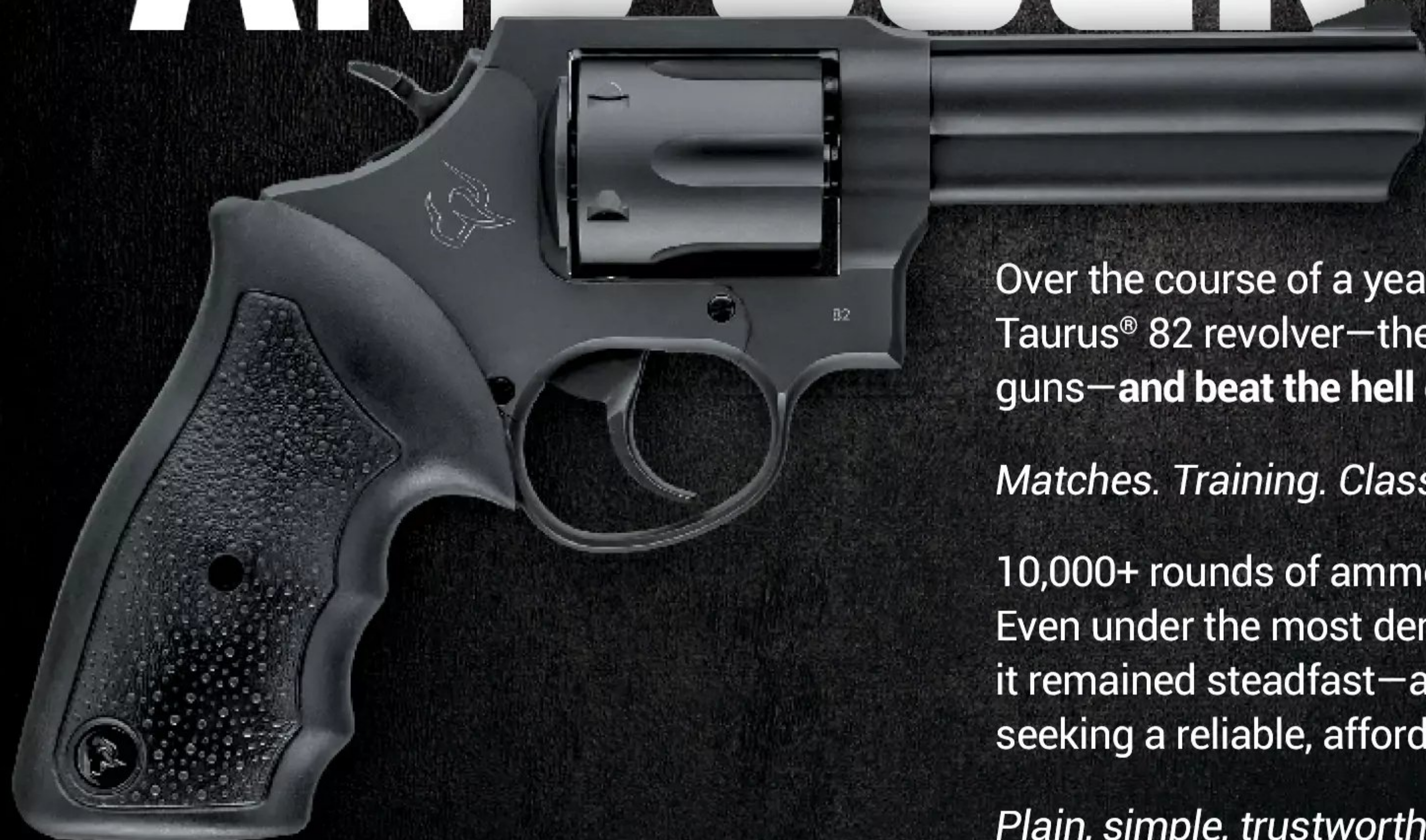
I don't expect the .25 Remington to experience resurging shooter interest, but I must admit that I was really impressed with its accuracy. And according to my sources, the new Redding die set (yes, they're still currently available) that I used to assemble my handloads was one of a surprising number of sets sold in recent years. By the way, Gallagher has the once-used PTG reamer and is waiting for calls. Maybe the same fellow who ordered a .256 Newton rifle soon after my earlier "The Reloader" column on that unique cartridge was published will want another custom rifle in .25 Remington.

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.25 REMINGTON ACCURACY & VELOCITY										
BULLET	POWDER		CASE	PRIMER	COL (IN.)	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	ENERGY (FT-LBS)	100-YD. ACC. (IN.)
	(TYPE)	(GRS.)								
Custom Ruger American, 22-in. Barrel										
Barnes 80-gr. TTSX	IMR 3031	30.5	Rem.	Fed. 210M	2.710	2897	28	10	1491	0.94
Speer 87-gr. TNT JHP	IMR 8208 XBR	30.0	Graf	Fed. 210M	2.740	2778	31	8	1491	0.82
Sierra 100-gr. Pro-Hunter JSP	IMR 4064	31.0	Graf	CCI 200	2.640	2582	28	9	1480	0.88
Speer 100-gr. Hot-Cor JSP	Reloder 15	31.0	Rem.	Fed. 210M	2.640	2560	33	12	1455	0.76
Hornady 110-gr. FTX	LVR	32.0	Graf	WLR	2.645	2678	18	7	1751	0.83
Hornady 117-gr. InterLock RN-JSP	Varget	29.0	Horn.	Fed. 210M	2.550	2361	52	19	1448	0.93
Rem-UMC 117-gr. JSP-RN	Factory Load				2.520	2235	32	11	1297	1.78
WARNING: This load data should not be used in vintage Remington Model 8, Remington Model 14/141, Stevens Model 425, or Standard autoloaders. NOTES: Accuracy is the average of at least two, five-shot groups. Velocity is the average of 10 rounds measured 12 feet from the gun's muzzle. 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 <i>Shooting Times</i> has no control over your choice of components, guns, or actual loadings, neither <i>Shooting Times</i> nor the various firearms and components manufacturers assumes any responsibility for the use of this data.										



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DOUBLING DOWN

BROWNING'S
X-BOLT 2 SPEED SPR IS
SOPHISTICATED, SMOOTH,
AND SUPER-ACCURATE.

BY JOSEPH VON BENEDIKT

BROWNING RECENTLY INTRODUCED A GEN 2 version of its extremely popular X-Bolt rifle. Between you, me, and the fence post, I was almost concerned. The original X-Bolt was, and is, an extraordinary rifle. My first thought was, “What on earth can they improve?”

Writer liaison Shaundi Campbell put one in my hands in the shade of an ancient cottonwood in New Mexico’s desolate, sunbaked antelope country. Without even knowing any details, my brain went, “Oh! That’s why.” The rifle was sleek and compact, with a short, carbon-fiber-wrapped barrel sporting a suppressor. The action ran slick as grease on glass. And when I put a few shots on paper prior to hunting pronghorns, bullet holes clustered like amorous flies.



The Improvements

The new X-Bolt 2 action incorporates several small but significant refining elements. I've always considered the original X-Bolt one of the smoothest-functioning actions on the market, but the X-Bolt 2 has additional features that maximize smoothness and eliminate any binding in the bolt.

Gen 2 actions also have racier styling. All bolts come with broad, spiral flutes. Ejection ports are opened and flared, and bolt shrouds are streamlined. Bolt handles feature more subtle, elegant styling, and the exterior of the octagonal action is nicely scalloped.

The new Gen 2 actions maintain the safety slide located in the action tang. As with the original X-Bolt, it locks the bolt when engaged. A discreet button in the shoulder of the bolt

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DOUBLING DOWN



Rotary magazines made of high-impact polymer protect cartridges inside from recoil damage and feed rounds into the chamber like butter. The sample rifle's magazine holds three rounds of 6.8 Western ammo.

handle unlocks the bolt and allows live rounds to be extracted from the chamber with the safety still engaged. It's one of my favorite features of the X-Bolt design.

Up top, the action features the same strong scope-mounting system as the original X-Bolts—four screws for each scope base. That, for those wondering, is what gave the X-Bolt its name; the screws form an X shape. Functionally, spreading out the screws enables each to engage deeper in the receiver, since the screw holes drive down into the walls of the receiver rather than straight through the thin upper wall of the action. Plus, of course, there are four in each base. More screws mean more strength.

Aside from the silky-smooth feel, the other major functional upgrade the Gen 2 action received is Browning's DLX trigger. It's a super crisp trigger that's user adjustable and has no discernible overtravel. Browning literature suggests rifles will ship with the triggers set at 3.5 pounds. The one in our test rifle averaged exactly 3 pounds, 7 ounces on my Lyman digital trigger gauge.

I hesitate to say a trigger is so crisp it feels lighter than it really is, but in this case, that's actually true. I usually run pull weight on my personal hunting rifles at 2.5 pounds, but the X-Bolt

2's go-switch is good enough that I don't feel any need to change it.

Before shifting gears and talking stocks and barrels, there's one other action-related feature that's worth mentioning. Browning is building several different versions of the X-Bolt 2 with the new Plus Magazine System designed for high-capacity magazines. Like Tikka and several other top-shelf manufacturers, Browning chose to design its own magazines rather than use common AICS types.

Now, I've used a ton of AICS-type magazines over the years. I like them, but I have no delusions about their weaknesses. They do have 'em. Browning's Aaron Cummins may have said it best when he stated, "We're not using AICS magazines—thank goodness!" Browning's magazines feature several performance-enhancing details, such as cartridge shoulder retention to keep cartridges from slamming into the front of the magazine during recoil and potentially damaging bullet tips, centered-up cartridge feeding, and so forth.

Let me be candid. The improvements in the X-Bolt 2 action are significant but subtle. Much more obvious are the different stocks and barrels available in the Gen 2 line.

I requested the X-Bolt 2 Speed SPR version for review here because I believe it offers the greatest value for the broadest spectrum of hunters and shooters. Suggested retail is \$1,499 to \$1,549, and you'll find them for less on dealers' shelves. However, before diving into the awesome stock and barrel configuration on this new Speed SPR, it's important to note a massive update to Browning barrel technology that's not included on this particular model. Browning now offers carbon-fiber-wrapped barrels.

Made by Preferred Barrels in Utah, the barrels are manufactured to extraordinary tolerances. They should shoot spectacularly well. There's a caveat, though. The upgrade to a carbon-fiber barrel and stock is expensive. I'll go so far as to say it's very expensive. With a premium carbon-fiber stock (either Browning's own Mountain Pro or McMillan's Game Warden 2.0), the price approaches that of a custom rifle. We're talking \$3,740 to \$4,070.

Upgrading the "standard" X-Bolt 2 Speed to have a carbon-fiber barrel jumps cost from about \$1,500 up to about \$2,700. I'm not good with math, but even I can tell you that's about a \$1,200 upcharge for the carbon-fiber barrel.

Is it worth it? Time will tell. The market now demands carbon fiber more than ever before, and as mentioned, the Preferred barrels will shoot wonderfully. Whether they'll shoot \$1,200 more wonderfully than Browning's own all-steel counterparts remains to be seen.

Spoiler alert: It would be hard to top the accuracy of the standard X-Bolt 2 Speed SPR tested here.

Although there's nothing groundbreaking about the all-steel barrel on the Speed SPR, it is unique in the fact that it's engineered for use with a suppressor—something you didn't see even just five years ago. This one's chambered in 6.8 Western and is 20 inches long. It's Browning's standard profile, but it flares gently near the muzzle to provide a broad shoulder for the suppressor to square up against, ensuring concentricity and alignment. Understated flutes give it a distinctive appearance and help with cooling.

The barrel and action are finished in Smoked Bronze color Cerakote. For those unfamiliar with Cerakote, it's a ceramic-based, baked-on finished that has emerged as the industry's leading protectant against corrosion and abrasion.

Now, let's take a look at the fantastic new Vari-Tech stock on the X-Bolt 2 Speed. Why fantastic? Because it's completely



X-Bolt 2 Speed Vari-Tech stocks are fully configurable for cheekrest height and length of pull.

X-BOLT 2 SPEED SPR	
MANUFACTURER	Browning browning.com
TYPE	Bolt-action repeater
CALIBER	6.8 Western
MAGAZINE CAPACITY	3 rounds
BARREL	20 in.
OVERALL LENGTH	40 in.
WEIGHT, EMPTY	6.38 lbs.
STOCK	Vari-Tech composite
LENGTH OF PULL	13.125 to 14.125 in.
FINISH	Smoked Bronze Cerakote barrel and action, Ovix camo stock
SIGHTS	None, drilled and tapped for scope bases
TRIGGER	3.48-lb. pull (as tested)
SAFETY	Sliding two-position on tang
MSRP	\$1,559.99



Two interchangeable grip modules come with each Gen 2 rifle. One is a traditional open shape, and one is a vertical profile optimized for precision shooting.

DOUBLING DOWN



X-Bolt rifles have always come glass bedded. The Gen 2 X-Bolt has well-done glass bedding that provides proper and consistent support for the action.

but discreetly configurable for length of pull (LOP) and cheekrest height.

Most stocks with LOP spacers look like, well, stocks with spacers. The spacers interrupt the elegant lines of the stock. While that's okay, Browning engineers never designed anything to be just "okay." The Vari-Tech stock features an internal spacer system that's not visible at all. LOP can be finessed to your personal preference from 13.125 to 14.125 inches from trigger to buttpad.

You have to remove the buttpad to make the adjustment, but unless you're a kid growing like Jack's giant's beanstalk or the rifle is regularly shared between a long-legged husband and a

petite wife, you'll probably only ever make a stock adjustment once to fit yourself.

Even more crucial than stock LOP—in my opinion—is the ability to adjust the cheekrest height to provide exactly the right cheekweld. This positions your eye in perfect alignment with your scope and greatly increases shot consistency.

Whether you're lying for hours on end looking through the scope while you wait for a big alpine-country mule deer to get up and offer a shot, or you're whipping the rifle to your shoulder for a snap shot at a deer you've just jumped at close range, a cheekrest of perfect height will instantly align your eye with those crosshairs and help you make a clean, accurate shot.

There's no obvious way to loosen the cheekrest to adjust it. As I mentioned earlier, the entire system is svelte and discreet. Insert the included hexhead wrench into the tiny hole in the heel of the recoil pad. Spin out the internal locking screw about 10 or 12 turns. Pull the cheekrest rearward a quarter-inch or so until it moves freely and slide it up or down as needed. Spin the locking screw back in, and you're good to go.

There's more. The grip has interchangeable modules, and each rifle comes with two: one traditional contour with a relatively open profile; the other with a near-vertical profile optimized for precision shooting. I swapped the traditional one that came on the rifle for the more vertical version just to try the process (it's super easy) and to get a feel for it. Initially, it was a bit foreign-feeling, since I'm so used to the traditional feel of the X-Bolt Speed stock, but I fired a terrific series of groups while using it, so clearly it helps shooters execute consistently.

Again, the switcharoo process is discreet; you must take the barreled action out of the stock to switch the grip modules. Loosen the little locking screw, pop the existing module out, click in the other, and snug up the locking screw. Done.

In addition, the Vari-Tech stock is built to cater to precision shooters who want to mount rails to the fore-end. There are reinforced hole positions inside the fore-end. To add a section of Picatinny or ARCA/Swiss rail, simply drill out the appropriate holes, add a knurled nut inside for each screw position, and bolt on your rail.

Vari-Tech stocks are injection molded. Fore-ends are free-floated around the barrels. The primary issue with

An advertisement for Ed Brown Performance Magazines. The image features a stainless steel magazine in the foreground, with a handgun and several bullets in the background. The Ed Brown logo is prominently displayed in the top left corner. Text overlays highlight the benefits of the magazines: '> BETTER PERFORMANCE', '> BETTER WARRANTY', and '> BETTER PRICE'. At the bottom, it states 'FULL LINE OF SINGLE STACK MAGS FOR GOVERNMENT & COMPACT MODELS' and 'STAINLESS STEEL • BLACK NITRIDE'. The website 'EDBROWN.COM' is listed at the bottom, along with social media icons for Facebook, Instagram, and YouTube.

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DOUBLING DOWN

injection-molded stocks is that they flex very easily and can contact the barrel and cause a shot to go astray. However, Browning fore-ends have always seemed to be considerably stiffer than the competition—probably thanks to the unique engineering and the stiffening ribs incorporated inside the fore-end channel.

I’ll always prefer a good carbon-fiber stock if I can afford it, but I don’t worry about the X-Bolt Speed (and now the X-Bolt 2 Speed Vari-Tech) stocks like I do other plastic stocks. I’ve never had a bipod torque the fore-end of one of these rifles enough to contact the barrel and cause accuracy issues.

While photographing the new X-Bolt 2 Speed SPR, I pulled the stock off. Impressively, the action seat is nicely bedded—by far the best and most thorough bedding work I’ve seen on any production-class rifle. That certainly contributes to a rigid action-to-stock relationship as well.

Vari-Tech stocks also feature a thicker 1.25-inch-thick Inflex recoil pad, which really softens and spreads out felt recoil. Inside, the Inflex pad has directional ribs that cause the stock to flex down and away from the cheek as the pad loads during recoil, in effect reducing the smack of the stock against your face.

Rubber overmolding on the grip and underside of the fore-end provide a sure grasp through mud, blood, or sweat. Aside from the black of those areas and the cheekrest, the Vari-Tech stock is finished in Browning’s cutting-edge Oviz camouflage. I’ve used Oviz from Alaska to Africa, taking everything from big bull moose to old Cape buffaloes while wearing it, and the pattern is awesome in its versatility.

The Shooting Results

Enough pontificating about the technical characteristics of the new X-Bolt 2 Speed. How does it shoot?

To find out, I managed to dig up five different 6.8 Western factory loads (four from Winchester and one from Browning). After installing a fine Leupold scope, I took to the shooting range. This particular Speed SPR model is advertised as suppressor-ready, so I spun off the factory-mounted muzzle brake and installed an 8-ounce, 6-inch titanium Banish Backcountry can by Silencer Central.

It was a fine February afternoon, cool but not cold. I selected Browning’s 175-grain Long Range Pro ammo to start with. To my surprise, after taking one shot to confirm and refine bore-sighting, my first three bullets landed all touching. The 100-yard group measured 0.53 inch.



Four of five different factory loads tested averaged well under MOA, and Browning’s 175-grain Long Range Pro ammo averaged just a whisker over 1/2 MOA.

BROWNING X-BOLT 2 SPEED SPR ACCURACY & VELOCITY				
AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	100-YD. ACC. (IN.)
6.8 Western, 20-in. Barrel, 1:7.5 Twist				
Winchester 162-gr. Copper Impact	2792	83	28	0.68
Winchester 165-gr. ABLR	2768	37	12	0.97
Winchester 170-gr. Ballistic Silvertip	2798	64	21	0.78
Winchester 170-gr. Power-Point	2769	63	23	3.95
Browning 175-gr. LR Pro	2689	29	11	0.53
NOTES: Accuracy is the average of three, three-shot groups fired from a bipod. Velocity is the average of nine rounds measured with a LabRadar. Ambient temperature: 35 degrees Fahrenheit. Elevation: 4,900 feet.				

A fluke? I wondered. The next two groups measured 0.49 and 0.57 inch. Not a fluke. This new X-Bolt 2 is a shooter!

Next, I tested Winchester’s 162-grain Copper Impact load. It features a monometal bullet that’s ideal for use on elk and other big, tough game. It, too, shot beautifully out of the X-Bolt 2, averaging 0.68 inch for three consecutive three-shot groups. Complete results with all five loads tested can be seen in the accompanying chart.

It’s worth noting that the Speed SPR suppressor-ready version of the X-Bolt 2 has a shorter-than-standard barrel. The length on the 6.8 Western is 20 inches. It makes the rifle handle wonderfully even when a suppressor is installed, particularly when it’s a compact, light suppressor like the one I used.

Inevitably, though, there’s a velocity loss due to the short barrel. The Speed SPR produced about 150 fps less than the advertised speeds on the ammo boxes. And that’s just fine—it’s an expected and worthy trade-off for the lovely handleability when hunting with a silencer on board.

I thought Browning got it right with the Gen 1 X-Bolt. And I still do. However, this Gen 2 version just may be the most advanced, most capable production-grade rifle on the market.

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GAME-CHANGER

GARMIN'S XERO C1 PRO DOPPLER CHRONOGRAPH IS COMPACT, ACCURATE, AND EASY TO USE. IT MAY BE THE NEW GOLD STANDARD FOR DOPPLER CHRONOGRAPHS.

BY JACK OLLER

WHEN MOST PEOPLE THINK ABOUT Garmin, GPS devices, smart watches, and advanced electronic navigational devices are what primarily come to mind. In the outdoor space, it's probably shock collars for hunting dogs that most people associate with Garmin. They haven't done a lot in the firearms space for some time, but Garmin's new Xero C1 Pro Doppler chronograph proves they haven't missed a beat.

It seems like Garmin's new chronograph has come out of nowhere, but this isn't their first time in the chronograph business. If you're an avid trapshooter like me, then you've probably come across Garmin's Xero S1 Trapshooting trainer. It is a unique chronograph that tracks the flight of clay targets and can show you where you're breaking or missing clays. I've had a lot of experience with the Xero S1, and it's one of the best tools I own for shooting trap. If you run a high school trap team or own a trap range, it's an absolute game-changer for teaching new trap shooters.



One thing the Garmin Xero C1 Pro Doppler chronograph has going for itself is the compact size. Compared to a LabRadar, it is tiny, making it easier to transport and set up.

XERO C1 PRO	
MANUFACTURER	Garmin garmin.com
TYPE	Doppler radar chronograph
VELOCITY DETECTION RANGE	100 to 5,000 fps
DIMENSIONS	3.03 in. x 2.38 in. x 1.36 in.
WEIGHT	3.7 oz.
DISPLAY	2.2 in. (diagonal), monochrome
BATTERY	Internal rechargeable, approx. 6 hrs. or 2,000 shots
ACCESSORIES	Tripod, charging cable, ShotView app
MSRP	\$599.99

Garmin vs. LabRadar

The new Xero C1 Pro is also a game-changer, and after using it a few times at the range, I can say the hype surrounding it is more than justified. Garmin is clearly going after LabRadar, and you can't really talk about Garmin's new chronograph without comparing it to LabRadar. LabRadar has been considered the premium end of chronographs for years, and both the LabRadar and Garmin Xero C1 Pro use Doppler radar technology to measure bullet velocity and gather data. That's about the only thing they have in common, though, as I would say Garmin has surpassed LabRadar in usability and function.

The most obvious feature of the Garmin is its size; it's tiny! It's hard to understate how much more convenient it is to carry to and use at the range. Despite its size, the Garmin is powered with an internal, rechargeable battery, as opposed to LabRadar's six-AA-battery power source. Garmin claims the Xero C1 Pro has a six-hour runtime or about 2,000 shots. I kept mine on for approximately four hours over about 200 shots across various firearms during my first range session

with it, and the battery wasn't even near the halfway charge mark.

Size and power source have been common complaints among LabRadar users, but LabRadar chronographs have always been accurate enough to overlook these issues. There is one issue that drives every LabRadar user nuts, though, which is how frequently they will drop shots. It's frustrating enough when gathering data on factory ammo, but it's especially frustrating with handloads. Dropping one or two shots on a five- or 10-shot string can significantly affect your load data, particularly when handloading for long-range shooting. My biggest takeaway with the Garmin Xero C1 Pro is that it did not drop a single shot over several range sessions, and several other new Garmin owners I know have reported the same. I'll get into the weeds some more on the rangetime shortly, but a Doppler chronograph that doesn't drop shots is impressive to say the least!

Specifications

Before I get into the range details, let's break down the rest of the Xero C1 Pro's specs. Out of the box, you get the chronograph, a charging cable, and a tripod that you'll recognize if you're a golfer who uses other Garmin devices. It's rated to measure

bullet velocity from 100 to 5,000 fps, so it's usable for rifles, pistols, airguns, airsoft, archery, and even paintball. Anyone reading this is obviously most interested in the first two, but the Xero C1 Pro is a useful tool for many shooting sports. As you'd expect, it will calculate average velocity, extreme spread, and standard deviation. However, it also will calculate kinetic energy at the muzzle and power factor. Power factor is especially useful for handgun competitors, and hunters who like to handload will appreciate the kinetic energy calculations.

The Xero C1 Pro is controlled with four buttons on top of the device, and user function is remarkably easy. I purposely did not read the directions before using it, and I'd say only the most caveman-like AK enthusiast will struggle to figure it out. You can pair the Xero C1 Pro with Garmin's ShotView app to download all your range data and enter notes. You can't control it with the app, but it works great to store all your range data and is easily reviewed. The Xero C1 Pro's screen is bright and easy to read, even in the high noon sun. I already touched on battery life, but I'll say again that it's more than adequate for

GAME-CHANGER

any range day, and I have the brightest screen setting selected for my range trips. As a final note, the Xero C1 Pro is rated IPX7 waterproof, so no sweat if you get hit with rain.

Rangetime

As I stated, the Xero C1 Pro impressively did not drop a single shot during my range trips. I even shot CCI subsonic .22 LR ammo through my new Springfield Armory Model 2020 Rim-fire rifle with a Silencer Central Banish 22 suppressor without dropping a single shot. In fact, I did my range testing entirely suppressed, and since the Garmin is not triggered by muzzle blast, you can do all your load development suppressed if you want.

From .22 LR, .223 Remington, .308 Winchester, 6mm ARC, 6mm Creedmoor, and 9mm across various firearms, the Garmin chronograph tracked velocity accurately and was in line with measurements I’ve taken in the past with my LabRadar. With all its faults, the LabRadar is still a highly accurate chronograph when it picks up all the shots.

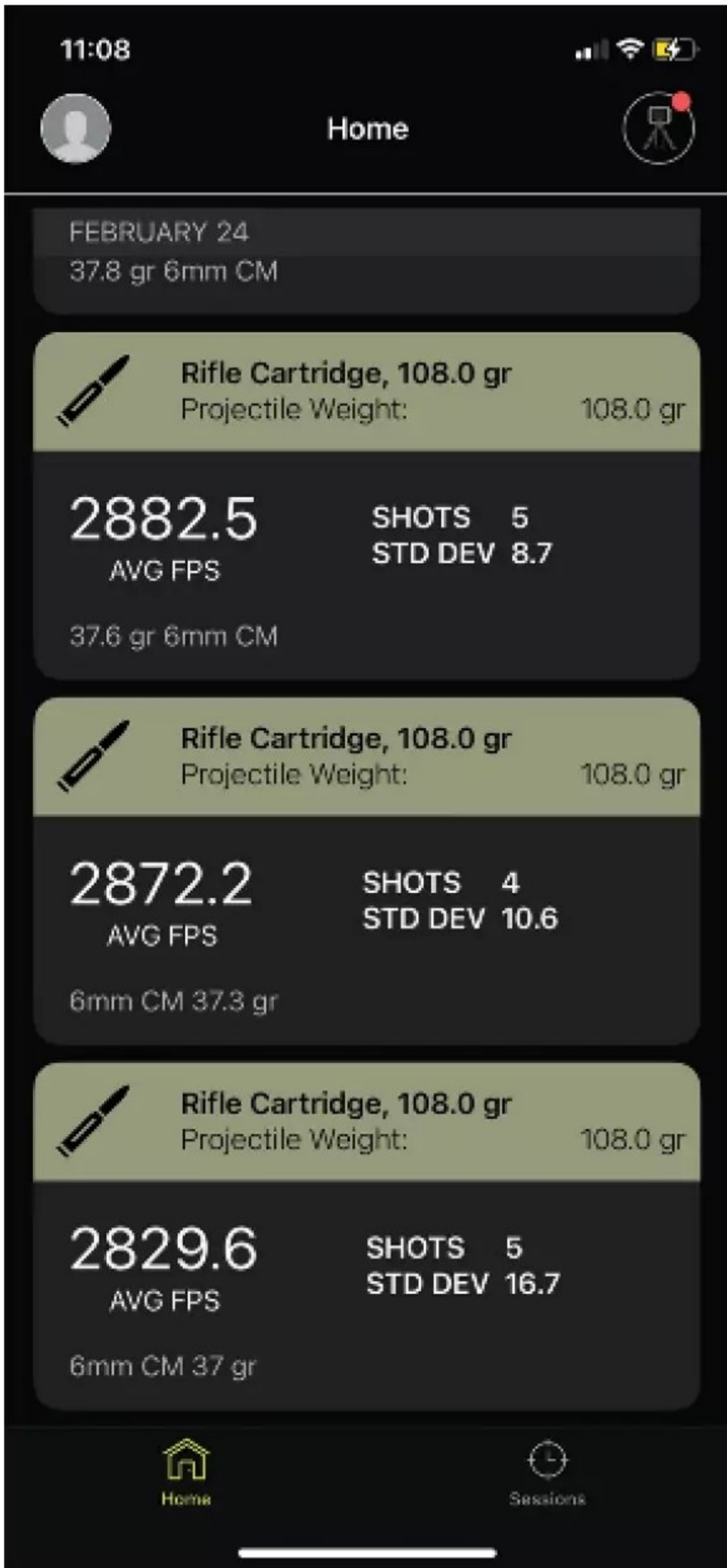
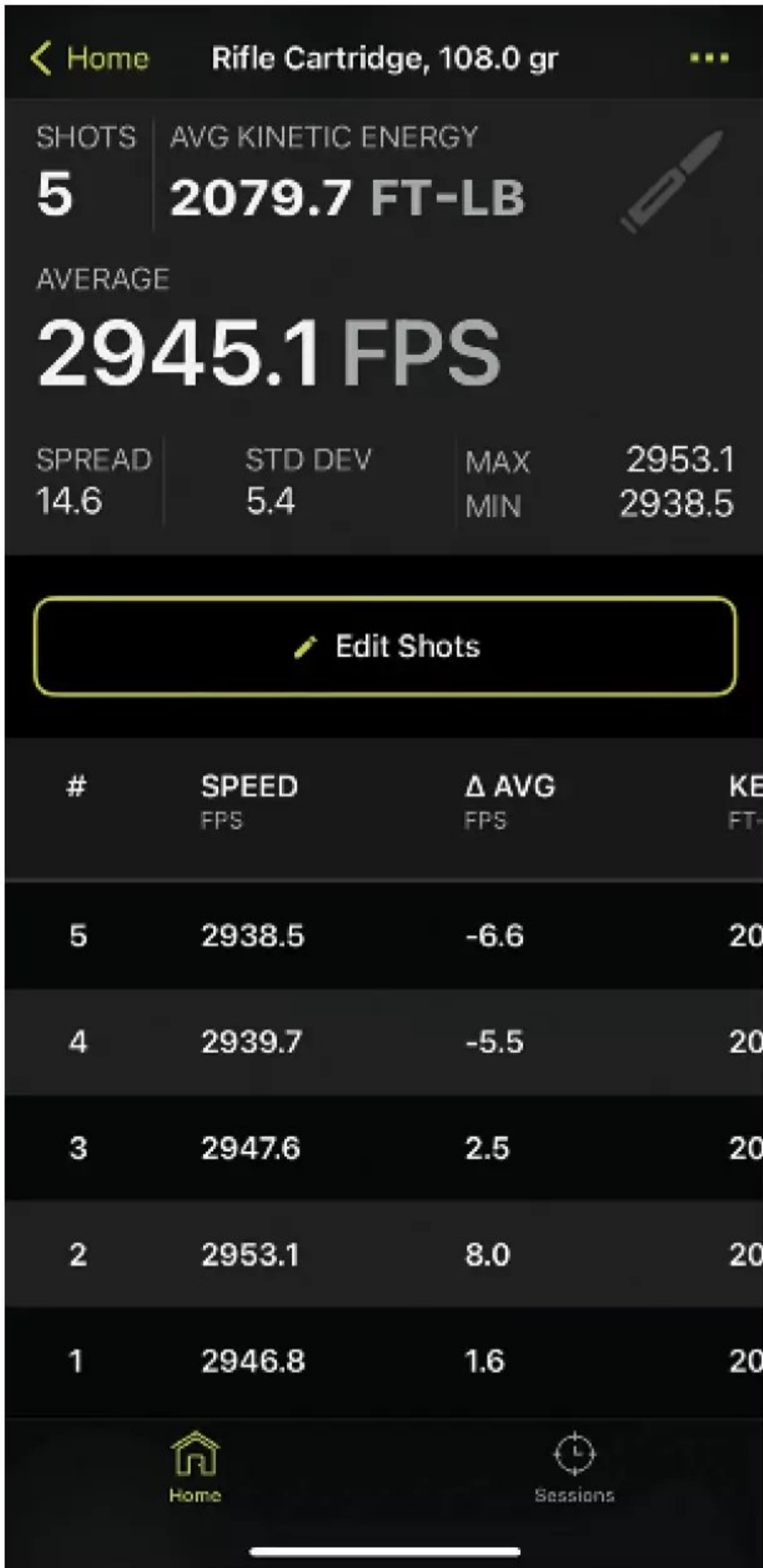
Now, there are a few things you should know about using the Garmin, or any Doppler chronograph for that matter, at the range. There is a window in front of your muzzle in which the Xero C1 Pro will capture a bullet’s velocity. It’s not big, but if you were to shoot at an angle across the chronograph instead of straight on, you’d get greater variances in your data. It’s important to keep the Xero C1 Pro as straight as possible toward the target you’re using and don’t shoot at multiple targets. Pick one target in line with your chronograph and stick to that. Also, try your best to keep the Xero C1 Pro in the exact same position when shooting. The more you move it around, the more opportunities you create to enter variances in the data it gathers. Truthfully, this only matters to handloaders chasing single-digit standard deviations and extreme spreads. That’s an admirable goal, but for normal PRS, handgun, and other firearms competitors, the Garmin is more than accurate for any shooting discipline.

There has been a lot of hype around the new Xero C1 Pro, and I’ll say again that in my experience it more than lives up to it. The only catch is that it is priced accordingly. The MSRP is \$599.99, but I call that a fair price for what you’re getting. Compare that to the LabRadar’s MSRP of \$625, which does not include a case or a tripod. The Garmin Xero C1 Pro is ready to go right out of the box with a lot more features that make it much more usable. Its compact size alone is worth the price of admission to me. Factor in everything else it has going for it, and the Garmin is arguably the new top dog in the chronograph market.

ST



Another advantage of the Xero C1 Pro is it comes with an internal rechargeable battery, a charging cable, and a tripod.



The Xero C1 Pro calculates average velocity, extreme spread, standard deviation, kinetic energy at the muzzle, and power factor, and it can be paired with Garmin’s ShotView app to download all your range data and enter notes.



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RUGER CELEBRATES 75 YEARS

RUGER IS STILL GOING STRONG AFTER 75 YEARS IN THE INDUSTRY, AND HERE'S A SHOOTING REVIEW OF TWO OF THE COMPANY'S SPECIAL ANNIVERSARY GUNS.

BY LAYNE SIMPSON

IN 1949 WILLIAM B. RUGER AND ALEXANDER M. STURM BEGAN manufacturing a blowback-operated semiautomatic pistol in .22 Long Rifle with a profile and bolt design quite similar to those of the Japanese Baby Nambu pistol. As described in an early Ruger brochure, its cylindrical bolt moved in a heavy tubular receiver that was securely fastened to an aluminum grip frame. The Standard Model, as it was called, weighed 36 ounces, had a 4.75-inch barrel, and its magazine held nine rounds. Quite economical to produce, it sold for \$37.50 at a time when the least expensive Colt Woodsman was priced at \$52.50.

The Ruger company is celebrating its 75th anniversary during 2024, and it is only fitting that a laser-engraved Mark IV pistol (which is the latest iteration of the old Standard Model pistol) will be produced this year. There is also a limited-edition Ruger 10/22 rifle that I will get to further on. And there also are commemorative SR191s and LCP Max pistols. I'm covering the Mark IV and 10/22 in this report.

RUGER CELEBRATES 75 YEARS



The anniversary Mark IV pistol has special markings on its bolt and the side of the receiver.

Mark IV

The barrel and receiver of the commemorative Mark IV Target have a brushed blued finish, while the black finish on the aluminum frame is semigloss. The gun is easily identified by the R75 serial number prefix along with two engravings: “Ruger 75 1949-2024” on the right-hand side of the receiver and “75 1949-2024” on the heel of the bolt. The fully checkered laminated wood grip panels are a nice touch.

Through the decades a number of improvements were introduced in the four Mark versions of the Ruger pistol, and I will briefly describe those I am aware of. All are retained in the Mark IV of current production. The first one, a fully adjustable rear sight and an undercut Patridge-style front sight arrived with the Mark 1 Target. Improvements to the later Mark II pistol included increasing magazine capacity to 10 rounds, scalloping the rear of the receiver for easier bolt grasping, and adding a stop for holding the bolt open on an empty magazine.



The 75th Anniversary Mark IV and 10/22 guns have special serial numbers beginning with the prefix R75.

75TH ANNIVERSARY MARK IV	
MANUFACTURER	Sturm, Ruger & Co. Inc. ruger.com
TYPE	Blowback-operated autoloader
CALIBER	.22 Long Rifle
MAGAZINE CAPACITY	10 rounds
BARREL	6.88 in.
OVERALL LENGTH	11 in.
WEIGHT, EMPTY	33 oz.
GRIPS	Checkered wood laminate
FINISH	Blued
SIGHTS	Fully adjustable rear, undercut Patridge front
TRIGGER	4.1-lb. pull (as tested)
SAFETY	Ambidextrous thumb safety
MSRP	\$599

A disconnect introduced on the Mark III prevented the gun from firing with the magazine removed. The magazine catch was relocated from the heel of the grip to the left side of the frame, just behind the trigger. Also, a bolt hold-open lever was added to the left side of the frame.

Prior to the introduction of the Mark IV in 2016, the Ruger pistol was extremely difficult to field strip, and for that reason, many never enjoyed proper cleaning. That design flaw was eliminated in the Mark IV by quick and easy takedown. It begins with removing the magazine and making sure the chamber is empty. Pressing on a button at the rear of the frame releases the bolt to be hinged forward for detachment. A tug on the grasping ears of the bolt removes it as well. That’s it, and not a single tool is required.

The list of very nice improvements does not end there. The small safety button on the left side of the frame was replaced by an ambidextrous safety that can be converted to left-side-only by utilizing a supplied spacer. Fairly wide thumb tabs make the

safety easy to disengage while aiming the gun. The one-piece Mark IV frame is CNC-machined from aluminum barstock, and the top of the receiver is drilled and tapped for a Weaver or Picatinny rail. The fully adjustable rear sight teamed up with an undercut Patridge-style blade up front first appeared on the Mark I Target. Other Mark IV variations being produced are the Target, 22/45, 22/45 Lite, Competition, Hunter, and Standard Model with 4.75-inch and 6.0-inch barrels.

10/22

Moving to the 75th Anniversary 10/22 rifle, it also has the R75 serial number prefix along with “Ruger 75 1949-2024” engraved on the side of its bolt. Two versions are available, one with a walnut-stained hardwood stock (like on the rifle I shot for this report), the other wearing a hardwood stock with a natural finish. Both stocks have sling swivels, a rubber buttpad, and modest but adequate checkering coverage at the wrist and fore-end. Their 18.5-inch stainless-steel barrels have a clear satin finish, and exposed surfaces of the receiver have a satin texture. Like the 75th anniversary Mark IV pistol, the commemorative 10/22 is packaged in what Ruger describes as a



Improvements made to the Mark pistols over the years include the safety, the magazine release, and the slide stop.



BUSHNELL 3-9X 40MM RIMFIRE SCOPE

BUSHNELL CELEBRATED ITS 75TH anniversary last year, so I decided to use the company's fairly new 3-9X 40mm Rimfire scope for testing the Ruger 10/22. The one-inch, aircraft-grade aluminum tube is 5.5 inches long, and overall length of the scope is 12.75 inches. Multicoated lenses ensure excellent resolution, light transmission, and contrast. I know from experience that Bushnell's EXO coating on the exterior of the ocular and objective lenses sheds raindrops during the heaviest

downpour. The DZ22 reticle consists of crosshairs with three small dots on the lower quadrant spaced for dead-on holds at 75, 100, and 125 yards, with a 50-yard zero using .22 Long Rifle ammo.

The scope weighs 15.4 ounces, with the Talley lightweight mount I used adding only 2.2 ounces. Eye relief is a generous 3.6 inches, and respective fields of view at 100 yards are 39 feet with the scope set at 3X magnification and 13 feet at 9X. Windage and elevation adjustment range is 60

MOA in 0.25-inch clicks, and I found click values to be both positive and dead on the money. I also found light transmission and image clarity during low-light conditions to be excellent. An IPX7 rating certifies that submersion in water will not harm the scope. I really like both the looks and the performance of the 3-9X 40mm Rimfire scope and consider it to be an excellent buy for around \$100. As with all scopes offered by Bushnell, it is covered by the company's lifetime warranty.

RUGER CELEBRATES 75 YEARS

throwback-styled, 75th Anniversary printed box. The box also contains an owner’s manual, a gun lock, and a special decal.

When Ruger introduced the 10/22 rifle back in 1964 at a price of \$54.50, the company described it as “our first .22-caliber rifle, and we made it better in every detail than any competitor.” Those were strong words in light of the fact that rifles of traditional walnut-and-steel construction, such as the Marlin 39A lever action, the Browning Autoloading Rifle, and the Savage/Anschutz bolt action, were in production. And while those rifles were considerably more expensive, Marlin, Hi-Standard, Remington, and Mossberg offered autoloading .22s at prices that were competitive with the new Ruger. But the 10/22 outlived them all, and while Ruger does not discuss production numbers, it is rumored that over 8 million have been built with no end in sight.

The 10/22 was intended as a small-game companion to the Ruger Deerstalker, an autoloading carbine in .44 Magnum

introduced in 1961. The Deerstalker borrowed several design details from the M1 Carbine, with the most noticeable being its barreled action retained in the stock by engagement of the rear end of the receiver with a steel recoil block in the stock and a barrel band at the front. Like the Deerstalker, that first 10/22 had a curved buttplate and a barrel band, so from a distance they appeared to be twins.

For the most part, design features of the 10/22 appear quite simple, although several were different enough to earn patents for Ruger. One was the use of a steel V-block and two small bolts to secure the barrel to the receiver. While that greatly simplified production, it surely did not dawn on its designers that easy replacement of the barrel would eventually create an entire industry of aftermarket parts for the 10/22. As it departs the factory, the Ruger 10/22 is accurate enough for plinking, casual target shooting, and bumping off cottontails for the pot. Nothing more than the installation of a heavy, match-grade barrel with a Bentz chamber can transform it into a precision tackdriver.

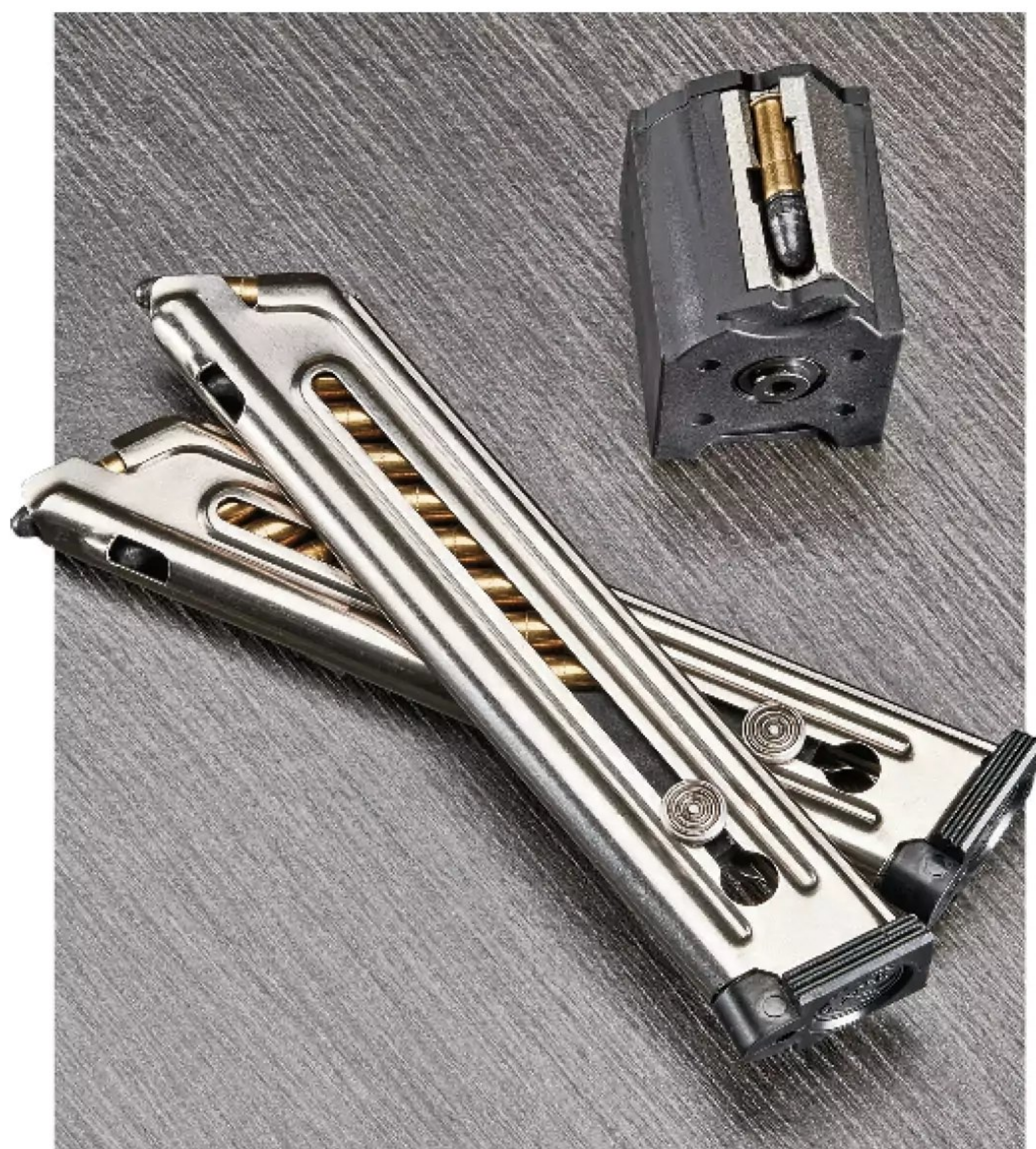
Another feature described in its patent application as a bolt decelerator slows down cycling of the light 10/22 bolt, and it proved to be a major factor in reliable functioning with a variety of .22 Long Rifle ammunition. As the bolt speeds to the rear, a cam surface on its rear end engages a steel crosspin in the receiver, driving that end of the bolt slightly downward, thereby slowing down its return trip forward. Very few blowback-operated .22s have a bolt cycling speed as slow as the Ruger 10/22.

Then we have what has to be considered the single most important design detail of the 10/22



The anniversary 10/22s have special markings on the bolts and left sides of the receivers.

75TH ANNIVERSARY 10/22 SPORTER	
MANUFACTURER	Sturm, Ruger & Co. Inc. ruger.com
TYPE	Blowback-operated autoloader
CALIBER	.22 Long Rifle
MAGAZINE CAPACITY	10 rounds
BARREL	18.5 in.
OVERALL LENGTH	37 in.
WEIGHT, EMPTY	5.4 lbs.
STOCK	Walnut-stained hardwood or natural hardwood
LENGTH OF PULL	13.88 in.
FINISH	Natural stainless barrel, anodized receiver, satin stock
SIGHTS	Fully adjustable rear, gold bead front
TRIGGER	4.4-lb pull (as tested)
SAFETY	Crossbolt
MSRP	\$399



The anniversary Mark IV and 10/22 guns feature the same 10-round magazines as their standard-catalog littermates.

rifle. While a student at the University of North Carolina during the late 1930s, Bill Ruger modified a Savage 99 lever-action rifle for semiautomatic operation. That rifle now resides in the NRA's National Firearms Museum. Greatly impressed by the rotary magazine of the Savage rifle, Ruger later insisted that the 10/22 have the same type of cartridge-feeding system. I am tempted to describe it as the very best feed system ever designed for a semiautomatic .22 rimfire rifle.

Very few major changes have been made to the standard 10/22 through the years. Those I can think of are changing the trigger housing from aluminum to glass-filled polymer and replacing the push-up magazine release to an extended push-forward release. Also, the fairly new 10/22 Competition has a different barrel attachment system.

Other 10/22 variations now being produced are the Take-down, Takedown Lite, Sporter, Target, Tactical, Compact, and Carbine, the latter with the curved buttplate and barrel band reminiscent of the 1960s rifle. Also in production during 2024 only is the Collector's Series commemorating 60 years of building 10/22 rifles.

Range Results

I could not have chosen a better day at the range for shooting the two guns as there was not the slightest breeze. A variety of ammunition was tried, and the 10/22 held no surprises. In addition to gobbling up everything without a hitch, it averaged

less than an inch at 50 yards with four loads. That's head-shot accurate on small game from a very affordable rifle, one lightweight enough to carry over hill and dale. Whether it is used for hunting, punching paper, or week-end plinking sessions with the kids, the Ruger 10/22 is just plain fun to shoot. As for the Mark IV pistol, there were no malfunctions with most of the ammo I took to the range, but I tried three different brands of standard-velocity ammo, and neither would operate it.

Like I said earlier, Ruger is also offering a 75th Anniversary LCP MAX pistol. While it does not have the storied past of the 10/22 rifle and Mark IV pistol, company officials chose to honor the three Ruger factories. They are Mayodan, North Carolina, for the LCP Max; Prescott, Arizona, for the Mark IV pistol; and Newport, New Hampshire, for the 10/22 rifle.

In addition to being durable, accurate, reliable, attractive, and well worth their prices, the 75th Anniversary Ruger Mark IV pistol and 10/22 carbine are quite enjoyable to shoot. **ST**

RUGER 75TH ANNIVERSARY GUNS ACCURACY & VELOCITY					
AMMUNITION	VEL. (FPS)	E.S. (FPS)	ENERGY (FT-LBS)	25-YD. ACC. (IN.)	50-YD. ACC. (IN.)
75th Anniversary Mark IV, 6.88-in. Barrel, 1:16 Twist					
CCI Stinger 32-gr. LHP	1502	109	160	3.22	----
Remington Cyclone 36-gr. LGHP	1214	78	118	1.94	----
Winchester Super-X 37-gr. LHP	1009	95	84	3.31	----
CCI Mini-Mag 40-gr. LSHP	1115	54	110	1.77	----
Federal Classic 40-gr. LRN	1235	62	135	1.56	----
Remington High Velocity 40-gr. LRN	1172	111	122	2.23	----
SK High Velocity Match 40-gr. LRN	1143	65	116	1.35	----
SK Long Range Match 40-gr. LRN	1102	41	108	1.49	----
Ruger 75th Anniversary 10/22, 18.5-in. Barrel					
CCI Stinger 32-gr. LHP	1722	45	211	----	2.01
Remington Cyclone 36-gr. LGHP	1312	81	138	----	0.89
Winchester Super-X 37-gr. LHP	1133	56	105	----	1.64
CCI Mini-Mag 40-gr. LSHP	1260	26	141	----	2.56
Federal Classic 40-gr. LRN	1352	39	162	----	0.81
Remington High Velocity 40-gr. LRN	1285	51	147	----	3.48
SK High Velocity Match 40-gr. LRN	1142	10	116	----	0.78
SK Long Range Match 40-gr. LRN	1104	34	108	----	0.57
SK Standard Plus 40-gr. LRN	1041	41	96	----	1.03
NOTES: Accuracy is the average of three, 10-shot groups fired from a benchrest. Velocity is the average of 10 rounds measured 12 feet from the guns' muzzles.					

50 YEARS OF 3 SERIES LEUPOLD GOLD RING SCOPES



CUTTING-EDGE THEN
AND NOW, THIS SCOPE
LINE IS LEGENDARY.

BY JOSEPH VON BENEDIKT

A HALF-CENTURY AGO, LEUPOLD INTRODUCED a line of scopes that would soon become a household name—and still remain a flagship product today. It is the Vari-X III, the first of what I like to call Leupold's "3 Series" scopes.

The year 1973 saw massive inflation, an oil crisis, and a recession. The Alaska Pipeline project was launched. The first handheld mobile phone was invented. It was an exciting, dramatic year. *M.A.S.H.* won an Emmy, and the hit TV show *Bonanza* ended. In *Roe v. Wade*, abortion was legalized. The Endangered Species Act was passed, signaling the end of grizzly hunting in the Lower 48. Average family income was \$12,900; the minimum wage was \$1.60 an hour; average college tuition was \$358; and gas was \$0.39 per gallon.

Times have changed, and Leupold's 3 Series scopes have evolved. This is an audacious statement, but I'll stick my neck out and suggest that the modern VX-3HD line of scopes offers the best features, the best glass, and the highest quality of craftsmanship of all scopes within its price bracket.

The same could be said of my first 3 Series scope—a Vari-X III in 3.5-10X 40mm with AO (adjustable objective) that I purchased in the early 1990s. I ordered it through the manager of the local grocery store in my tiny hometown in southern Utah. He didn't stock sporting goods, aside from a few fishing rods, lures, and line, but he would always go out of his way to help out a fellow hunter by ordering firearms and optics, which he'd mark up a whopping \$5 or \$10 and charge shipping and taxes on.

From the very beginning, Leupold's 3 Series scopes were exceptional. Shown here are examples drawn from the past 30 years of evolution. At right is Joseph's first-ever Vari-X III that he purchased in the early 1990s.



50 YEARS OF 3 SERIES LEUPOLD GOLD RING SCOPES



Here's the scope that showed the author just how exceptional a Leupold is, some 30 years ago. It's a Vari-X III in 3.5-10X 40mm with AO (Adjustable Objective).

That scope cost me plenty—and looking back, it was probably the best riflescope on any hunting rifle in that little town. Looking through it was a revelation. The clarity and light transferring ability of the glass were simply unprecedented in my experience.

I used that scope on the rifle that I shot my first branch-antlered bull elk with, along with a passel of big mule deer. Those days, we felt that muley populations were in bad shape and that big buck numbers and quality had seriously declined. We were right, but we still shot a lot of great deer. Now, considering the shape mule deer are in across most of the central Western Rockies, I recognize we had it good back then.

Probably the most memorable big buck I took using that scope was a really wide typical 4x4. We found him five weeks before the rifle opener, during the archery season, and my sister-in-law stalked in and launched an arrow that just missed him at 54 yards. The wide buck vanished. I spent every possible morning and evening glassing and scouring the countryside and finally found him four days before rifle season. Mornings and evenings I watched him from a distance and then hiked in and posted up on an overlooking ridge hours before first light on opening day. Like clockwork the buck fed past, and my rifle with the Leupold Vari-X III put a 140-grain .270-caliber Sierra GameKing through the buck's heart and lungs from 160 yards. His mainframe spread stretched the tape 33 inches.

The Vari-X III family of scopes initially included a 1.5-5X 20mm that was ideal for big-woods whitetails and for hunting dangerous game, a 2.5-8X 36mm that is debatably the best all-purpose size and magnification of them all, and a 3.5-10X 40mm that's optimized for hunting the West's wide-open country. All

were finished in gloss black and had tensioned adjustment turrets without clicking detents.

The next couple decades saw the line evolve to include a 4.5-14X 50mm and a 6.5-20X AO, turrets with quarter-minute click adjustments, and a range-estimating system that utilized the reticle's duplex and the zoom ring to bracket objects of



Sleek, light, and extremely capable, the 2.5-8X 36mm Leupold VX-3HD is a wonderful scope for hunting steep, mountainous terrain.

a known size. Matte finish was added in 1987, then a revolutionary, advanced lens finished called Multicoat 4 in 1990.

To understand how important multi-coat lens finishes are, Leupold's Gold Ring product manager Vici Peters walked me through some numbers. Uncoated lenses are able to transfer only about 50 percent of available light. Magnesium fluoride—a single-coat finish—revolutionized scope manufacturing by providing 70 to 80 percent light transmission.

Leupold's Multicoat features as many as a dozen layers of various state-of-the-art coatings, applied via vacuum deposition in a chamber. The result is light transmission percentages in the mid- to high 90s. Plus, ion-beam plasma diamond-coat packs diamond molecules into the surface of the glass, making it dense and scratch-resistant.

In the 1990s the Vari-X III line exploded. More zoom options, silver finish, and target-specific variations joined, then in 2000, illuminated reticles were added. Tactical options and LR (long range) versions rounded out the line.

In 2009 the entire 3 Series line was revamped and given a fresh name: the VX-3. According to Leupold, it was an advanced version with modern manufacturing innovations; according to detractors, sold on the original Vari-X III scopes, it had to be a way to cut manufacturing costs and therefore must be inferior.

Curious, I made a point to wring out and hunt with a new VX-3 scope. It was a 3.5-10X 40mm version, just like my first-ever 3 Series Leupold in size and magnification but without the adjustable objective. I was pleasantly surprised to find it even better than my old standby, and when a big nontypical Wyoming mule deer hesitated a moment too long at 420 yards, the VX-3 helped me direct a 150-grain, .30-caliber Nosler Ballistic Tip bullet through his boiler room.

According to Vici, "Good machining, tight tolerances, and surface finishing are key to having a good accurate riflescope. That's part of the reason Leupold has such a huge state-of-the-art machine shop. It's kind of our special sauce in making a great riflescope."

A vast spectrum of sizes and magnification ranges filled in the ranks of the VX-3 line of scopes. In my opinion, it was at this point that the 3 Series scopes matured, at least as far as the breadth of available sizes. By this point, I was working as a full-time editor and writer, and I used nearly every variation of the VX-3 for multiple projects over the next several years. All were stellar.



Leupold's CDS-ZL stands for Custom Dial System, Zero Locking. It's an outstanding turret that is low in profile, simple to use, and extremely reliable. Not only does it have a zero-stop, but the silver button is a zero lock so you don't accidentally spin the turret.

The 3 Series VX-R sibling joined the line—a red-dot type reticle that's now discontinued—and then the VX-3i, which featured even more advanced light-transmitting, color-purity-enhancing, contrast-bumping lens coating technology.

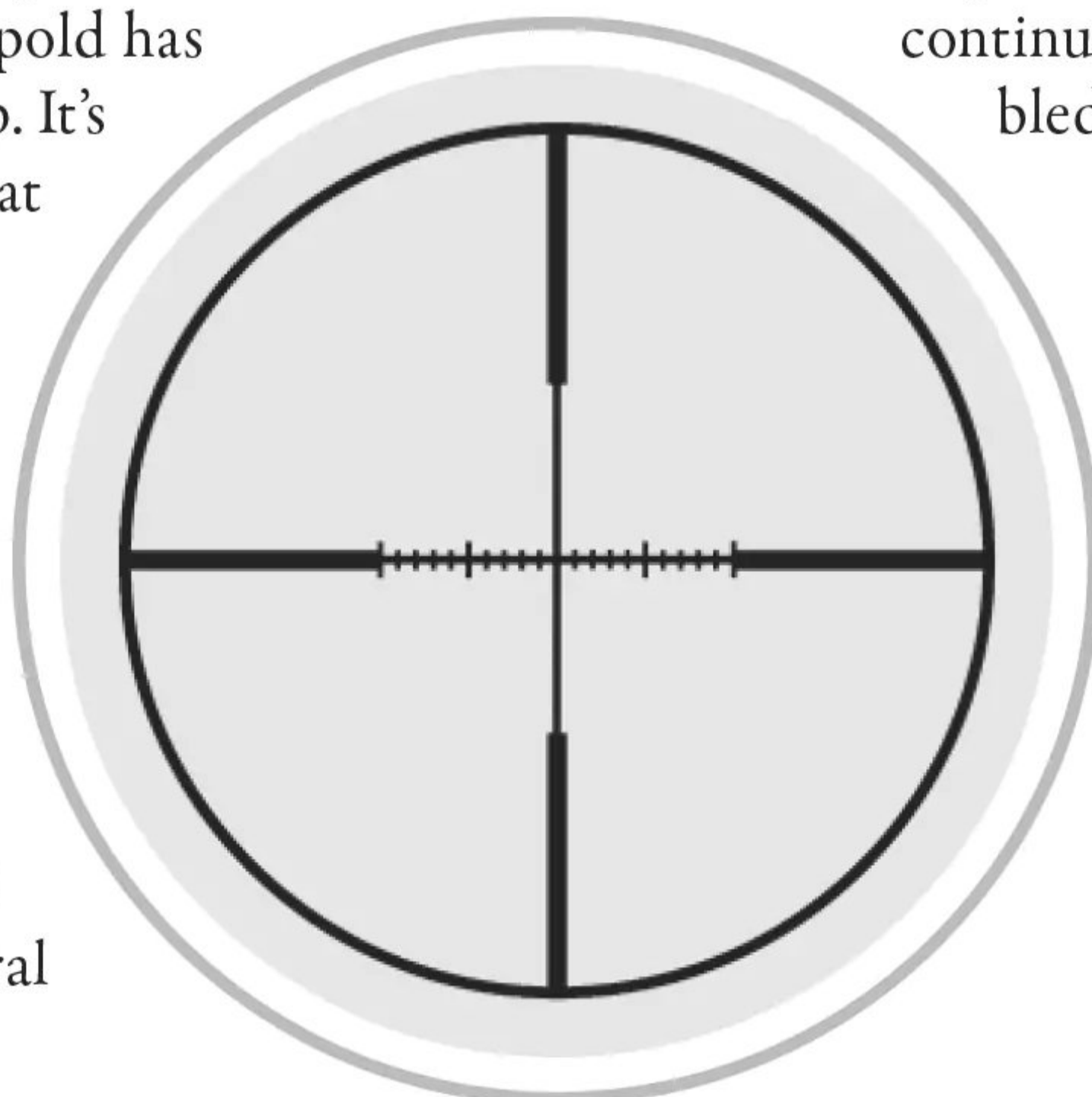
When the VX-R was discontinued, its simple duplex-with-a-center-dot reticle was migrated into the standard VX-3i line. It's now called the FireDot Duplex illuminated reticle, and it's my all-time favorite for hunting black bears in thick cover and dangerous game anywhere.

Most illuminated reticles are nearly fully illuminated, and I find that very distracting when shooting in low light—which of course is when you really need the illuminated reticle. A simple pinpoint of light in the center of your crosswire is ideal, and that's what the FireDot Duplex provides.

As the precision-shooting scene burgeoned, Leupold added the VX-3i LRP (Long Range Precision) variation. Fitted with a tall, precisely adjustable turret, it could be had in the shooter's choice of first or second focal plane reticles and with MOA- or MIL-based adjustments. Concurrently, the VX-3i line became available in a spectrum of capable tactical-type reticles.

Throughout its history, of course, all 3 Series scopes continued to be "designed, machined, and assembled in the U.S.A."

In 2021, 48 years after the first Vari-X III was manufactured, Leupold gave the line what may have been the ultimate final refinement: HD glass and the reliable dial-up CDS-ZL (Custom Dial System,



Several different reticles are available in the VX-3HD line of scopes. Joseph's favorite is the Wind-Plex shown here. It has one-MOA hash marks on the horizontal stadia to help the shooter hold for wind when shooting far.

50 YEARS OF 3 SERIES LEUPOLD GOLD RING SCOPES

Zero Locking) turret. Appropriately named the VX-3HD, this ultramodern evolution of the 3 Series boasts best-ever lens quality and a dial-up elevation turret complete with custom turret cap capability.

Crucially important, that turret not only has a zero-stop incorporated into its design, but it has a zero lock so that you'll never inadvertently spin the turret when sliding it into a gun case or saddle scabbard or behind the seat of your truck.

As a nice bonus, every VX-3HD scope comes with a voucher for a free turret cap engraved in yardages to match whatever load the shooter specifies.

Since that introduction, I've used more 3 Series scopes for hunting than ever. A good caribou fell to a 608-yard shot during a solo drop-camp hunt in Alaska, using a 4.5-14X 40mm VX-3HD on a Browning X-Bolt Westerner chambered in the then-yet-to-be-announced 6.8 Western. A good Nebraska whitetail fell to the same scope at a scant 40 yards.

Just last year, two good friends and I shot big, old, free-range kudu bulls in Namibia, all hunting with the same 2.5-8X 36mm Leupold VX-3HD atop a Weatherby Backcountry 2.0 Carbon chambered in .338 Weatherby RPM. One of those friends was Adam Weatherby, and he shot a tremendous bull from 490 yards. The other was Spartan Precision Equipment owner Rob Gearing, and he flattened his kudu bull with a 578-yard shot.

Those two shots clearly show that you don't need a massive tactical-type scope with powerful zoom and huge turrets to effectively extend your range. That sleek little 2.5-8X 40mm proved to be perfectly capable. Plus, it was easy to carry up thorn-infested rocky African ridgelines.

My shot? Just 205 yards, on an old bull with gnarly, wide-spread horns.

I've come to prefer dialing for distance rather than holding over, and I am admittedly snobbish about the dial-up turrets I use. I have no use at all for turrets without a zero-stop.

Like most long-range hunters and tactical shooters these days, I never dial for wind. Wind is a fickle, variable thing that must be adapted to and compensated for on the fly. Dialing a horizontal correction into your hunting rifle's scope is a really effective way to set yourself up for a horrid miss to one side—or worse, a gutshot animal.

Being rather savvy and understanding this dial-for-distance, hold-for-wind dynamic, Leupold developed what has become my favorite reticle. Called the Wind-Plex, it has small hash marks placed at one-MOA intervals on the horizontal crosswire



Good glass, excellent ergonomics, and features ideal for precision hunting makes Leupold's 3 Series line of scopes a top choice for serious hunters today, just as it has been for the last 50 years.

but no hashes on the vertical wire.

Currently, there are two nearly distinct families within the VX-3HD line. One has 1-inch tubes and no side-focus knob; the other has 30mm maintubes and is available with illumination and side-focus knobs so shooters can eliminate parallax. Both are terrific.

When I want the lightest, super-capable hunting scope available, I opt for a 2.5-8X 36mm or a 3.5-10X 40mm. When I want a little more precision and don't mind packing a bit more weight, I pick a 4.5-14X 40mm with side focus.

I have another favorite that's less useful to deer and elk hunters here in the Lower 48 but is prime for dangerous-game hunters in Africa and Alaska: the 1.5-5X 20mm. It weighs just 10 ounces and is clear, fast, and bull-tough. And yes, it's plenty tough for heavy-recoiling

rifles. All Leupold's hunting scopes are put through the same test wringer—a recoil-simulating machine that applies so much kick it would detach a human's retina, Vici told me. Not only that, a full 5,000 impacts are applied during each test. Holy moly!

What if you do have an issue? No problem. Leupold offers a lifetime warranty on all riflescopes. You don't need to have proof of purchase, either. Just send it in, no matter where you got it, no matter how old it is.

Where possible, Leupold's technicians do their best to repair and return scopes, because in many cases those scopes belonged to the shooters' fathers or other relative and have sentimental value. Where it's not possible, replacements are offered.

Before wrapping up my interview with Vici Peters, I asked if there was anything else she thought readers would like to know. There was, and it's pretty cool. Vici said, "This line is where we learned everything we needed to know to design the Mark 4 variable-power military scope. So the Vari-X III is a close relative to the most successful sniper scope in history."

At this point, I just don't see how Leupold can make its legendary, half-century-old 3 Series line of riflescopes any better. It has the advantage of being a premium veteran line, with all the benefits that constant attention to refinement brings. That's combined with tip-of-the-spear precision shooting features that have migrated into the lightweight hunting scopes. Even the hunting-weight \$500 versions have capability that snipers just 20 years ago would have traded their front teeth for. Seems to me, the 3 Series has summited the pinnacle, achieved the unachievable. Fifty years' worth of development and honing have created what just may be the ultimate every-man's rifle scope.

ST

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MY FAVORITE 1911s

CRAIG GOT HIS FIRST 1911 WHEN HE WAS A TEENAGER, AND HE'S HAD ONE OR MORE EVER SINCE. HERE ARE HIS FAVORITES.

BY CRAIG BODDINGTON

MY LITTLE FARM IN SOUTHEAST KANSAS IS not my home turf; I was raised 150 miles north, in different country. I hadn't had the place long when I noticed something was digging up the lawn, strange little excavations I'd never seen before. Lots of them. One balmy night I happened to wake up and turned on the yard light. Several football-shaped objects were happily digging up my grass.

Good Lord, armadillos! What the heck are they doing here? When I was a kid I doubt there was an armadillo in the state of Kansas. Those darned Texans sent them north, up through Oklahoma and into my yard. I stuck my feet into sneakers, grabbed my 1911 off the nightstand—never mind the underwear—and ran outside to do battle. I ran through the magazine, changed, went through most of the next one. Great mental picture, right? Although kind of one-sided, that's the closest I ever came to a gunfight with a 1911.



Three of Craig's all-time favorite Model 1911s are (left to right) Springfield Armory 1911A1 .45 ACP, Kimber "Commander" .45 ACP, and Nighthawk Lady Hawk 9mm.

The King

When I was very young, Col. Charles Askins answered a reader's letter in one of the several gun magazines that I devoured each month. The correspondent, a civilian, was being posted to some out-of-the-way place and wanted to know what handgun he should take for personal defense. I don't recall where he was going, maybe Malaysia, but I remember Askins's answer with perfect clarity: "The king, a Colt 1911." Askins went on to tell him he needed at least five magazines, three always loaded, two at rest and rotated. He also needed a bag of spare parts, which Askins listed in detail.

Though controversial for his irascibility—and penchant for killing people—Askins (1907–1999) lived long enough to be the last of the great, old-time, colorful gun scribes. He also was the real deal, multiple times National Pistol Champion, early service in the Border Patrol, and long career in the U.S. Army, where his designation was Ordnance Officer. I'm sure he could replace each 1911 part on that list in his sleep.

Ham-handed and mechanically inept, I could not. I can field-strip a 1911 blindfolded and put it back together and clear the rare but occasional stoppage. However, if a genuine mechanical problem occurred during my Marine Corps career, I'd probably take the fallback position and holler a plaintive "Armorer

up." Still, Askins's advice resonated. I got my first 1911 50-some years ago and haven't been without one ever since.

I bought my first at a Kansas City gun show when I was still a teenager, unthinkable today. It was a World War II-vintage 1911A1 made by Ithaca, modified only with decent target sights. To say I shot it well would be an exaggeration, but I shot it a lot.

The first formal pistol training I ever got was in college. We had an indoor smallbore range in the basement of the old NROTC building at KU. The Marine staff sergeants assigned to the unit served as coaches for the rifle and pistol teams: first, SSgt. John McDonald (Sergeant Mac), then SSgt. Doug Johnson. Both were former drill instructors and certified Primary Marksmanship Instructors (PMIs). Both were well-decorated from multiple tours in Vietnam, and both were excellent. On the pistol team, we shot super-accurate High Standard target .22s, similar grip angle to the 1911 but absent the recoil.

In smallbore competition I was better with rifle than pistol, but I improved with good instruction, and they managed to cure most of my self-taught bad habits, enough so that when I went into the Marines, the 1911 was no stranger. I broke no range records, but I qualified High Expert throughout my career, was occasionally high shooter on a given qualification day, and competed in division matches.

MY FAVORITE 1911s



Craig has owned his .45 ACP Springfield 1911A1 for more than 30 years. He says it feels good and shoots great.

In my day in the Marines, it was theoretically possible to have a personal 1911 certified by the armorers and use it to qualify. I never knew anyone who went through the hoops. I was always satisfied with my issue pistol. I don't remember all of them, but my 1911A1 at Second Battalion, First Marine Regiment, First Marine Division ("2/1") also had an Ithaca slide. As a gun guy, I naturally prowled the armory when I was Officer of the Day (OOD). Most of the battalion's 1911A1s were World War II vintage. Who knows how many times barrels, bushings, and various parts had been replaced. Some were loosey-goosey, mine was tight and shot well. That was pretty much the same story in the armory at 2/23, the Reserve infantry battalion I served in for years—World War II-vintage slides and frames, rebuilt who knows how many times but still serviceable. As the mantra went, "There are many pistols like it, but this one is mine." They all worked and shot well enough to earn the Expert badge for Marines who could shoot them, but not well enough for those who couldn't.

Personally, I was sad when in 1985 we abandoned the 1911A1 .45 in favor of the Beretta M92 9mm. I hated to see the reduction in stopping power in favor of firepower and failed to see the difference any pistol was likely to make on a modern battlefield.

That said, there were reasons. Legacy World War II pistols were aging out. With all due respect to Jeff Cooper, "cocked and locked" carry was never exactly trooper-proof, requiring more pistol training than any U.S. service was likely to give the average airman, sailor, soldier, or Marine.

I don't remember when the M92 finally got to my battalion, most likely 1987. I was a major by then, probably serving as S-3 (ops officer). Although the qualification course was the same, I must admit scores went up significantly. Aside from reduced recoil, the brand-new, tight Berettas were probably more accurate than the creaky old 1911A1s we'd been shooting.

My own scores didn't go up measurably. I always shot the 1911A1 okay. However, I accepted the M92 with grace and learned to shoot it. As I had with the .45, I used whichever pistol was assigned by the armory, and I carried one for the rest of my career. In the late 1980s, the changeover was rapid and near complete. As a plain old infantry guy, I didn't see another 1911 in service for 15 years. In 2002, when I had a task force in the Persian Gulf, I was delighted to see that my personal security detail (PSD) all carried armory-rebuilt 1911s. They were great pistols, and these guys knew how to use them. I'm happy they never needed to on my behalf.

My Favorite 1911s

Sometimes I'm amused by the questions I'm asked. One colleague once asked, "How many double rifles do you own?" I just laughed. I'd had a couple, sold them, and didn't have a single one at that moment. Sorry to disappoint. He might as well have asked me how many Ferraris I owned. This publication's Joel Hutchcroft, one of my better editors, asked me to write about "my favorite 1911s."

The implication might be that I have a whole bunch. This is not true—and never has been true, so I almost turned him down. Even so, the 1911 is still king, still a favorite pistol. I've had one or another since I was a kid, sometimes several, at least a couple—doesn't mean I don't like them.

Rather, my needs and uses for my 1911s are simple. I don't shoot competitively, so I use them for casual target practice and plinking. In Kansas, around the farm, a 1911 is a favorite carry pistol, usually either on me or on the nightstand. I'm used to it, shoot it well, and its .45 ACP cartridge is hell on armadillos (regardless of my state of undress). It's not bad for pests like possums and raccoons, which are hard on my turkeys and quail during nesting season. Coyotes are the only other critter around the farm with a constant open season, and I don't get many good opportunities at Wile E. Coyote with any open-sighted handgun.

As a writer, I have no idea how many 1911 and its variant test guns have come through my hands. I love all 1911s and am always tempted to purchase them. I usually manage to resist and return them. I love Kimbers, commercial Colts, Springfield Armory 1911s, and CZ pistols. I was (and am) hugely impressed by Ruger's SR1911s. They are true 1911s with flat mainspring housings. I've long intended to buy one, may still, but just haven't. I also like SIG SAUER's 1911s. If I were looking for a 1911 to hunt with, rather than just carry around the farm, I'd have one of their 10mms.

I've seen a lot of gorgeous custom 1911s come and go, too. I've lusted after all of them but usually resisted. Since I carry my 1911s, I want unobtrusive sights that won't catch when drawing from a holster. That may not be as accurate, but it's fine for my purposes. That World War II Ithaca 1911 with holster-and-pocket-snagging target sights went long ago in a trade, and I honestly haven't missed it. Although I'm left-handed, I'm fairly ambidextrous with handguns, so I've never owned one with an ambidextrous safety, and I don't want one. My issue 1911s all had standard safeties on the left side. I got used to them and don't want to confuse myself while running down armadillos (or anything else) in the dark. So, let me tell you about my favorite 1911s, circa 2024.

Springfield Armory 1911A1: I've had my Springfield Armory 1911A1 .45 more than

30 years. It's neither light nor compact, but it's the pistol I'm most likely to keep handy. It has the arched mainspring housing, almost a stock 1911A1 except it has a bobbed, skeletonized "Commander" hammer and forward-slanted slide grasping grooves. A huge improvement over issue sights are this 1911's three-dot sights. I have smooth cocobolo wood grips on it. It feels good and doesn't catch.

Steel with a 5.0-inch barrel, it weighs a little over 3 pounds with a magazine loaded with seven 185-grain hollowpoints. I know it's there...and "feel" it if it's not there. In Kansas, it's usually there. However, during Kansas rifle season, I always wear a blaze-orange vest with big pockets. As a concession to weight and bulk, in this mode I usually carry an inexpensive little SCCY 9mm. With blaze-orange polymer frame, it's more of a fashion statement than genuine practicality. It shoots well, hits where I look, and has three-dot sights.

Otherwise, if I'm not carrying the Springfield 1911A1, I do have a favorite alternative. Here, you'll have to accept my eccentricities. I often carry a 1917 Colt revolver. It is similar in weight, and I'm already used to the weight. Like 1911s, I've had one or another since I was a teenager. Its standard-issue sights (groove in topstrap rear, rounded blade front) are not nearly as good as three-dot sights. Oddly, it's a handgun that has always fit my hand, and I've used it to win bets by hip-shooting cans. Its .45 ACP cartridge is also familiar. I stoke it with three-round "half-moon" or six-round "full-moon" clips. However, with old-style lockworks, I never carry a loaded round under the hammer.

Mostly, though, I carry the 1911A1, "The King." After all these years, .45 ACP recoil doesn't bother me. I can't shoot it from the hip like I can the revolver, but that's a silly TV trick. The sights come up fast and visible. It rings plates with authority



This special .45 ACP Kimber "Commander" was presented to Craig by industry friends at the 2001 NRA Convention after he had been selected for promotion to Brigadier General.

MY FAVORITE 1911s

and is wonderfully not finicky about the ammo it digests. I'm not likely to win national titles like Askins did, but it does what I need it to do. In his latter years Askins was a friend and mentor to me, and I hunted and shot with him and listened to his tales of gunfights along the border and in his several wars. Yes, I follow his advice. Five magazines on hand. Three loaded, two rotated empty to rest the springs.

Kimber Commander: I'm not big on embellished firearms, but this one is special. Among the dozens of 1911 variants Kimber has offered, this specific one doesn't appear to be cataloged anymore, so let's just call it a Commander .45 ACP with full-size frame, so magazines are interchangeable with full-size 1911s and 1911A1s. The shortened slide houses a 4.25-inch barrel. And it also has a flat mainspring housing, stippled rear strap, extended bobtail grip safety, and skeletonized hammer. The frame is matte black, and the slide is polished blue. It has forward-slanting cocking grooves.

It feels good, shoots great, and is deadly accurate (within my capabilities). This one I shoot a bit for fun and practice. I most assuredly don't carry it. It was presented to me by industry friends at the 2001 NRA Convention in Kansas City, coincidentally my hometown, because some months earlier I'd been selected for promotion to Brigadier General.

The Marine Corps is chronically short of general officers, so as is customary I was already serving (as a Colonel) in a one-star job. A year later I volunteered for command of a task force in the Gulf. As was occasionally done (and always illegal), I was "frocked" with a star without Senate confirmation. A year later, still in command over there, still without confirmation, still wearing the illegal star, we got caught. After multiple investigations, I was essentially cleared, but miffed senators weren't going to confirm me. I got a nice medal, and my task force got the Joint Meritorious Unit Citation. I retired as a Colonel... farther than I ever expected to go.

So this gorgeous 1911 serves as a bittersweet reminder of a great Marine Corps career that I wasn't quite ready to leave. The engraving was done by the incomparable Lisa Tomlin, featuring fine scrollwork on the slide; the Marine Corps eagle, globe, and anchor in gold inlay on the right side of the slide; and perfectly scrimshawed on the grip. On the left side is my name and the star I couldn't keep.

Nighthawk Custom: Like I said, I've seen a lot of custom 1911s come and go, from many of the great makers, and this time, I think I'm going to bite. On the surface, it's a simple pistol: 9mm, stainless, Commander frame and slide, 4.25-inch barrel, flat mainspring housing, frontstrap and backstrap well stippled, skeletonized hammer, bobtail grip safety, highly visible Trijicon sights with a tritium bead front and a small tritium bead below the rear notch.

Technically, this is a Lady Hawk 1911, with the frame slimmed down about as trim as it can be. My hands aren't that big, and it feels okay to me, although it's unclear exactly who we might be keeping it for (my wife or me). As might be expected from a full-up custom 1911, the trigger breaks like glass at just over 3 pounds. Almost needless to say with such a pistol, the accuracy is excellent. After firing several hundred rounds (with various weights and bullet styles), there have been no stoppages.

Here's what sets it apart: I have never felt a 1911 (hardly ever any semiauto pistol) with a slide that works as easily and smoothly. Donna is doing some handgun shooting, improving rapidly. The truth is, she has trouble racking the slide on many pistols. Some 1911s (including mine) are beyond her hand strength without serious struggle. Therefore, whether Lady or "Macho Male" models, this Nighthawk Custom is amazing. She can rack the slide with almost no effort, and I can feel the hook sinking deeper. This time I'm likely to get reeled in. I might even try it the next time I have to fend off an armadillo attack.

ST



One of the many custom 1911s Craig's worked with is this 9mm Nighthawk Lady Hawk. Because it functions so smoothly, he says it's a keeper.

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HIPSHOTS



Three seasons are available on MyOutdoorTV. Season 1 has 10 episodes. Season 2 has 13 episodes. And Season 3 has 16 episodes. One of my favorite shooters is Bob Munden (he's profiled in the "Hipshots" column beginning on page 64 of this issue of the magazine), and he is front and center in several of the episodes of *Shooting USA's Impossible Shots*. Be sure to check out Bob's segments that are titled "Bob's Card Room," "Top This," "Soda Fountain," "Coins and Cause," "Flintlock Fantasies," "Munden vs. Miculek," "Pins and Needles," "Hip and Lip," "The Big Break," "Axe to Grind," "Flying Cards," "600 Yards of Bob," and "Got a Light." For that matter, don't miss a single episode of a single season. They provide hours of real shooting entertainment.

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Sometimes simple and reliable is the best way to go when it comes to shooting gear. **BY TERRY WIELAND**

Archaic but still the best for the job, according to Terry, is this fixed-power 1.5X Swarovski Habicht Nova with 28mm steel tube and German No. 4 reticle.

THIS MONTH, WE WRITE ABOUT OPTICS, AND THE flood—nay, deluge!—of new products that used to hit the street (or be announced, anyway) at SHOT Show time, but now seem to land in the in-basket throughout the week, throughout the year. If you find it impossible to keep up, you're not alone.

The most recent noteworthy announcement was from Burris, of their "Eliminator 6" 4-20X 52mm rangefinding riflescope: "At the touch of a button, this redesigned marvel ranges and displays the target distance and swiftly calculates the exact aiming point and wind data, all within the scope for *heightened situational awareness*." (My italics.)

Displayed in the upper arc of the eyepiece you have range, altitude, temperature, remaining bullet velocity and energy at the range measured, a built-in level (no canting allowed), and a Bluetooth indicator. Oh, did I mention an app? There's an app.

Being of a certain age and level of world-weary cynicism, I view this technological marvel much the way I do the newest Tesla—great for some, probably, but not for me. As with the Tesla, part of my skepticism comes from a deep distrust of batteries. More than that, though, the older I get, the more I value simplicity, and it seems to me that something that requires programming (to say nothing of an app) is

not simple enough for my type of hunting. For that matter, even variable power encroaches on usability as far as I'm concerned.

In 1995 I had my first encounter with the world's first rangefinding riflescope, made by Swarovski. I got to test one during a trip to Austria and found it was like wandering around with a TV set bolted to the rifle. I forget the price, but it was something astronomical. The only one I ever saw outside of that trip was in the Holland & Holland showroom, about 10 years later. Wanting to be cutting edge, H&H brought one in for stock but found no takers. There it was, a decade later, lurking in a display cabinet like Banquo's ghost, looking somewhat embarrassed. In 2004, at the SHOT Show, I saw another such gadget. I forget the name—it disappeared from the market shortly after—but it did everything for you except squeeze the trigger. It was not a scope at all, but a tiny TV camera that projected the image onto the screen that was the eyepiece.

It was, we were breathlessly assured, the scope of the future, and it would put everyone else—Leupold, Zeiss, Swarovski, et al—out of business. The two guys minding the booth were not shooters. They were

computer geeks, and it showed. Anyway, never heard of since. Like the Swarovski, this technical masterpiece was simply too big to go on a hunting rifle. It was a curiosity and nothing more.

To be fair, this does not seem to be true of the Burris Eliminator 6. As with most technological advances—think laser rangefinders and rangefinding binoculars—the price has come down as usability has gone up. I haven't actually tried the Burris—there are none available at the time I write this—but I expect it would look right at home on a rifle.

What's more, it appears that you can always turn off the display and use it like a conventional riflescope. So if your battery dies at an inopportune time—just as a 7x7 bull elk steps out of the brush on that distant hillside, for example—you can still use it like one of those old, archaic, unilluminated, un-apped riflescopes from the last century.

Well, at least you can use it that way if you know how. Or even, heaven forbid, you can try stalking that big bull close enough that you don't need to know the distance to an inch. Radical thoughts, I know.

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developed his own unique fanning style of draw. It wasn't long before Bob was winning every event he entered. He went on to set 18 world records, including fastest time in the Walk and Draw Level event (15 hundredths of a second).

By age 20 Bob was doing his own gunsmithing, winning fast-draw competitions, and putting on shooting exhibitions. A few years later, Bob and his wife Becky were traveling the United States putting on shooting exhibitions and becoming quite famous. In the 1980s, Bob and Becky got involved with action shooting and Cowboy Action Shooting (CAS). They developed a stage act that they regularly performed at large competitions like the Steel Challenge, the Bianchi Cup, End of Trail, and hundreds of other venues. They also opened a gunsmithing business.

During his exhibition-shooting career, Bob appeared on lots of TV programs, including *The Steve Allen Show*; *Ripley's Believe It or Not*; *You Asked for It*; *Ordinary, Extraordinary*; *David Frost's Guinness Book of World Records Special*; *The World's Most Awesome Acts*; *To Tell the Truth*; *CNN News*; *American Shooter*; *Shooting USA's Impossible Shots*;

Stan Lee's Superhumans; and *American Shooter*. Some of his incredible handgun shots with live ammunition included shooting an aspirin off the head of a nail without hitting the nail, splitting a playing card in flight, and shooting the tobacco out of a cigarette. He was known for pulling off seemingly impossible shots that had never been done before. For example, in 1976, at the grand opening of the Guinness Book of World Records Exhibit Hall, Bob set a new speed record by drawing his single-action revolver, cocking it, and firing it in less than two one-hundredths of a second. His wife calculated that to be less than one half of one half of one tenth of one second.

In addition to his trick shooting, during his performances and later while on the phone with customers, Bob shared his vast knowledge of the history of Fast Draw, CAS, Mounted Shooting, and Cowboy Fast Draw. He enjoyed talking about hunting, gun safety, gun rights, and what it means to shoot with honor in competitions.

Robert "Bob" Munden passed away on December 10, 2012, while traveling home with his wife. **ST**

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New Blood Flow Breakthrough Helps Men Enjoy Strong, Long-Lasting Intimacy – At Any Age

Men across America are raving about a newly enhanced performance supplement that helps achieve healthy blood flow on demand

After age 40, it's common knowledge that performance begins to decline in many men. However, a new, performance empowering pill is showing that any relatively healthy man can now enjoy long-lasting, and frequent intimacy – at any age.

This doctor-designed formula, created by leading anti-aging expert Dr. Al Sears, has already helped men overcome low and sinking libido -- and has recently undergone a potency-enhancing update -- with remarkable new results.

When the first pill -- **Primal Max Black** -- was first released, it quickly became a top-selling men's performance helper, promoting intimacy across America.

It worked by supporting healthy testosterone levels. However, Dr. Sears soon realized that this isn't the only challenge men face with performance. That's when he turned his attention to blood flow.

And this became **Primal Max Red**.

THIS PROVEN SOLUTION IS MORE MECHANICAL THAN HORMONAL

Truth is, once blood flow slows down for men, no matter how exciting it is, it won't be enough without the necessary amount...

So enjoying intimacy without healthy blood flow becomes difficult for most men.

Luckily, a Nobel prize-winning scientist discovered the simple answer to help support performance strength and confidence -- by boosting vital blood flow --

and enhancing this essential performance function.

Using this landmark Nobel Prize as its basis, **Primal Max Red** enhanced healthy blood flow for untold millions of men around the world with the use of strong nitric oxide boosters.

While **Primal Max Black** helped maintain optimal testosterone, **Primal Max Red** tackles a lesser-known challenge.

Director, Al Sears MD, who has authored over 500 scientific papers and has appeared on more than 50 media outlets including ABC News, CNN, ESPN, Discovery, Lifetime, and many more say, *"Less than optimal blood flow can be part of a huge problem that affects a lot of men. And it needed to be addressed once and for all, so men would not dwell on it. Then, once we optimized it and had a great deal of success, we set out to see if we could do even better."*

The former formula had excellent results. However, new research showed that for even faster, anytime, anywhere results, increasing the dose of a key compound was needed.

So, one of the three nitric oxide boosters in the new **Primal Max Red**, L-Citrulline, was clinically boosted to 9000 mg, and the results were astounding. Which is no surprise considering that 5000 mg is considered a "normal amount" -- giving the new version nearly doubled the blood flow boosting power.

Men who had previously been unsure about their power and stamina were overjoyed to be back to their



A new discovery that increases nitric oxide availability was recently proven to boost blood flow 275% - resulting in improved performance.

old selves and to get and maintain a healthy bloodflow when they needed it.

BETTER BLOOD FLOW, STRONGER RESULTS

The best way to promote healthy blood flow throughout the body is with the use of **Primal Max Red**. By using it, when exciting signals leave the brain, blood flows much faster like it used to.

This critical action is how men across the country are enjoying full and satisfying performance at any age. No need to bother with testosterone-boosting shots, blue pills, or shady capsules that have no effect.

Primal Max Red can effectively promote healthy blood flow that most men can use for maximum intimacy. This is leading to more greater capacity and satisfaction, coupled with long-lasting performance.

"There was a time when men had little control when it came to boosting their blood flow," Dr. Sears said. "But science has come a long way in recent years. And now, with the creation of nitric oxide-boosting **Primal Max Red**,

men can perform better than ever, and enjoy intimacy at any age."

Now for men across America, it's much easier to stay at their performance peak as they get older.

HOW TO GET PRIMAL MAX RED (AND FREE PRIMAL MAX BLACK):

To secure free bottles of **Primal Max Black** and get the hot, new **Primal Max Red** formula, buyers should contact the Sears Health Hotline at **1-800-909-2356** TODAY. "It's not available in retail stores yet," says Dr. Sears. "The Hotline allows us to ship directly to the customer." Dr. Sears feels so strongly about **Primal Max**, all orders are backed by a 100% money-back guarantee. "Just send me back the bottle and any unused product within 90 days from purchase date, and I'll send you all your money back."

Call NOW at **1-800-909-2356** to secure your supply of **Primal Max Red** and free bottles of **Primal Max Black**. Use Promo Code **PMAST524** when you call. Lines are frequently busy, but all calls will be answered!



The Fastest Man with a Gun Who Ever Lived

Bob Munden was a world-famous exhibition shooter, entertainer, and master gunsmith. **BY JOEL J. HUTCHCROFT**

For more than half a century Bob Munden (1942–2012) entertained audiences far and wide with his extraordinary fast and fancy shooting skills.

A COUPLE ISSUES AGO I WROTE ABOUT THELL Reed Jr., who had been given the title of “Fastest Gun Alive” by Colt’s Manufacturing Co. when he was a very young man, after he had won a certain quick-draw competition. Several readers responded to that column. Well, here’s another column about another quick-draw artist who had the title of “The Fastest Man with a Gun Who Ever Lived” bestowed upon him. I’m referring to Bob Munden, and this time the title was granted by the *Guinness Book of World Records*. Obviously, titles such as these are, shall we say, a little loose even though they refer to a specific event at a specific time. However, that doesn’t diminish the great skill that shooters like Munden and Reed developed and displayed.

Robert William “Bob” Munden was born on February 8, 1942, in Kansas City, Missouri. During World

War II, the family moved to Southern California to be closer to Bob’s father, who was there recovering from a serious war injury. It was there that Bob received his first BB gun at age six. A few years later Bob earned enough money doing odd jobs to buy himself a pellet gun, which he then used to hunt crows for the bounty money. He spent countless hours honing his shooting skills in the great outdoors of Southern California. By the time he was in fifth grade, his father had traded a shotgun for two single-action revolvers. Bob glommed onto them and used a cap gun holster to develop incredible fast-draw skills. He was soon participating in organized fast-draw competitions.

After moving to Big Bear, California, Bob attended junior high school and high school, where he was a standout athlete and trumpet player. He also got involved in Fast Draw with Blanks competitions and

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[Trijicon.com/Community](https://www.trijicon.com/Community).



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