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PROOFHOUSE

LANGDON TACTICAL BERETTA 1301 BLACKOUT 12 GA. P. 66

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PERFECTION

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Hear, hear! G&A's
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TARR
Military Armament Corp.
budget MP5 clones



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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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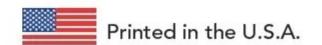
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MICROS & SUBS

I appreciated the article about pistol-size categories by James Tarr (November 2024). I have thought about this, too, and I agree that the term "micro" has been overused. A North American Arms (NAA) mini-revolver and Baby Browning are micros. I came up with a scale based on barrel length only, which allows for a quick, reasonable characterization. I realize that it will not create universal agreement, but here it goes.

Hunting/Target: Greater than 5.25 in.

Ex.: Browning Buckmark, Taurus Raging Hunter

Full Size: 4.25 in. to 5.25 in.

Ex.: Model 1911, Hi Power, SIG Sauer P320, Beretta 92

Compact: 3.5 in. to 4.25 in.

Ex.: Smith & Wesson Model 59, Glock 19, HK USPc

Sub-Compact: 3 in. to 3.5 in.

Ex: SIG Sauer P365, Springfield Armory Hellcat, Kahr PM9

Micro: Less than 3 in.

Ex.: KelTec P3AT, Ruger LCP, Taurus TCP

I think most gun owners could agree on these categories, give or take a couple of tenths.

Doug Dobbin

Texas

I think that yours is the best objective standard I've seen.

— J. Tarr

BEST FOR HUNTING

I don't agree with those who suggest the 6.5 Creedmoor is a good round. It has been advertised as capable for elk, mule deer and bear, but outfitters are having issues with lost game and are

suggesting that the 7mm
Remington Magnum is the smallest allowed, although many prefer clients bring a rifle chambered for .300
Winchester Magnum or .338. The 6.5 CM should be listed as a 200-yard round for whitetail deer, like the .30-30 Winchester that is limited to about 125 yards. I used a 6mm Remington for years and took lots of deer with it, but after 200

yards the deer can run off and die a slow death. I had failures with .25-'06, but my favorite general cartridge is .300 Win. Mag. Anyways, small calibers need to be advertised for the usable range on game that suits the power. Just because a round may be accurate to 500 yards doesn't mean it will quickly put down a deer or elk. For long range, I have a Winchester Model 70 with a 28-inch Lilja barrel in .340 Weatherby Mag., and I find the .375 H&H outstanding in timber and brush. I've also used the .416 Rem. in a Rigby with a Barnes TSX, and there was no deflection. With these, a deer hits the ground dead — and no lost meat.

David Vernon Email

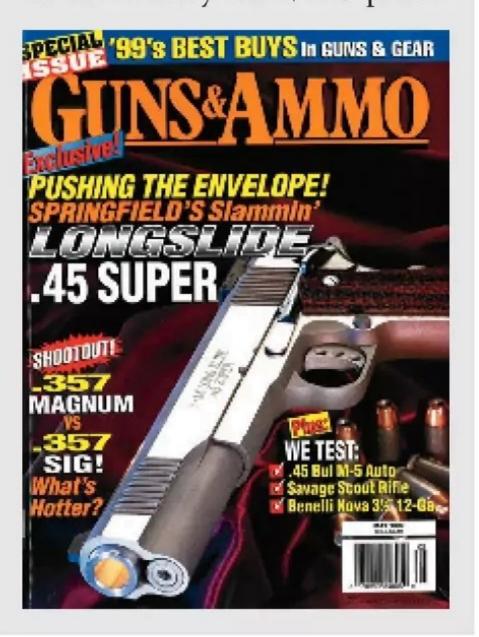
It sounds like you and I think much alike, but I'm a bit confused. I have never recommended 6mms, .25s, or 6.5mms for game larger than deer. With perfect shot placement and tough bullets, you can get away with it — many hunters do — but sooner or later you're going to have trouble. Personally, I'm OK with the .270 on elk with well-constructed 150grain bullets, but I'm more comfortable stepping up to 7mm- or .30-caliber, so we can agree on that. Hope you had a great autumn! — C. Boddington

DEER KINGS

Regarding Richard Nance's review of the Traditions
Outfitter in .360 Buckhammer (January 2025), I'm

MAY '99

The Benelli Nova was first reviewed as a Proofhouse. Though its evaluators commented that the 3½-inch-chambered pump-action "kicked a bit" for weighing 7 pounds, 12 ounces, it was praised for its excellent shot pattern, flawless reliability and \$357 price.



not sure that I understand "The Cartridge" section mentioning .350 and .400 Legend, .450 Bushmaster, .45-70, .450 Marlin — and .30-30 Winchester and .35 Remington. I use a lot of straight-wall cases including .375 Winchester, .444 Marlin, .45-70, and even .38-55. In Arkansas, .30-30 and .35 Rem. are not straight walled. Maybe it is in California? As my dad said, "I have erasers on my pencils for a reason."

Jim Beasley Alpena, Arkansas

That paragraph could have been written to avoid confusing the list of straightwalled cartridges with the bottle-necked examples. The point was that straightwalled cartridges have also elevated interest in traditional chamberings and firearms in many states for hunting within 300 yards. Manufacturers are increas-



ingly developing product platforms that support both straight-wall and bottleneck cartridges. The Traditions Outfitter is an example of this trend.

— R. Nance

LEFTIES LEFT OUT

I enjoyed reading the 2024 G&A of the Year Awards in the December issue. The selection of the N8 Tactical MultiFlex as "Holster of the Year" sounds promising — unless you're left-handed. I know this because they told me so. I must assume all of G&A's testers were right-handed.

Pat Lite Email

Yes, all the holster evaluators in 2024 were right-handed.
Craig and Donna Bodding-

ton are left-handed, but they abstained from voting for this category because they had not evaluated the N8 Tactical MultiFlex holster. We contacted N8 Tactical after receiving your letter and the company indicated they would consider manufacturing a left-hand version of the MultiFlex.

— E. Poole

WHY I CARRY AIWB

I have carried a concealed handgun every day, all day, even at home since George H. W. Bush was president. Since, I have carried mostly strong-side, behind-the-hip, either inside-the-waistband (IWB) or outside-the-waistband (OWB). I have also carried shoulder holsters, angle rigs, crossdraw, pocket holsters and sundry

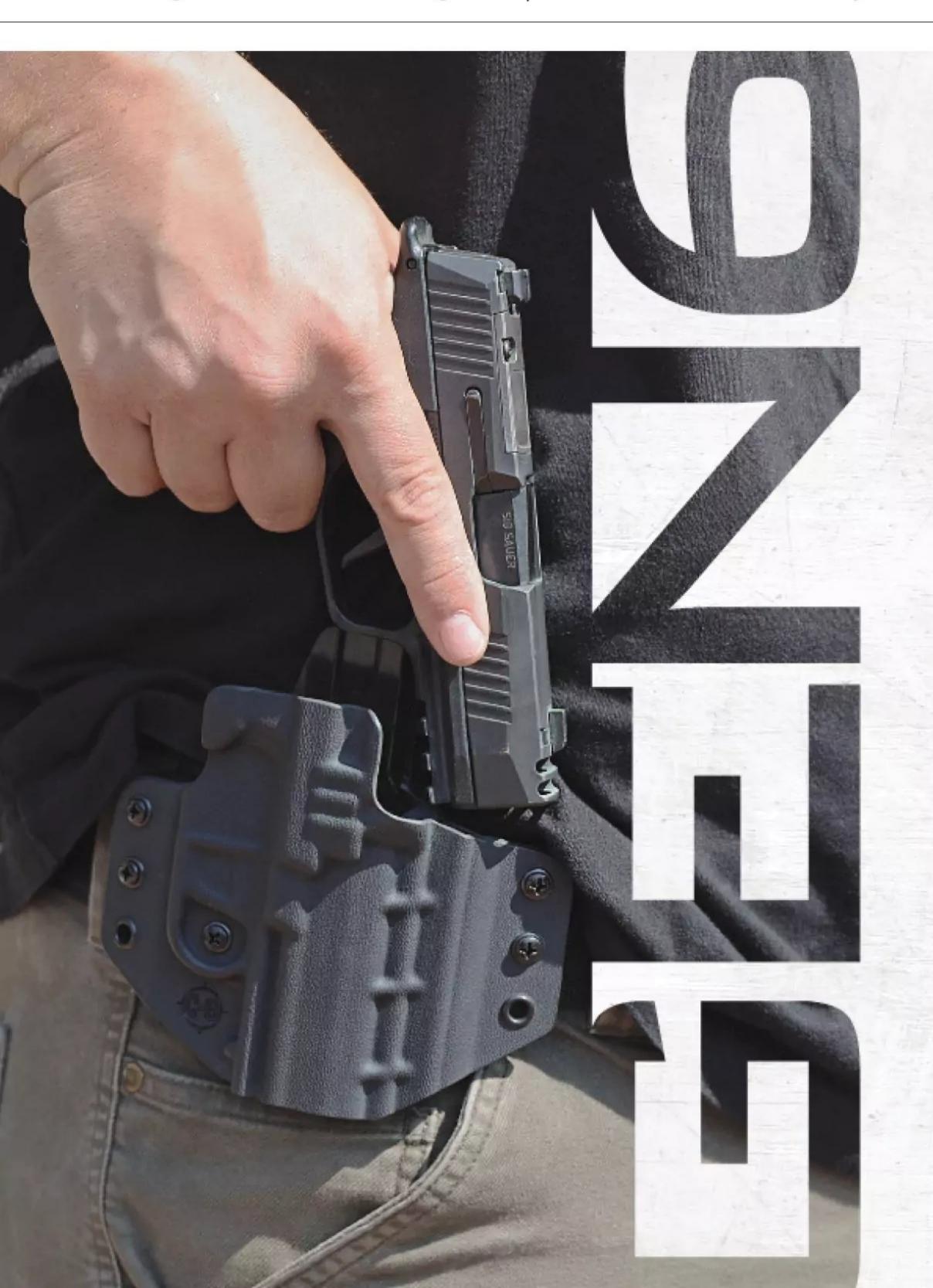
off-body systems. For some time, my everyday carry (EDC) was a Browning Hi Power. I have been afflicted with a rotator cuff injury, bursitis in the shoulder, ankle swelling, circulation issues, sciatica, hip pain and other conditions that limit me to carry in front of the centerline. The easiest concealment for me is appendix inside-the-waistband (AIWB). My habit is to holster first, then insert the holster with pistol into the AIWB position. I no longer feel as though my gun is pulling my pants down, even with the Hi Power. These days, I carry a single-stack polymer pistol, which disappears between my person and untucked shirt. Everytime I think about moving my pistol back to 4:00, my gluteus maximus

starts warning me to back off. Carry how you please, but train to re-holster safely. I will do the same, and I won't knock your system of carry without knowing your circumstances.

Scott Morris Washington

UNDER THE MATTRESS

Until some 20-plus years ago, I used to put my .22 Harrington & Richardson Model 900 in between the mattress and box springs beneath where my head would rest before going to bed. One night, I was putting my gun in its spot; it was in a leather holster, but as I moved the gun towards the edge of the box spring — boom! The gun went off! I was shocked because



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I wasn't even touching the gun, only holding the holster. I noticed that there was a small piece of monofilament stitching that came out of the decorative pattern that mattress companies sew on the outer coverings. Hanging down, it snagged the top part of the hammer and pulled it back enough that it caused an accidental discharge. If it hadn't happened to me, I never would've thought about

it. Beware: Don't hide your homedefense gun under the mattress! Richard King San Jacinto, California

GUN CONTROL

I don't believe Americans will ever truly need to worry about bans or confiscations because politicians know the landscape. America is now, and has always been, an exceedingly violent

nation. Government pays lip service to crime, but never passes tougher laws. Culturally, criminals are admired; consider the popularity of "Breaking Bad," "Sons of Anarchy," and the TV movie "Bonnie and Clyde," as well as other crime shows. Figures including Jesse James, Al Capone, Che Guevara and Dutch Schultz have been worshiped. Most Americans would never turn their guns in, and a ban would spark the possibility of a civil war. Trust in government is at an all-time low, as is confidence in safety. Guns are here to stay, which isn't to say that we should let our guard down or oppose new gun-control legislations. I just feel that the risk is overstated.

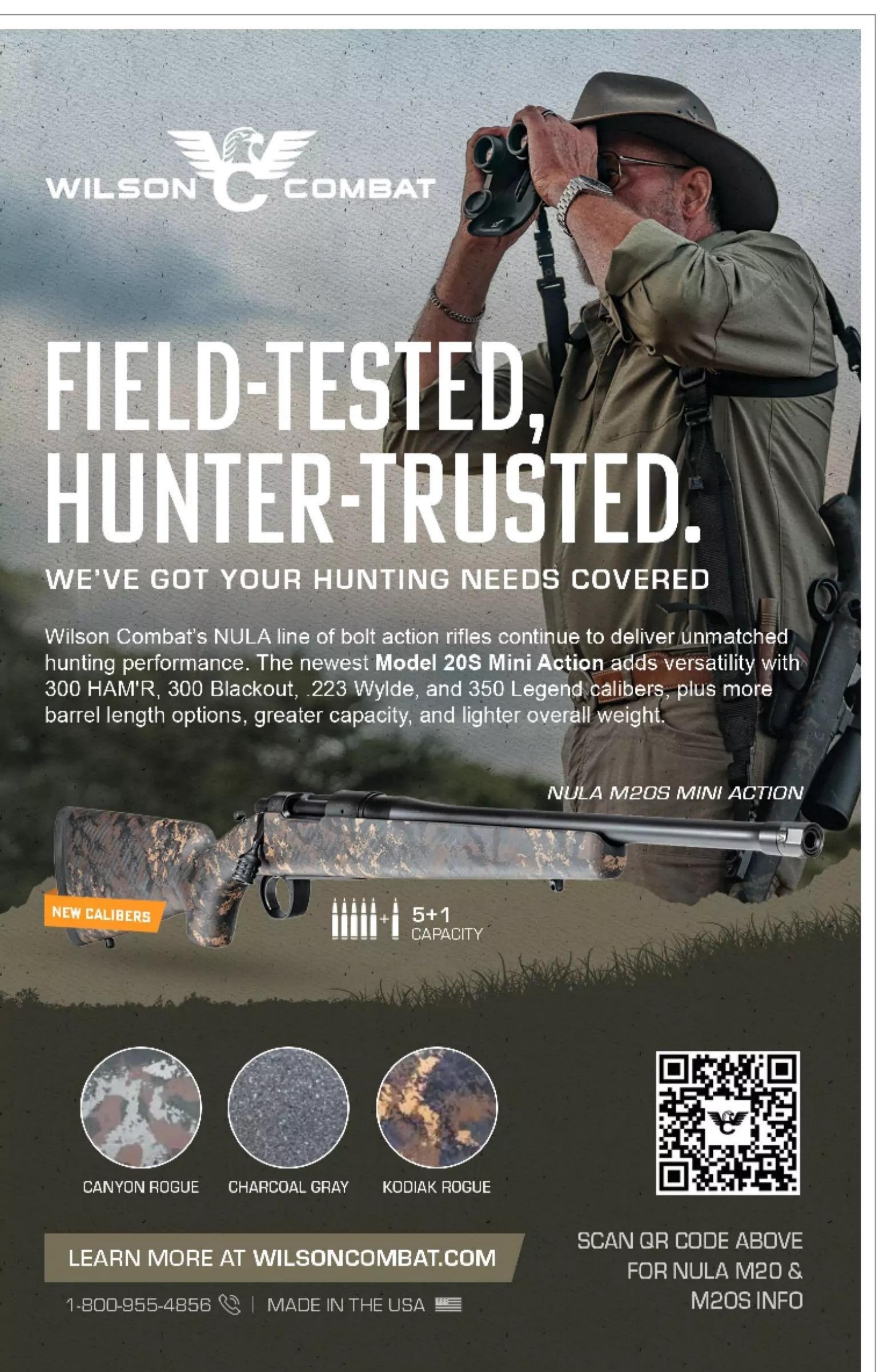
Patrick Kelley Bryans Road, Maryland

DON'T PATRONIZE

I'm disappointed in Guns & Ammo. I got my January 2025 issue and was excited to read about the Kimber 2K11 in Jim Tarr's article, "High Time." To my dismay, the review featured it in .45 ACP and Tarr treated the reader as if we had no prior knowledge of the 2011 platform. A 9mm double-stack is where the market has been going for a while, yet this firearm was presented like an anomaly rather than a step toward the new industry norm. Please do better. David West Jay, Florida

Thank you for the feedback, but allow us to clarify that the 2K11 was only available to Guns & Ammo in .45 ACP when developing the article for publication. The feature disclosed that 9mm would be offered at launch a number of times throughout the story, but I could not report on its performance at the time of my writing. Considering the broad range of experience among the Guns & Ammo readership, please forgive the occasional retelling of a platform's history in our articles. As described in my evaluation, several features make the 2K11 distinctive, and we feel Kimber's effort — in either 9mm or .45 — was worth your attention.

— J. Tarr 🖎



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EDITORIAL MARCH 2025 G&A 15

Acitelli, Beuning and Oller assume new editorial roles.



ERIC R. POOLE

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MORE THAN WORDS

THOUGH I AM THE CHIEF STEWARD of the Guns & Ammo brand, its continued reputation as "the world's most widely read firearms publication" would not be without the hard work of corporate leadership, advertising sales, art, editorial and the production staff. Guns & Ammo has resolved to guard the brand's future with the installment of three talents.



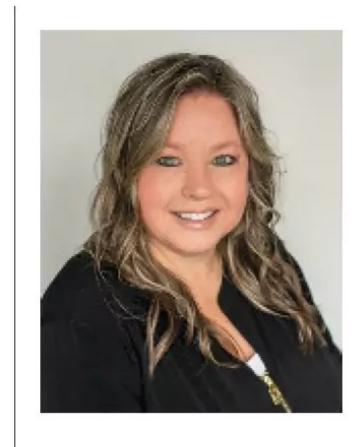
The Outdoor
Sportsman Group
(OSG) is pleased
to announce the
appointment of
Jack Oller to
the position of
managing editor,
Guns & Ammo.

Oller began working for OSG in 2018 as an editor with Guns & Ammo's Special Interest Publication (SIP) Division, and most recently as the digital editor for OSG's shooting websites including Firearms News, Handguns, Rifleshooter and Shooting Times. In his new position, Oller assumes a key role in managing content creation for the magazine and Guns & Ammo TV, while supporting expanded coverage of firearms, ammunition, optics and accessories to the brand's various digital and social media platforms. Oller received a Bachelor of Arts in English from Illinois State University and is expected to complete the Master of Business Administration (MBA) program from the University of Missouri in May 2025. Before joining OSG, Oller served six years with the U.S. Army Military Police, including a deployment to Guantanamo Bay, Cuba. In addition to hunting, Oller is an active competitive shotgun shooter and has participated in precision rifle matches.



Antonio Acitelli
has been promoted to digital
editor, Guns &
Ammo. Acitelli
began working for OSG in
2021 as Guns &
Ammo's associate

editor. Acitelli expanded his responsibilities to include formatting, editing, and optimizing articles for gunsandammo.com. His efforts directly contributed to an increased reach and engagement among shooting and hunting enthusiasts. Acitelli assumes the management of content creation for Guns & Ammo's website, while contributing articles to the magazine, appearing on Guns & Ammo TV, and supporting the brand's social media presence. Acitelli will enhance the timely coverage of firearms, ammunition, optics and accessories online and throughout OSG's social media platforms. Acitelli received a Bachelor of Arts in Editing, Writing, and Media, from Florida State University, and a Master of Communications and Journalism from Cardiff University, United Kingdom, in 2021. When not evaluating or posting articles on the latest firearm-related products, Acitelli can be found afield as an active hunter and outdoorsman.



Lisa Beuning was selected for the position of copy editor for Guns & Ammo and the brand's SIPs. In addition to maintaining the Guns & Ammo

styleguide, she will edit content for Guns & Ammo and more than 20 annual editions.

Beuning came to OSG following 23 years with Blue Book Publications. While working with Blue Book, she supervised and managed content development and the editing process for various titles including "Blue Book of Gun Values," "Ammo Encyclopedia," and three books on Colt revolvers by Gurney Brown, "Seven Serpents" (2015), "Colt's Python, King of the Seven Serpents" (2018), and "Colt's Double Action Revolvers, The Post-War Era" (2021). Most recently, Beuning expanded her responsibilities as the editor following the passing of S. P. "Steve" Fjestad, founding publisher. Her work expanded the brand's reach and engagement among gun collectors and shooters.

Though Guns & Ammo's staff, editors and contributors include the most senior and experienced experts, the brand also possesses the youngest talent in firearms media. The effort ensures G&A's appeal to a younger audience, and that our Second Amendment rights and outdoor pursuits will be available and enjoyed by the next generation.

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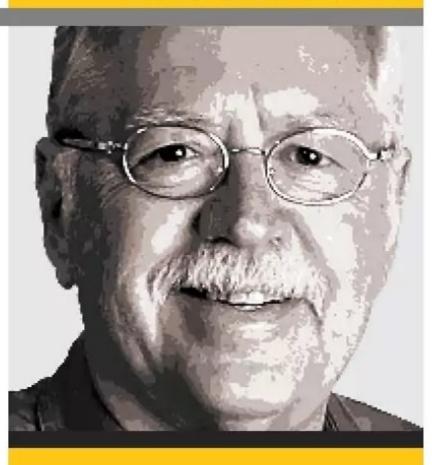


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GUN ROOM MARCH 2025 G&A 17

"Condition of your piece seems a bit tired, but I have seen much worse."

ENTIFICATION & VALUES



GARRY JAMES

GARRY.JAMES@ OUTDOORSG.COM



1886 WINCHESTER INFO

Q: I inherited an old Winchester Model 1886. I assume it's a Winchester from the model number, but it doesn't say Winchester anywhere on the rifle. It looks like, from the markings, it was patented October 14, 1884, and maybe produced on January 20, 1885. Or, is the second date another patent date? It's in .45-70 Gov't. with what I assume is serial number 17XXX. The rifle is well used. I checked the action with dummy rounds and it seems to function, but I haven't shot it since I assume it should only be fired with blackpowder cartridges. I don't know where it was purchased or acquired. Any help you can give me on the history of it would be greatly appreciated. I have no intention of selling it but would also like to know an approximate value for insurance purposes.

M. P.

Email

A: You have a Winchester Model 1886 rifle manufactured in 1888. Some 13,848 Model '86s were produced that year. Eventually, almost 16,000 1886 rifles in various

configurations were built between 1886 and 1928. The '86 was chambered in about 10 calibers ranging from .33 W.C.F. to .50-110 Express. Calibers .45-90 and .45-70 are particularly sought after, with the .50-110 being the most valuable. Your carbine appears to be complete though a bit worn, which is probably why the Winchester name is no longer visible. Still, assuming the gun has a decent bore and functions properly, it is still worth in the \$2,750 to \$3,250 range. Before you shoot it, take it to a qualified gunsmith for a checking over. If it passes muster, as yours is an early rifle, I would suggest sticking to using blackpowder cartridges.

COMMERCIAL BROOMHANDLE

Q: I have inherited a C.96 Mauser "Broomhandle" that does not have a

normal Broomhandle grip. My research shows it to be manufactured in 1905. My great uncle bought it in 1907. The grip has a continuous curve on the front and back. It has a grip slot on the back for a stock attachment that is curved. All serial numbers match, and all proofmarks are correct. It was imported to New York. It looks to be modified some. Was this a special variation with the curved grip? Can I find a stock with a curved attachment? It appears to be a pre-war commercial type. I have run out of research options. Can you help me out? Where, what, when, and why? R. G.

A: You have a standard small-ring hammer, pre-war commercial C.96 Mauser "Broomhandle" pistol that was sold by the New York firm of Von Langerke & Detmold. Von Langerke & Detmold (VL&D) was a prolific importer of and dealer in European guns at the early part of the 20th century, focusing primarily, but not exclusively, on German products. Unfortunately, some not-very-adept nor aesthetically-inclined private tinkerer has altered the grip on your pistol, gravely

Email

affecting its value and collector interest. Though the finish on the piece is a bit thin, if it hadn't been fooled with, it would still have been worth in the \$2,500 to \$3,000 range. As it is, I would think it would bring less than a quarter of that. It is likely the grips were originally of hard rubber as VL&D Broomhandles of this period are often seen fitted with them.

OFFICER'S PISTOL

Q: I am writing in regard to my father's pistol. My father, Lt. Gen. (name withheld) was given a 1903 .32 ACP pistol when he was promoted to brigadier general. The presentation included the pistol, black belt, black double-mag holster, gold belt buckle, black holster and the paperwork from the government — all unused. This kit was passed to me when he died in 2015 at the age of 93. I



was hoping you would be able to give me a value. I am currently 72 and would like to know what I have value-wise. The package is invaluable to me from a personal standpoint.

G. K. Email

A: That's a very nice setup!
Colt Model M autos were
routinely presented to U.S.
general officers beginning
in 1944. Holster and belts
were initially of brown
leather, but when the U.S.
Army changed to black,

the general officer's rigs followed suit. Some brown holsters and belts were dyed black. As with arms issued to other entities, such as the OSS, finish on generals' pistols could be blue or parkerized, and were marked "U.S. PROP-ERTY". To be considered a legitimate General Officer's Model, a 1903 or 1908 must have proper lettered provenance indicating its status. Colt Model Ms ceased being presented to generals in 1972 and were replaced by a Rock Island Armory 1911AI designated "M15." Your undeniably correct General Officer's 1903 pistol and accompanying material on the collector market is worth around \$6,500, though I imagine its value as your father's gun makes it considerably more precious to you as a treasured family heirloom.

AUCTION BLOCK

A very good condition Inglis of Canada Mark II Bren Gun realized a respectable \$38,130, including premiums, at a September 10, 2024, Morphy Auctions Firearms & Militaria sale. The machine gun, which was manufactured in 1943, comes complete with 17 original magazines, three matching barrels, steel magazine carrier, complete gunner's kit and canvas gun cover. Condition overall is extremely fine to excellent, and the bores of all three barrels are shiny and bright. The wood is near excellent with just some few handling marks. All-in-all, this Bren is a fine example of its type. For more information about this or future auctions, visit Morphy Auctions at morphyauctions.com.



COLT-BURGESS LEVER-ACTION

Q: I have a Colt .44-40 rifle, which has been passed down in my family. The serial number is 5xx, and the bottom of the lever is marked "BURGESS'S PATENTS". It has a round barrel that is 191/4-inches long. There is a little bit of bluing on the barrel,

but otherwise it is a lightbrown patina. The wood is a little better than average. The rampant stallion is still visible on the side of the receiver with the saddle ring. Could you give me a brief history and approximate value? S. B.

Email

A: The .44-40 Colt-Burgess lever-action rifle was made from 1883 to 1885. It was offered in two varieties, a rifle with 24½-inch barrel and a carbine with a 20 incher. You have the latter. This was Colt's only foray into the lever-action rifle business. The experiment was looked on with disfavor by Winchester, which touted a proprietary revolver to intimidate Colt to desist from making the Colt-Burgess. This scheme worked, and only 6,403 were ultimately built. Condition of your piece seems a bit tired, but I have seen much worse. The photos indicate about a 30-percent condition — perhaps a bit more. As such, it's worth between \$5,000 to \$5,750.

SMOOTHBORE WINCHESTER 94 CENTENNIAL

Q: I would like to know the value of my Winchester

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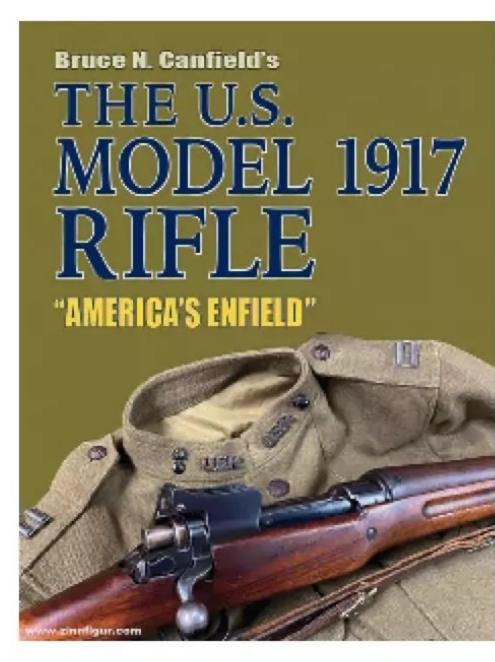
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RECOMMENDED READS

"The U.S. Model 1917 Rifle 'America's Enfield" by Bruce N. Canfield, Mobray Publishing Woonsocket, RI, 2024, hardcover, 300 pages, \$49.99 plus \$4.50 shipping. Though the 1903 Springfield often gets the credit for being the principal arm carried by Doughboys in World War I, actually more 1917 "Enfields" were used by Yankees during that conflict. Initially, a .303 British-issue arm produced by American manufacturers when Uncle Sam entered the Great War, efforts of Winchester and Remington were redirected at producing .30-'06 Springfield versions for American troops. The rifle also saw use in World War II, and sporting versions were manufactured by Remington for a time as the Model 30 and later Model 720. The history of this fascinating, rugged arm is related in grand style by Bruce N. Canfield in his latest book, "The U.S. Model 1917 Rifle 'America's Enfield." In 300 pages of erudite text, abetted by 400 color and 200 blackand-white photos, Canfield describes the 1917 in detail from its progenitors to postwar variations. Valuable information on bayonets and accoutrements abounds. There are also ancillary tables covering inspection stamps, Winchester factory ledgers, component markings and serial numbers. For those interested particularly in the 1917, and generally in American arms of the two World Wars, this readable, detailed work will prove highly valuable. It is available from Mobray Publishing, orders@ manatarmsbooks.com \$50

Model 94 Centennial '66 carbine. I have included the factory letter I sent to Winchester in 1987 and the response. I never sent the gun back for repair as requested; the gun had no rifling in the barrel. I would really like to know if the gun has more or less value without the rifling. I still have the rifle new in the box.

D. K. Easton, Pennsylvania

A: The Winchester Centennial '66 Carbine was manufactured in 1966 to celebrate the 100th anniversary of the original Winchester Model 1866. The rifle turned was quite popular, and some 102,309 rifles and carbines were eventually manufactured. Value on an unfired Centennial with all of its paraphernalia runs in the \$850 to \$1,100 range. While the smoothbore barrel on your example is something of a curiosity — and would provide an interesting marketing point — I'm not sure it would increase the value.

TWO-BARREL WINCHESTER 97

Q: I own a Winchester Model 97 shotgun serial number 978XXX. It has a 32-inch full-choke barrel and a 26-inch cylinder choke barrel, also. It was manufactured in 1951. I would say its condition is in the 90 to 95 percent range. It's interesting that both barrels have the same serial number as the receiver. How prevalent is this, and what value would you place on it? K. A.

Edwardsville, Illinois

A: Sounds like a nice piece. Some 1,024,700 of the popular Model 1897 Winchester pump-action shotoguns were made between 1897 and 1957. A number of different variants were available. Your two-barrel arrangement is not necessarily unusual, likely being a special order. Based on the condition of the piece and the extra numbered barrel feature, I'd value it between \$2,000 and \$2,500.

COLT VEST POCKET AUTO

Q: I have a 1908 Colt .25-caliber auto. I believe it is called "Vest Pocket." The serial number is 25XXX. This pistol has been in our family since it was new. The original finish is gone, but I did have it inspected, and it was deemed safe to use. I have a few questions. What is the date of manufacture, and what is the original finish? I was wondering the value of the pistol as-is, and what it would be if it was refinished. I was told that the original bluing is not available, so I was considering a Cerakote or something similar. Would this be something that is okay, or is there a recommended finish I should consider? Is there any collector interest? C. W.

Email

A: Your Colt Model 1908 .25
Hammerless "Vest Pocket"
pistol was made in 1910.
More than 400,000 were
produced between 1908
and 1941. Designed by John
Browning, this was the same
piece manufactured by Fabrique Nationale in Belgium
as the Browning Model
1906, AKA "Baby Brown-

ing." Colt offered blue and nickel finishes commonly, though special-order gold and sliver could also be had. Even though your pistol is very worn, I would advise against having it redone; the cost would likely be more than the gun's worth, and the piece's value and appeal would actually be diminished. As it is, it would sell for between \$175 and \$200 with moderate collector interest. Collector interest would drop to zero if it was refinished.

COLT POCKET NAVY REVOLVER

Q: I have had a Colt percussion revolver for decades and am passing it on to my grandson. It's had some hard times, and I do not know its provenance. All the serial numbers match. The caliber is .36, and the cylinder has a faded stagecoach scene. It has a one-line barrel address ending in "U.S. AMERICA." The serial number is 54XX. What do I have? What is it worth? W. S. K.

Poulsbo, Washington

A: You have a Colt Pocket Navy revolver manufactured in 1861. Some 47,000 of these percussion revolvers were produced between 1861 and 1873. A good number were converted or made at the factory to handle metallic cartridges. Your gun has little finish but the photos indicate it is generally sound, complete and matching. Pocket Navys are seen with New York and London barrel addresses, the latter being a bit more valuable than the former. I'd price your gun at \$2,000. 🖼

















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HANDGUNNING
MARCH 2025 G&A 23

SDS Arms MAC 5 9mm SDS Arms MAC 5K 9mm



JAMES TARR

TURKISH CLONES

THE CATALYST FOR THIS COLUMN was the announcement of two new MP5-pattern pistols from Military Armament Corporation (MAC), but it is also about the state of Turkish-made firearms.

MAC (milarmamentcorp.com) is a brand of SDS Arms (sdsarms.com). SDS Arms resurrected the storied MAC name — everyone has heard of the "MAC-10," right? — and has introduced firearm designs that embrace the testosterone-fueled legacy of the 1980s and '90s. MAC offers everything from Joint Special Operation Command (JSOC)-inspired 1911s to a copy of the U.S. Marines' M1014 shotgun. They are getting a lot of attention. The new-for-2024 MAC 5 pistol is a clone of the venerable Heckler & Koch MP5, and the MAC 5K is an MP5K clone. What got everyone's attention, though, is the sug-

Traditionally, MP5-pattern pistols were nowhere near the price of the MAC 5s — or they were unreliable trash. The HK roller-lock delayed blowback sub-gun design is reliable and soft-shooting, but it's never been easy or inexpensive to manufacture. If it wasn't an authentic HK product, or made on HK-licensed tooling somewhere in the world, people just assumed the clone to be

junk with good reason.

gested retail price for either:

\$1,099.99. That's the issue.

The guns from SDS

Arms — which also includes

TISAS USA, Tokarev USA, Inglis and Spandau

Arms — have been getting rave reviews. In

Guns & Ammo's April 2024 issue, former Executive Editor Joe Kurtenbach wrote, "The MAC

JSOC 1911 made by TISAS in Turkey and distributed by SDS Arms may be the finest 1911 available for less than \$1,200." I first shot that pistol at Gunsite along with MAC's MAC 1014, a \$400 copy of the \$2,400 Benelli M4; I was impressed. The MAC 1014 is so good that Agency

Arms chose it as the base of its new Tradesman series (\$1,199, agencyarms.com). It wasn't an accident. SDS Arms has people on the ground working in Turkey. For a while,

veteran 3-Gun shooter Gaines Davis,

SDS' director of product development, practically lived at the factory,

showing employees how to run their guns. Davis expanded their knowledge of what's possible. Knowing that, a week

before the 2024 SHOT Show —
where the guns were shown off for
the first time — I contacted SDS
Arms and asked, "Who's making
your MAC 5s?" They answered,
"Mertsav."

I'd never heard of Mertsav, but I didn't want to admit ignorance. So, I did a little

digging. Mertsav Defense Systems (mertsav.com. tr) is a Turkish company that has been manufacturing products for the defense industry since 2006.

A check of its website revealed versions of the M249 SAW, HK 416, M2 .50-caliber Browning machinegun, 40mm

grenade launchers, and several MP5 machine pistol clones called the "MSG-9." The website states that it is a subcontractor to MKE (mkeusa.com). All good, but a company I'd never heard of still left me a little uneasy. Later, at an industry event, I sat down with Neil Sanders and Steve Dittner of SDS Arms.

"Look," I said, "At this price point, people are going to assume these guns don't work. You have to explain to me why they don't suck."

Boy did they, and I got an education.

AN ORIGIN STORY

The MP5 clone market changed because of Zenith (zenith-firearms.com). HK didn't offer pistol versions of its MP5s for years, so the market was ripe. Zenith introduced MP5 clones when arm braces hit the market and became popu-

lar. The interest was due to build quality. Zenith's guns were manufactured in Turkey by MKE on HK-licensed tooling. MKE supplies MP5-pattern submachine guns to the Turkish military and the National Police, and the Zenith guns were semiautomatic pistol versions of the same reliable guns at half the price of authentic HKs, except ...

"MKE doesn't 'make' MP5 anything," Dittner said. "Mertsav has always manufactured those guns,

on licensed HK tooling. They sold the parts to MKE, which assembled them, and then MKE sold them to the Turkish National Police, Zenith, Century Arms or whomever. Every middleman takes his cut and drives the price higher. This is the first time Mertsav is actually making and assembling these guns for commercial sale in the U.S. The reason the price of the MAC guns is so low is because there are no middlemen; Mertsav is selling them directly to us. That, and we're not trying to retire off of every gun we sell. We would rather move a large volume at lower prices, and reach customers who would normally not be able to afford a roller-lock. We will also bring in a full line of parts and accessories that will be backwards compatible with guns built to the original [technical data package]. As we have done with our MAC 2 and MAC 1014 shotguns, the National Tactical Officers Association (NTOA) will be reviewing the MAC 5's for NTOA certification."

Sanders added, "Every manufacturer or importer of roller-lock guns was in our booth looking at the MAC 5 lineup, including HK.

They all left looking sad or angry."

Zenith has sold so many MKE guns that it has become a victim of its own success. Prices dropped from the initial \$1,700 to between \$1,300 and \$1,500. The \$1,100 price-point for the MAC 5 isn't so crazy in comparison. The HK SP5 and SP5K pistols sell for \$3,300 and more, as of 2024, thus staying true to what people for 40 years have joked is the unofficial HK customer service motto: "You suck, and we hate you."

I travelled to Turkey in 2012. Turkey is a first-world country and a NATO member. I was visiting Sarsilmaz, which sells guns in the U.S. as SAR USA. That factory was the newest and most modern I'd ever visited. Mertsav



MP5-style accessories are widely available including optic mounts, magazines, handguards and pistol braces. An SB Tactical SBT5 pistol stabilizing brace was used during evaluation of the MAC 5. \$150

At the time, the average skilled worker made \$12,000 per year, a good wage in Turkey. That's why the guns coming out of that country are less expensive. CNC machines don't know what country they operate in. The operator just has to program the right numbers if you have good steel at the front and proper quality control on the back end. Turkish firearms may have had quality-control issues, but that's history. I would

is said to be just as modern.

blindly trust a Turkish gun before many others.

TESTING THE MAC 5

After a bit of delay — due to Turkey being slow on providing export licenses — I finally got my hands on a sample of the MAC 5. It's a semiautomatic pistol clone of the HK MP5. The fit and build quality of the gun was on par with the MKE, and even HK guns I've handled. Only the finish (i.e., lacquer over phosphate) is a bit different between the two. The MAC 5 pistol arrived in a hard case with a sling, cleaning kit, flash hider and two 30-round magazines. It also featured the narrow handguard, not the fat triangular one.

Arm braces for pistols are currently legal, so I attached an SBT5 brace from SB Tactical (\$150, sb-tactical.com) for testing. The modular design of the gun made it easy; push out one pin, pull off the end cap, attach the brace, and replace the pin. Then, you're good to go.

As I write this, I have 450 rounds through an MAC-5

using the supplied and authentic HK mags; no cleaning or lube. The magazine well was a little tight when new, and I had one failure to feed at round 318 — a jacketed hollowpoint, the second-to-last round in an HK mag. I think it was ammunition-related, but that was it. There were no other problems to report. The day of an affordable and reliable MP5 has arrived.

At this price, I understand why Military Armament Corporation does not include a rail mount for attaching optics. However, I wish MAC provided a rear sight adjustment tool with these guns. We really need that dedicated tool for zeroing the rear drum on the MAC 5. Still, it's not too difficult to acquire. You can buy an HK-branded rear sight tool online for about \$30.

SDS ARMS MAC 5				
TYPE	Roller-delayed blowback, semiautomatic			
CARTRIDGE	9mm			
CAPACITY	10+1, 15+1, or 30+1 rds.			
BARREL	8.9 in.			
OVERALL LENGTH	17.9 in.			
WEIGHT	5 lbs., 8 oz.			
STOCK	None; backplate w/ sling			
GRIP	Polymer			
FINISH	Lacquer over manganese phosphate (steel)			
TRIGGER	4 lbs., 8 oz. (tested)			
SIGHTS	Post (front); quad notch, rotating drum (rear)			
SAFETY	Selector lever, two positions			
MSRP	\$1,100			
MANUFACTURER	Mertsav, mertsav.com.tr			
IMPORTER	SDS Arms, 865-504-6894, sdsarms.com			



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RISE Armament Reliant Series



TOM BECKSTRAND

ON THE RISE

aftermarket option is pretty

easy, especially if the

rifle has the ubiquitous

FEW THINGS make a rifle more enjoyable to shoot than a good trigger. It's one of a handful of parts on a rifle that get touched and used every time the rifle fires. Having a great trigger has an immediate impact on the rifle and shooter's quality of life. Unfortunately, in today's era of cost-cutting, triggers on many rifles are just functional. There's also the fact that we live in a society with too many lawyers, so triggers often come with ridiculous pull weights to prevent negligent discharges by the less safety-conscious shooters among us. The good news is that changing the factory trigger for a quality

Remington Model 700 footprint. All that's Well-known for its drop-in required is to drive AR-pattern triggers, RISE Armament Reliant Rem 700 triggers out a couple of pins continue the brand's reputation that secure the trigger to for quality and ease of instalthe receiver, attach the lation. new trigger in its place,

and drive the pins back in. With the bolt assembly and stock removed, the only tools needed are a hammer and punch.

As part of this writing and editing gig, I get the opportunity to test various products related to rifles. My latest evaluation included a couple of triggers from RISE Armament, the Reliant Pro (\$260, risearmament.com) and Hunter (\$170) models. Both triggers work with Model 700 receivers, and those that share the same footprint. That means just about every custom action made in America accepts these triggers. My time with the RISE Armament triggers was well-spent, and several features reminded me of aspects I wanted to share.

When searching for a bolt-action rifle trigger, look for models made from tool steel. Triggers are often made by metal injection molding (MIM); when done correctly, it allows for complicated shapes that don't require a lot of machining. MIM is ideal for certain applications, but it's

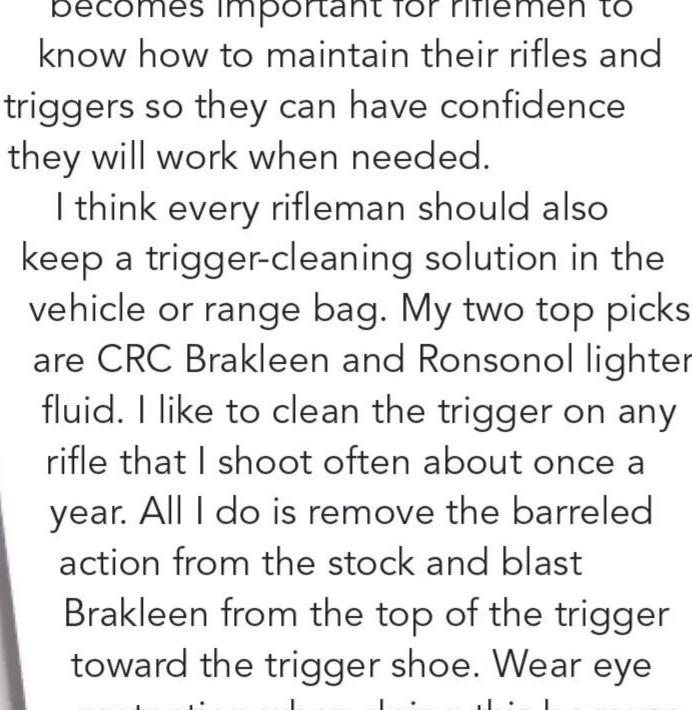
not my preferred choice in a bolt-action trigger assembly. Triggers in bolt-action rifles are flat, so these components can be made from steel plate and cut precisely with wire electric discharge machining (EDM). This is the best combination of highly consistent and durable material held to the most precise tolerances. The shape required is limited to the plate's outline, so there's no need to make complex forms with depth. MIM can be good in those circumstances, but it can also create voids or hollow

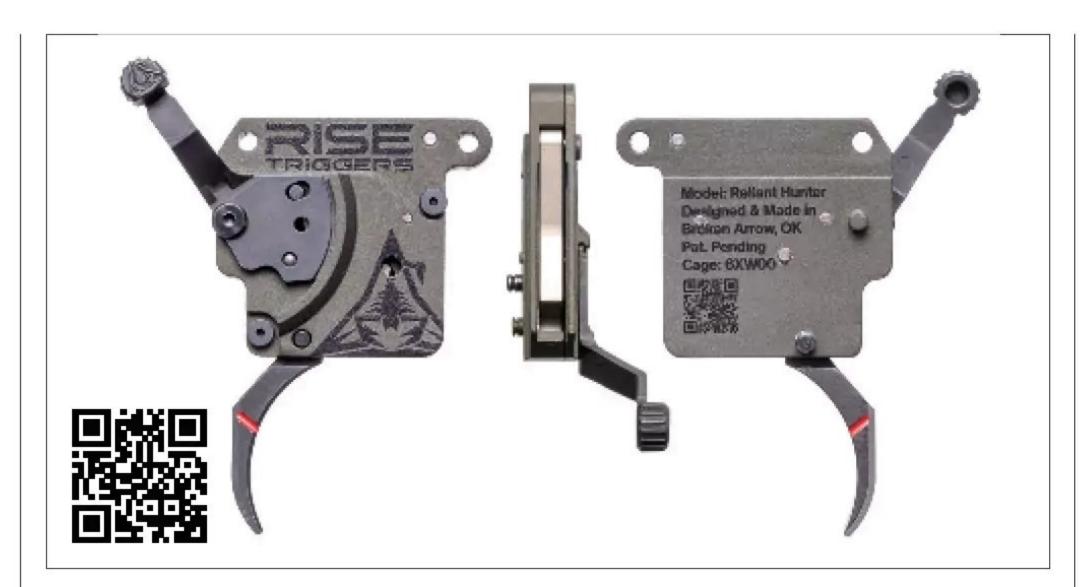
> pockets in the steel, allowing cracks to form. In AR-pattern rifles, I'm open to MIM triggers. In bolt-action rifles, I want tool steel for its consistency and durability.

The next issue to be mindful of is coatings. Unlike most AR-pattern triggers, bolt-action triggers have small parts held in close contact that are usually semisealed in an aluminum housing. This leaves limited access to trigger internals through the top of the housing where the sear protrudes. Rifles that get shot a lot spend time outdoors where the wind blows and dust can penetrate every crevice. Should the shooter handload, firing pins can occasionally pierce primers on warm loads. Both situations described can result in dirt, soot and debris to enter the trigger assembly from openings in the housing. It becomes important for riflemen to know how to maintain their rifles and triggers so they can have confidence

they will work when needed.

I think every rifleman should also vehicle or range bag. My two top picks are CRC Brakleen and Ronsonol lighter fluid. I like to clean the trigger on any rifle that I shoot often about once a year. All I do is remove the barreled action from the stock and blast Brakleen from the top of the trigger toward the trigger shoe. Wear eye protection when doing this because





The RISE Armament Reliant Hunter trigger is only available with a curved trigger shoe, but it is the least expensive of the two available models for Model 700 actions. Pull weight on the Reliant Hunter is adjustable from 2 to 5 pounds. \$170

brake cleaner can wind up in places you don't want. I then flush it with lighter fluid. Brake cleaner is pressurized in an aerosol can, so it does a great job in carrying away old oil and dirt in the trigger. The lighter fluid flush offers a second wash and leaves behind a film of dry lubricant when it evaporates. If you're only going to use one solvent, use the lighter fluid. I never put oil near the trigger because I think they all gum-up given enough time.

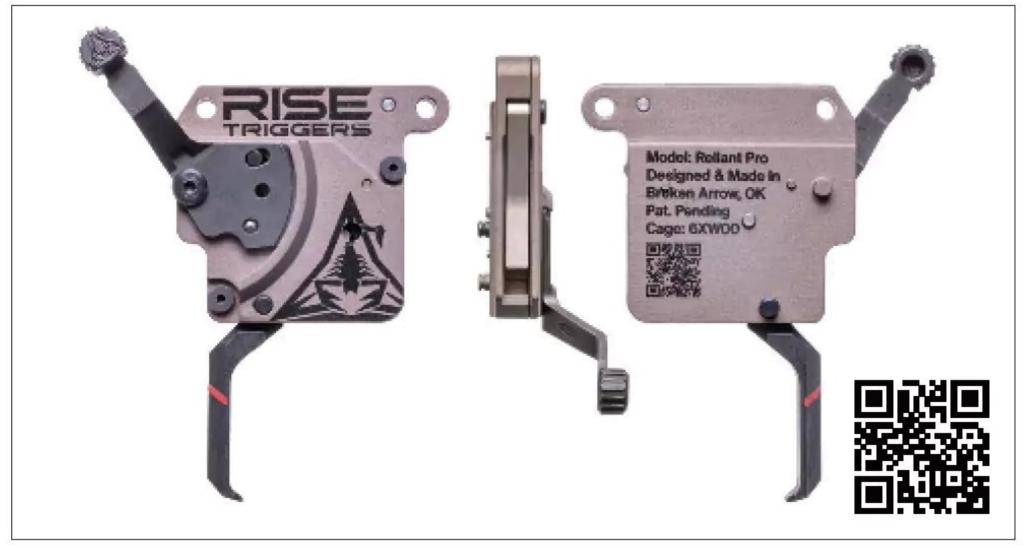
A cheap and poorly finished trigger can suffer from corrosion and might not have a smooth let-off given the brakeclean and lighter-fluid-wash treatment. Brake cleaner gets a trigger as clean as can be, but it removes everything except for the steel's finish. If the steel doesn't have Melonite or nickel boron, there is nothing to keep bearing surfaces smooth when the trigger parts rub against one another. Hitting such a trigger with a flush of lighter fluid will put some dry lubricant back into the internals, but there's no guarantee the dry film will get to where the internal surfaces contact one another.

Both of RISE Armament's Model 700 triggers have internals made from S7 tool steel that are coated in Melonite or nickel boron (NiB). Surfaces that make contact with one another have NiB due to its lubricious properties. Even when completely dry, NiB is slippery; it's the best surface finish that I've seen for dry lubrication. The rest of the

internals have Melonite because of its corrosion resistance. From a materials and coatings standpoint, both of these triggers are best-in-class.

The Reliant Hunter trigger is the more economical of the two. It offers my preferred construction using first-rate materials and coatings. The trigger is also adjustable for pull weight between 2 and 5 pounds. Both flat and curved trigger shoes are available for the Reliant Hunter Rem 700.

The Reliant Pro model costs more, but it adds adjustable overtravel and a lower pull weight between 1 and 3 pounds. Any rifle that's used



The Reliant Pro trigger for the Remington 700 or 700-clone actions is available with a flat (shown) or curved blade. Pull weight can be adjusted from 1 to 3 pounds. Both models are avilable with a bolt release. \$260

for shooting tight groups or small targets benefits from lighter pull weight and adjustable overtravel. A small screw forward of the trigger shoe allows the shooter to almost eliminate overtravel from the trigger with the Reliant Pro installed. When the trigger releases the sear, it enters a brief period of resistance-free movement until the shoe hits the housing and everything stops. Reducing the amount of movement the trigger has after it releases the sear prevents the shooter from pulling the rifle off the target. The more movement post-release, the easier it is to disturb the sights when firing. The Reliant Pro allows for minimal overtravel, while the Reliant Hunter does not.

When installing the RISE Armament triggers — or any other trigger — always check to make sure it functions safely before heading to the range. There are two ways to check: After making sure the rifle is empty, open the action and pull the bolt to the rear. Slam the bolt forward and closed the action as fast and as hard as you can. Then, dryfire the rifle. Do this a couple of times to make sure the sear has adequate engagement with the cocking piece in the bolt. Inadequate sear engagement will allow the firing pin to follow the bolt home — and the rifle won't fire.

The second check requires some courage because, to the untrained eye, it looks like rifle abuse. Ensure the rifle is empty. Close the bolt and, with the safety off, hold the

rifle by the barrel near the muzzle (muzzle pointed skyward). Slam the butt as hard as possible into the ground. If the sear releases, there is not enough engagement for safe rifle operation. If the rifle passes both checks, head to the range and enjoy the benefits of an improved trigger.

A great trigger is one way to breathe new life into an old rifle. Crisp let-off, appropriate and adjustable pull weights, and adjustable overtravel, all made from premium materials and coatings, are a few reasons why I've enjoyed testing RISE Armament Model 700 triggers.



Installation is relatively easy and requires only a few tools. RISE Armament also offers an installation video on its website featuring step-by-step instructions: https://risearmament.com/reliant-install/.



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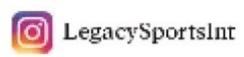


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Understanding variances in reloading manuals.



DAVE EMARY

DATA CONFUSION

ANYONE WHO HAS RELOADED AMMUNITION for any length of time probably has several reloading guides, and has referred to numerous websites while searching for load data. Often, after looking up load data, one may be left feeling confused. There can be significant differences in the maximum loads listed across various sources for the same propellant and load. Some have asked, "Why are there such big discrepancies?" and "What do I use for load data?"

Let me preface with this: If you stick to sources that are members of or follow Sporting Arms and Ammunition Manufacturers' Institute (SAAMI) standards and test protocols, there is considerable care and effort put into what is published for reloading data. SAAMI established test barrel

and cartridge specifi-

cations and tolerances for

the industry, as well as standardized equipment and methods for testing ammunition. These standards ensure that everyone following them is playing from the same sheet of music. SAAMI goes through each major ammunition manufacturer to load and distribute reference ammunition for a range of cartridges. The ammunition is used to calibrate test barrels and pressure transducers, ensuring that all members have equipment that meets the standards. The following is a list of reloading data sources (that I'm aware of), that are members of SAAMI or follow and use SAAMI standards for establishing reloading data: Alliant, Barnes, Hodgdon, Hornady, Lyman, Nosler, Sierra, Speer and Winchester. If you stick to these sources, the data is reliable and credible.

For an example of the disparity in data, let's focus on a common load: .308 Winchester with a 165-grain bullet. I chose to evaluate this with IMR 4064 because it is a popular propellant used to make .308 rounds, and it is listed by many of the sources referenced above. **Table 1** shows a list of loads from selected sources.

As you can see in the table, there are considerable differ-

ences in the maximum loads listed for the same weight bullet in the same cartridge. What gives? As with a lot of technical things, details matter. I will discuss reasons why there are differences in the reloading data from various sources, and also provide the reloader with a basis for variables that affect a given load's pressure and what the sensitivities are. I offer

Lyman

up the often-repeated warning in reloading: "Follow the recipe given in the data source, or follow it as closely as possible."

PRESSURE FACTORS

To start this discussion, I am going to make some statements about factors that affect the pressure of a load and rank order them from greatest to least. I don't have room in a column to provide you with data to support this, but I assure you what I am writing is based on years of testing, experimenting and specifically exploring

these factors with the above-mentioned SAAMI specification equipment.

1. Case Capacity Case capacity is the most dominant factor in determining what the pressure of a load is, as well as the specific load of a propellant to achieve a certain pressure. Two things play in to this: The actual capacity/internal volume of the cartridge case, and the seating depth or case intrusion of the bullet. Table 2 shows the case capacity in grains and cubic centimeters (cc) of water of every manufacturer of .308/7.62 cases I had in inventory. As you can read, there are significant differences in case capacity. Incidentally, the range of bulk/loading density of rifle propellants is about .88 to 1.00 grams/cc or 13.56 to 15.42 grains of propellant per cc. This provides you with a good idea of the differences in cases. There is a 2.6- to 2.9-grain difference in case propellant capacity of these cases, depending on the propellant.

You should check the capacity of the case lot you have because it may vary depending on the wear in the tooling when the cases were made.

2. Bullet Design and Seating Depth The bullet has several features that can significantly affect the pressure generated by a load. The specific design of the bullet can cause substantial differences in the bullet length, bearing surface and the distance from the cartridge case to the rifling where the bullet ogive contacts the rifling. Every source listed for reloading data show loads that are at or within the SAAMI maximum cartridge overall length (COL). This ensures the load will fit inside the magazine and prevent the bullet from hitting the rifling in a SAAMI minimum specification throat.

Doing this forces them to have a fixed maximum load length, so for bullets with more blunt ogives the load will need to be shorter than the maximum COL.

The extremes of bullet designs range from the classic flat-base soft-point to newer monolithic copper bullets. There are notable variations in the overall lengths of the bullets, as well as in bearing surface length and ogive shape. These variations result in substantial differences in load length and case intrusion that, in turn, significantly affect case capacity amongst the bullet designs. The bearing surface will play a lesser role in affecting pressure. However, all things being the same, significant differences

in bullet bearing surface will cause variations in pressure, but not to the extent of case capacity. **Table 3** lists the bullets shown in the corresponding manuals along with the lengths. Most of these manufacturers lump all the types of bullets together with one set of loading data for the bullet weight, not type. When this happens, the worst-case bullet for case intrusion is used or data is developed and checked to make high pressure doesn't result from it.

It is commonly stated that the jump to the rifling is a significant factor in raising pressure. That is contrary to my

findings. If the powder load is constant, seating the bullet out of the case farther and closer to the rifling will actually drop pressure because the increase in case capacity overwhelms any effects of less jump to the rifling. This held true even to the point of touching the rifling.

3. Primers As long as you stay within the class of primer recommended for the cartridge, primers will have

.308 WIN. 165-GR. LOAD DATA

SOURCE	MAXIMUM CHARGE (GRAINS)
Barnes	46.0
Hodgdon	46.0
Hornady	43.1
Lyman	44.5
Nosler	44.5
Speer	45.0

.308 WIN. CASE CAPACITY				
MANUFACTURER	CASE CAPACITY (GRAINS H ₂ O/CC)			
Federal	53.5 / 3.48			
Hornady	54.7 / 3.56			
LC 63	53.4 / 3.48			
LC 72 Match	53.4 / 3.48			
Remington	54 / 3.52			
Winchester	56.3 / 3.67			
WW 61	54.2 / 3.53			

TABLE 3

.308 165-GR. BULLET	LENGTH
MANUFACTURER	LENGTH (IN.)
Barnes TSX BT	1.320
Barnes MRX BT	1.315
Barnes BND Spitzer	1.410
Hodgdon (Horn. 165 SP)	1.160
Hornady SP	1.160
Hornady SST	1.270
Hornady ELD-M	1.270
Hornady CX	1.420
Lyman (Nosler Partition)	1.150
Speer SP BT	1.190
Speer Grand Slam	1.100
Speer Hot Core	1.170

a relatively small effect on pressure. You will see variations in pressure with primers, but they aren't huge. As an example, there are differences in the brisance or violence of the output of different primers. There are no real absolutes here, but in general a Federal 210 primer is not as brisant as a Remington 9½ primer. You will see pressure differences in a fixed load between these primers, but it's not a significant difference. If you go from a standard large rifle primer to a magnum large rifle primer, you will see substantially higher pressure with the magnum primer. I don't recommend this unless you have no choice. If you have to do this, back off a grain or so and load to the same

velocity produced by the standard primer.

4. Crimp If you are using the usual seating die roll crimp, various amounts of crimp will not affect pressure greatly. In fact, if you roll crimp too much, you will drop pressure because the excessive roll crimp begins to bulge the case neck and reduces neck tension and bullet pull. If you happen to be using something like a Lee factory crimp die, higher levels of this type of crimp will increase pressure.

TABLE 4

LOAD DATA: .308 WINCHESTER, 165-GR., IMR 4064

SOURCE	BULLET	CASE	PRIMER	COL (IN.)	CASE INTRUSION (IN.)	MAX LOAD (GR.)
Barnes	TSX BT	Win.	Fed. 210	2.810	0.515	46.0
Barnes	MRX BT	Win.	Fed. 210	2.785	0.535	46.0
Barnes	BND Spitzer	Win.	Fed. 210	2.810	0.605	46.0
				Avg.: 2.802	Avg.: .552	
Hodgdon	Hornady SP Interlock	Win.	Fed. 210 M	2.750	0.415	46.0
Hornady	SP Interlock	Horn.	Fed. 210	2.750	0.415	43.1
Hornady	SST	Horn.	Fed. 210	2.750	0.525	43.1
Hornady	ELD-M	Horn.	Fed. 210	2.800	0.470	43.1
Hornady	CX	Horn.	Fed. 210	2.750	0.675	43.1
			Avg.: 2.763	Avg.: .521		
Lyman	Nosler Partition	Rem.	Rem. 9 1/2	2.780	0.375	44.5
Speer	SP BT	IMI (com)	CCI 200	2.800	0.395	45.0
Speer	Grand Slam	IMI (com)	CCI 200	2.685	0.420	45.0
Speer	Hot Core	IMI (com)	CCI 200	2.800	0.375	45.0
				Avg.: 2.762	Avg.: .397	

RELOADING DATA DISPARITY

Let's consider data from several sources for the .308 Winchester with a 165grain bullet loaded with IMR 4064 propellant. Table 4 is a sampling of data showing case, primer, bullet type, COL, case intrusion and maximum load of 4064. Refer to Table 2 for measured case capacity and Table 3 for bullet lengths. As I stated, details matter.

Hornady shows the

PROBIGY COMP





lowest charge weight at 43.1 grains. When looking at the data, the Hornady case is in the middle of the case capacity range, but Hornady bullets are rather long and close to the Barnes monolithics for length. The Hornady CX bullet is the longest bullet shown. This isn't a bad thing, it's just what it is. Hornady also generally seats its bullets a little deeper than everyone else. Three of the four loads are loaded below maximum COL of 2.810 inches. Ogives either contact the rifling if seated out farther, or they are seating to the cannelure.

Barnes and Hodgdon show the highest charge weight at 46.0 grains. They are using a Winchester case that has significantly greater case capacity than any other case. The Hornady SP Interlock that Hodgdon loads is one of the shortest bullets in the list, and is on the low side of case intrusion. Barnes is also loading several of its bullets to the maximum COL allowed to reduce case intrusion. Look at the case intrusion of the Hornady CX versus the Barnes loads. The Barnes loads have a little less to quite a bit less case intrusion as compared to the comparable Hornady CX bullet. Again, not a bad thing; it just shows why there are differences. Case intrusion makes a difference. Barnes further compensates for its long bullets with the four cannelures, which dramatically reduce the bearing surface. Barnes uses a Winchester case that has .11-cc greater case capacity, along with its bullets being shorter than the

comparable CX bullet, so seating them to a longer COL explains the differences in the data.

Speer is behind Hodgdon and Barnes at 45.0 grains for charge weight. I have no IMI commercial cases, so I can't comment on case capacity, but Speer bullets coupled with the COL have significantly less case intrusion than everyone else. Lyman is next in line at 44.5 grains. It is using a Remington case that is getting on the lower end of case capacity. However, the Nosler Partition bullet they load has a shorter ogive and somewhat long bearing surface that results in a short bullet with low case intrusion with the COL being used. This compensates for the lower capacity Remington case. Details matter. Load as close to the recipe and components listed in the manuals.

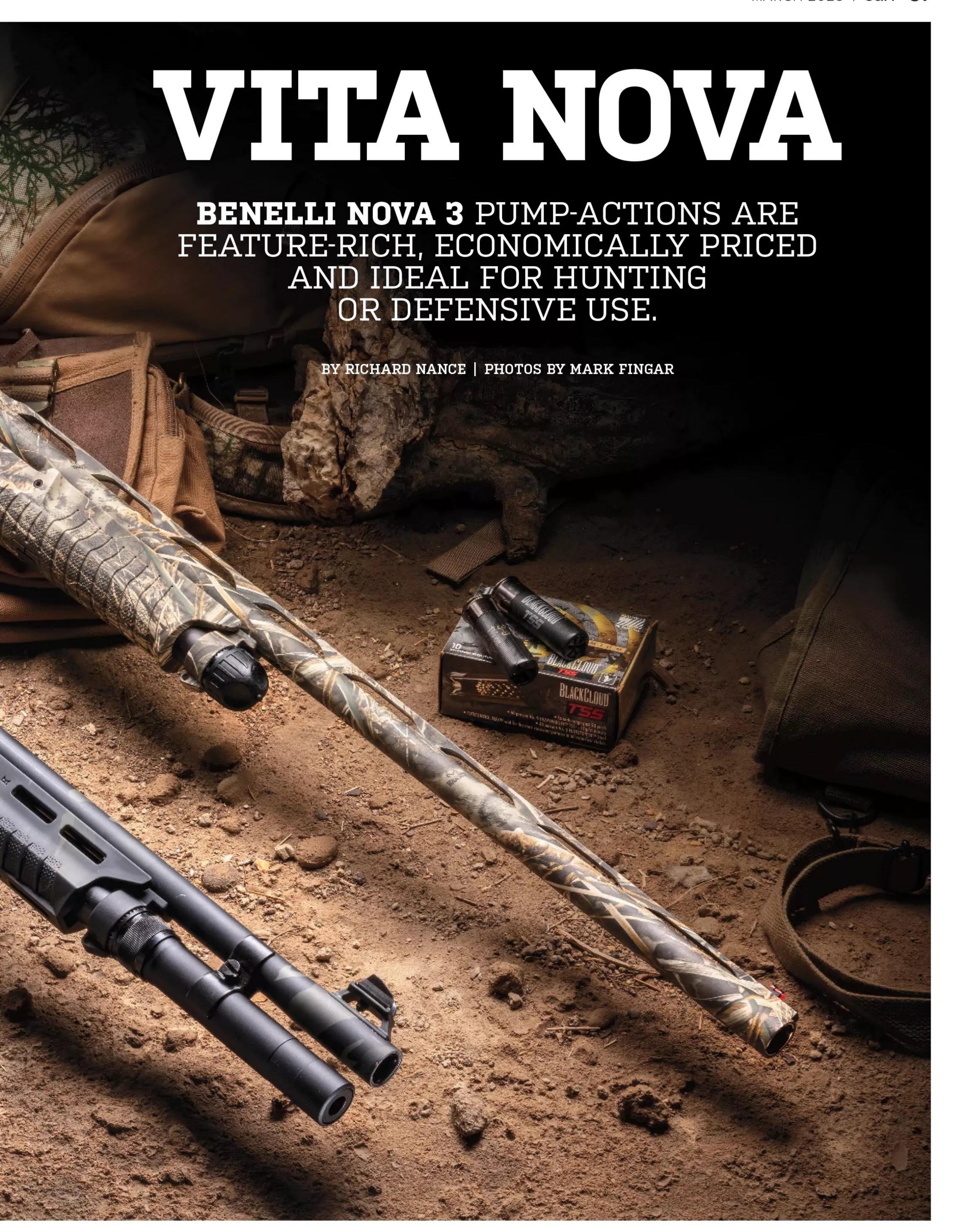
There are important lessons in this column for handloaders. If you want to maximize the performance of your loads, you need to maximize case capacity. This is especially true when loading long-for-the-weight monolithic bullets. Measure the water capacity of the cases and use ones with the highest capacity. Seat the bullets as far out of the case as possible while ensuring they fit in your magazine. If you do this, make sure to check that the bullet isn't being driven into the rifling. You don't want to be out hunting, need to eject the round and leave the bullet in the throat with powder spilled. If you've never had that happen, you don't want to — it's very aggravating.











	JOS IX DISTRIBUTE LEGISLATION DE LEGISLA				
BENELLI NOVA 3 HUNTING					
TYPE	Pump action				
GAUGE	12, 3-in. chamber				
CAPACITY	4+1 shells				
BARREL	26 in. or 28 in. (tested)				
OVERALL LENGTH	49.5 in.				
LENGTH OF PULL	14.13 in.				
DROP A HEEL	2.38 in.				
DROP AT COMB	1.38 in.				
STOCK	Polymer; Ergo evolved; diamond-pattern texture				
WEIGHT	6 lbs., 11 oz. (tested)				
RECEIVER	Polymer				
FINISH	Realtree Max-7 (tested)				
SIGHTS	Fiber optic, red				
TRIGGER	3 lbs., 14 oz. (tested)				
SAFETY	Cross bolt				
ACCESSORIES	Improved Cylinder (IC), Modified (M), Full (F) Mobil chokes and wrench				
MSRP	\$629				



Benelli, benelliusa.com

Each variant of the Nova 3 features a magazine cutoff button located underneath the forend. The Tactical model also sports M-LOK rail attachment points at 3-, 6- and 9-o'clock.

IMPORTER

BENELLI introduced its pump-action Nova shotguns in the May 1999 issue of Guns & Ammo, hunting models first and then tactical models. The Nova found favor for its ergonomic design, Benelli's trademark aesthetics and reliability, all for the entry-level price of \$357.

The Nova was the first predominantly polymer shotgun offering, featuring an overmolded steel chassis and a one-piece receiver and stock. The polymer frame offered excellent resistance to scuffs and scratches, and protected against inclement weather. One of the most under-appreciated features of the Nova was the forend cutoff button. Pushing the button and pulling the forend back allows shooters to eject a shell from the chamber without the action loading another shell from the magazine tube. Imagine hunting ducks as a flight of geese approach. Using the Nova's forend cutoff button, shooters can port-feed a goose load without having to fumble with another duck shell

	LLI NOVA 3 CAL (922R)				
TYPE	Pump action				
GAUGE	12, 3-in. chamber				
CAPACITY	7+1 shells				
BARREL	18.5 in.				
OVERALL LENGTH	40.25 in.				
LENGTH OF PULL	14.13 in.				
DROP A HEEL	2.38 in.				
DROP AT COMB	1.5 in.				
STOCK	Polymer; Ergo evolved; diamond-pattern texture				
WEIGHT	5 lbs., 14 oz. (tested)				
RECEIVER	Polymer, Picatinny rail				
FINISH	Multi-Cam Black				
SIGHTS	3 white dot; post, adj. (front), aperature, drift adj. (rear)				
TRIGGER	4 lbs., 2 oz. (tested)				
SAFETY	Cross bolt				
ACCESSORIES	Modified Mobil; cylinder externally threaded for breaching device). wrench				
MSRP	\$849				
MANUFACTURER	Benelli, Urbino, Italy				
IMPORTER	Benelli, benelliusa.com				



The Nova 3 utilizes a rotating bolt similar to that in the M4 series. Two lugs secure the bolt to the chamber, and the pivoting extractor claw reliably removes shells by the rim.

trying to enter the chamber from the magazine. For tactical applications, a police officer could port-feed a slug instead of having to load it into the magazine tube.

After the Nova came the SuperNova in 2005. It featured a two-piece receiver and stock that enabled users to add a pistol grip, which some prefer on a tactical shotgun. The Nova and SuperNova have 3½-inch chambers. The Nova 3 gets its name not because it's the third generation of Nova, but because of its 3-inch chamber. (There is no "Nova 2.") The Nova 3 also shares design elements of Benelli's popular M4, which is a tactical shotgun designed in 1998 around the same time as the Nova.



The trigger measured an average of 4 pounds on both Nova 3 test guns. The triggerguard also locates the crossbolt safety button and flared action release with red-color dot indicator.

The loading port is large and beveled for quick, pain-free loading. The molded relief contour at the front of the polymer triggerguard and ramped ribs of the elevator guide shells into the magazine tube.

The Benelli Nova 3 series is equipped with an improved stock design and recoil pad. The Nova 3 Tactical features a plug that can be removed for a rear QD-type attachment point for slings.

SIMILAR, BUT DIFFERENT

Before considering the differences in the Nova 3 Hunting model and the Tactical version, let's examine the similarities: Both are slide-action shotguns chambered for 12-gauge ammunition and both will feed either 2¾- or 3-inch shells. The receivers still feature polymer where the action isn't stressed.

The Nova 3 breaks from the original Nova series in that it does not have a skeletonized frame. Instead, the framework is entirely polymer. The only metal in the receiver is where it is drilled and tapped for mounting optics. According to Bret Maffett, Benelli senior project manager, this approach was possible due to advancements in polymer technology. The one-piece techno-polymer receiver and stock were designed to withstand stress and heat, while also being resistant to chemicals. Polymer is also lighter.

The polymer frame of the Nova 3 saved about a pound versus the overmolded steel chassis on the original Nova. A shotgun can get heavy fast in the field, and weight savings eases fatigue. A light shotgun is also easier to wield, so getting on target is faster and more precise.

How can a shotgun with an all-polymer frame be strong enough to fire a shell? The Nova 3 has an M4-inspired two-lug rotating bolt that interlocks with the barrel for metal-to-metal contact. The bolt face features more surface area and ensures even more reliability than the older Nova. According to Benelli, the 3-inch chamber also results in a 14-percent shorter cycling stroke compared to the original.

The Nova 3 is equipped with the "Ergo Evolved Diamond Grip" stock. The look is distinctive, but the grip is better too. The Nova 3 is even easier to control and more instinctive to handle.



The Nova 3 Hunter includes a red fiber-optic bead screwed into the barrel rib.



The thread-on magazine tube cap features ribs and deep scallops for added grip and unique aesthetics.



The topstrap of the Nova 3 is reinforced with metal. It is drilled and tapped for mounting an optic rail.



Standard Benelli 12-gauge flush choke tubes are included with the Nova 3 Hunting models. Additional stainless-steel chokes are available individually at shopbenelli.com. \$20

The layout of controls on the Nova 3 should be familiar to Benelli users. The action release is a thin, flared button marked with an exposed red dot when the action is locked and ready to fire. The action release is on the right side at the front of the triggerguard. It's within reach of a right-handed shooter's trig-

ger finger, but requires the finger to come off the trigger; some will have to forfeit their grip to reach it. The crossbolt safety is positioned between the trigger and the action release. Pressing the button to the right engages the safety; pressing it to the left disengages it.

As any shotgunner can attest, felt recoil can be a deal breaker. Excessive felt recoil can make shooting uncomfortable, leading to fatigue and misses due to flinching in anticipation of it. Knowing this, Benelli redesigned the recoil pad on the Nova 3, and gave the cushion a denser foam for a more comfortable shooting experience.

There's a big difference between a shotgun designed for hunting and one developed for tactical use. The most



recognizable difference is that a hunting shotgun tends to have a longer barrel. Oftentimes, hunting shotguns also wear camo to imitate the environment. For the same reason, tactical shotguns tend to be black, and short barrels are easier to store, retrieve, carry and employ in tight, dynamic environments.

PRACTICAL & TACTICAL

The Nova 3 Hunting shotgun is offered in black, Real-tree Max-7 or Mossy Oak Bottomland. A 26-inch and 28-inch-barrel is available for each finish, equating to an overall length of 45½ to 49½ inches. The length of pull for all Nova 3 models is 14½ inches. In terms of weight comparisons, the short-barrel Nova 3 weighs 6 pounds, 9 ounces, and the long-barrel version weighs 2 ounces more.

The Nova 3 Hunting guns are ribbed with a long sighting plane. These come with an Improved Cylinder (IC), Modified (M), Full (F) and Mobil choke, giving users the option of adjusting the pattern and range when hunting different





TaurusUSA.com



With a red-dot mounted to the Nova 3 Tactical, shooters can zero the aiming dot to the shotgun's actual pattern at a specfic distance. An Aimpoint ACRO C-2 was used during tests. \$599



The steel barrel extension and hood were designed to safely contain and guard the polymer receiver from the chamber pressure created as a shell is fired.

species at different locations with birdshot.

The red fiber-optic front sight on the Hunting models provide a clear indication of where the muzzle is oriented in relation to the target. As hunters expect, there's no rear sight because our focus should be on the target, which is usually in flight.

The Nova 3 Tactical is available in five configurations, each having an overall length of 401/4 inches. Barrels are 181/2 inches. The Tactical models weigh a svelte 5 pounds, 14 ounces, and length of pull is 141/8 inches. All have a drift-adjustable ghost-ring rear aperature sight with an elevation-adjustable front sight post. The front sight post contains a white dot, while the rear sight sports a dot on either side of the ring.

A sling is a critical accessory for tactical shotguns, so Benelli gave the Nova 3 Tactical flush, quick-detach (QD) sling cups on both sides of the stock. There are also slingswivel mounts on the bottom of the stock, and a barrel



The Nova 3 Tactical choke set includes an externally threaded, extended choke to accommodate a breacher's muzzle device.





The Nova 3 Tactical includes a drift-adjustable steel post with dot and guarded steel shields at the front. The rear sight is also steel and is an adjustable aperture flanked by two dots.

clamp as on the Nova 3 Hunting. Further, a sling and light can be attached to one of six M-Lok slots on the forend where you prefer.

The Tactical model has a fixed cylinder choke. The

black and MultiCam Black models come with a fixed Modified (M) choke. The 922r models — which are available in black and MultiCam Black — include a Modified Mobil choke and a Cylinder choke that's externally threaded to accept a breaching device.

All but the 922r models have a four-plus-one capacity. The 922r has

an extended magazine tube that ups capacity to a formidable seven-plus-one. A Picatinny rail atop the receiver further distinguishes the 922r from other Nova 3 Tactical models. The rear sight assembly can be removed for an unobstructed view of a low-profile optic, which is quickly becoming the norm for tactical shotguns.



PERFORMANCE

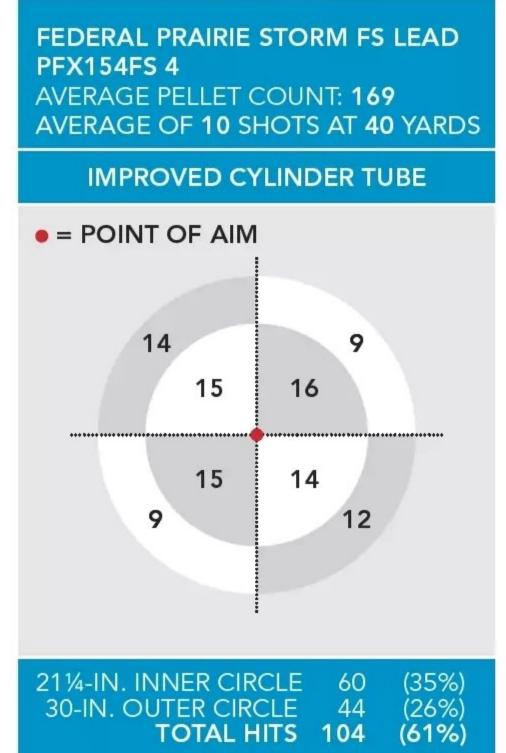
I patterned both Benelli Nova 3 Hunting and Tactical models from a bench at 40 yards. The target contained a 30inch outer circle and a 211/4-inch inner circle divided into

four quadrants. Counting the number of pellet holes in each quadrant reveals how the shotgun patterns and reveals any barrel bias.

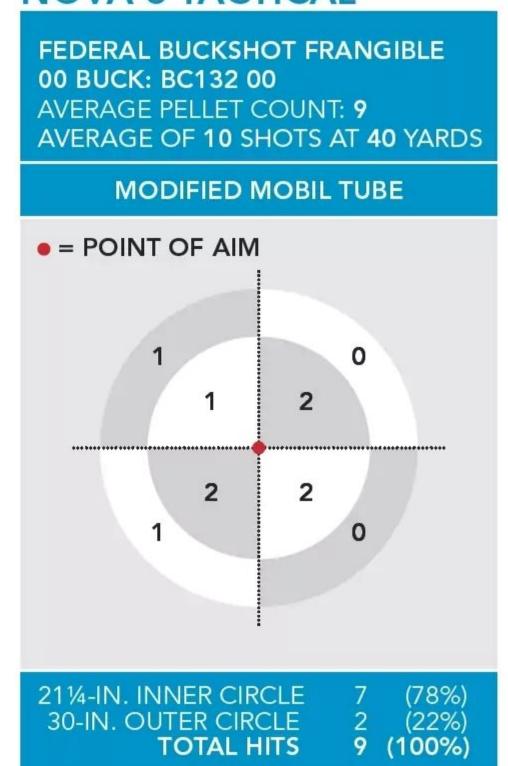
I used Federal's Prairie Storm FS Lead load in No. 4 to test the Hunting model, and Federal's Frangible 00 Buck in the Nova 3 Tactical 922r version. Both were intuitive to shoot. The triggers felt a little stiff, but the pull weight on each measured about half of the 8-pound tested pull from the original Nova.

The Nova 3 is comfortable to shoot offhand, and there is a considerable reduction in felt recoil. You could shoot slugs from the Nova 3 Tactical shotgun, but since these have smooth bores, accuracy at distance can be unpredictable. The Nova 3 Tactical shotguns are best suited for use with buckshot, which was devastatingly effective in close-quarter testing. Buckshot is also less likely to over-penetrate than slugs, which is why it remains a popular option among police and law-abiding citizens for home-defense.

NOVA 3 HUNTER



NOVA 3 TACTICAL



The Nova 3 grip texture and scalloped forend aided in my ability to control recoil, and this made it easier to work the action in a hurry. Due to the shape of the forend, which is wider toward the rear, the Nova 3 was easier to port load over the top of the receiver rather than underneath it.

VALUE-ADDED

Whether you're interested in a hunting or tactical pump-action shotgun, the

Benelli Nova 3 is at the top. Economically priced, the list of features suggest that we should expect to pay more. More importantly, the Nova 3 doesn't handle or perform like an entry-level shotgun.

Not to be dismissed, the Nova 3 is backed by a 10-year warranty, which covers the cost of parts, labor and shipping should something go awry under normal use. The peace of mind provided by this warranty is eclipsed only by the secure feeling of a Nova 3 in your hands.

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7MM BACKCOUNTRY

FEDERAL DEVELOPED CASE TECHNOLOGY TO ADVANCE CARTRIDGE DESIGN.

BY TOM BECKSTRAND | PHOTOS BY MARK FINGAR

HIGH-PRESSURE AMMUNITION is unlikely to be a passing fad. The United States military got this ball rolling several years ago when it challenged the industry to find a solution that could penetrate the inexpensive foreign body armor distributed to conflict zones worldwide. I, like many others, thought this was a horrible idea because such ammo would only shorten the life of rifles and offer no significant performance gains. I was wrong.

Federal announced the 7mm Backcountry on January 7, 2025. It is the first high-pressure one-piece-case cartridge designed for the American commercial market. The shooting and hunting community will inevitably form many opinions on the 7mm Backcountry, but my field research told me that Federal got this right. I could think of no changes or improvements to the cartridge length, case

material, or caliber. It's a proper high-pressure cartridge designed for today's hunter.

The 7mm Backcountry offers increased velocity at the same bullet weight when compared to the 7mm Remington Magnum or 7mm Precision Rifle Cartridge (PRC). That is true in barrels of the same length, but also when the larger-volume cartridges are fired from a 24-inch barrel and the 7mm Backcountry from a 20-inch barrel. Increasing the velocity while shortening the barrel means a hunter can still use a suppressor while enjoying an increase in performance in a compact

rifle. The only trade-off is that the Backcountry relies on a higher chamber pressure to achieve it. The details of this require some examination.

THE WALK-AROUND

The 7mm Backcountry is a cartridge measuring 3.34 inches long with a case-head diameter of .472 inches. This means it's about the size of a .30-'06 Springfield cartridge, but with a 7mm or .284-inch caliber projectile. The cartridge case is made of a unique steel alloy developed to contain the high pressure. Where a magnum rifle cartridge will have a maximum pressure of 64,000 pounds per square inch (psi), the 7mm Backcountry has a maximum pressure of 80,000 psi. Pressure at that level is better contained by steel than brass to prevent injury to the

shooter should a accident happen.

Federal highlighted three numbers to showcase the Backcountry's performance in its presentation to Guns & Ammo: "20," "170" and "3,000." When fired from a 20-inch barrel, the Backcountry will push a 170-grain bullet at 3,000 feet per second (fps). My independent testing confirmed Federal's claim. That is a pretty sweet combination for anything I care to hunt at any distance. That combination is good for elk, bear, moose, African plains game and all the smaller critters. Initially, there will be five different loads





The author took a thick-skin gemsbok, an *Oryx* gazella, at 252 yards with one shot placed behind the shoulder. The bullet exited and was not recovered.

for the 7mm Backcountry. They are the 155-grain Terminal Ascent, 170-grain Terminal Ascent, 168-grain Barnes LRX, 175-grain Fusion Tipped and (the big 'un) 195-grain Berger Elite Hunter. This is a comprehensive line-up that offers everything from thin copper jackets to bonded bullets and monolithics. All of these bullets come with aerodynamic ballistic coefficients (BC) that will hold on to velocity and energy, even as the distance to the target gets long.

AMMUNITION SCIENCE

With the basics out of the way, it's time for a detailed look at how the 7mm Backcountry does what it does. Ammunition loaded to this pressure requires more from the gun designer if the rifle is

expected to survive a steady diet of 80,000 psi. I contacted three premium rifle manufacturers to determine what they've learned from testing the 7mm Backcountry. Each of these companies agreed to share information with G&A, provided that we keep their identities private. It was the only way to extract information from them, so I agreed.

While increased chamber pressure is certainly a conversation starter, chamber pressure is most relevant as it relates to bolt thrust, or the amount of force put on the bolt face by a fired cartridge. The amount of chamber pressure required to get the barrel to explode is far higher than the pressure required to shear lugs off the bolt or to set the lug abutments in the receiver back far enough that the cartridge case can rupture and allow gas to exit rapidly through the receiver. Bolt thrust is the root cause of the two latter incidents, so let's start there. My apologies in advance for the technical nature of this article, but high-pressure ammunition is new so some concepts and terms have to be covered to communicate the significance of these cartridges.

WORD CHOICE

A simple way to calculate worst-case bolt thrust is to multiply the area inside the case head by the maximum chamber pressure. The inside diameter of the case head of a standard bolt face cartridge is .385 inch. The area of a circle equals pi times the radius squared, and that's 0.1164 in.². Multiply that by 80,000 and we get a bolt thrust value of





A kudu fell to the 7mm Backcountry from 300 yards. It entered the chest cavity and exited the far shoulder. A recovered follow-up bullet expanded perfectly.

9,313 pounds (lbs.) for the 7mm Backcountry. A standard magnum cartridge loaded to 64,000 psi has a larger internal case head (.420 inch), so it generates 8,866 lbs. of thrust. If the cartridge cases were made from the same material, the 7mm Backcountry would generate an additional 5-percent bolt thrust. That's negligible.

However, the 7mm Backcountry uses a steel alloy case that Federal has termed "Peak Alloy." The material selection was no accident and shows just how much material science and case design can impact cartridge performance. There's a lot to be learned by comparing and contrasting the 7mm Backcountry with the SIG Sauer .277 Fury.

The only other high-pressure cartridge currently commercially available is the .277 Fury. It has a case head the same size as the 7mm Backcountry, and it is loaded to the same pressure so bolt thrust should be the same. However, it is not. One rifle manufacturer

told me, "Bolt thrust goes through the roof with the two-piece case at 80,000 psi." The two-piece case uses a steel case head but has a brass body and neck. The difference in materials between the two case bodies and the friction with the case wall — known as "shear transfer" — offered by each is the reason why the two-piece case struggles in this area.

When a cartridge fires in the chamber, the pressure causes the body to swell and press against the chamber wall. The degree to which the case sticks to the side of the chamber wall under pressure affects how much force the case head generates against the bolt face. A case that doesn't deform around the primer but also swells enough to gain solid traction with the case wall generates lower bolt thrust. This occurs because the friction between the case body and chamber wall counteracts the bolt thrust because the two forces oppose each other. This is "shear transfer." If the fired case can't squish out the back of the chamber because it's held in place against the chamber wall, it can't put much pressure on the bolt face sealing the exit. According to one rifle manufacturer, at 80,000 psi brass cannot hold on to the chamber wall enough to prevent skyrocketing bolt thrust. It appears as if the steel alloy used in the 7mm Backcountry is the ideal cartridge case material at high pressure.

The other factor the Backcountry has as a significant advantage over the .277 Fury is its length. Undoubtedly, there will be many riflemen that lament the 7mm Backcountry wasn't a short-





A member of Africa's spiral-horned antelope, the nyala is a thin-skinned game, demonstrating the versatility of the 7mm Backcountry across many species.

action cartridge. We've already discussed bolt thrust and how it's generated, but a long case can significantly reduce bolt thrust because it has so much more surface area in contact with the chamber wall. Making a case longer generates more shear transfer and further reduces bolt thrust when compared to a shorter case made from the same material at the same pressure. Federal combined its Peak Alloy and a long case to make 80,000 psi as gentle as possible on a rifle. It was a brilliant decision.

The 7mm Backcountry cases are also reloadable for two or more firings. According to one rifle manufacturer I interviewed, every custom action tested and most factory rifles will experience .0002 to .0003 inch. of lug setback, but then lug setback stops. (That's two or three ten-thousandths of an inch.) That isn't enough to significantly change the rifle's headspace, however. Proof loads measure 114,000 psi,

which would cause about every action currently available to walk with a permanent limp after firing one round.

BEYOND THE LAB

I spent 10 days in South Africa on a plains-game hunt in late spring 2024 testing the 7mm Backcountry. I hunted with John-X Safaris (johnxsafaris.com) and can't recommend this East Cape outfitter enough. Though it is a mid-tier-priced operation, every aspect of the hunt was world class. The animals, the professional hunters (PH) and the accommodations were some of the best I've ever experienced.

I hunted springbok, gemsbok, nyala and kudu. All of these animals only required one shot at distances from 252 yards (gemsbok) to 442 yards (springbok). (I did shoot the Kudu twice because he was huge and I didn't want him to get away.)

I hunted with a Gunwerks ClymR (\$7,050, gunwerks.com) and had great luck with the rifle, both in the field and during additional testing at the range. Curious to evaluate how the 7mm Backcountry recoiled when compared to other magnum-class 7mm rifles, part of my testing included shooting rifles of similar weight — within 8 ounces — to compare its recoil characteristics. I performed several tests of the Backcountry versus the 7mm PRC and, as the math indicated, there was no discernable difference between the two. Both rifles were made by Gunwerks and benefitted from an excellent stock design. Neither 7mm magnums were punishing.



LEARN MORE



The acquisition, ownership, possession and use of firearms are heavily regulated. Some models may not be legally available in your state or locale. Whatever your purpose for lawfully acquiring a firearm – know the law, get trained and shoot safely.



ACCURACY CHECK

The Terminal Ascent bullet in Federal Premium ammunition is a phenomenal hunting bullet. The 170-grain load was the one I used to evaluate the pre-production samples of 7mm

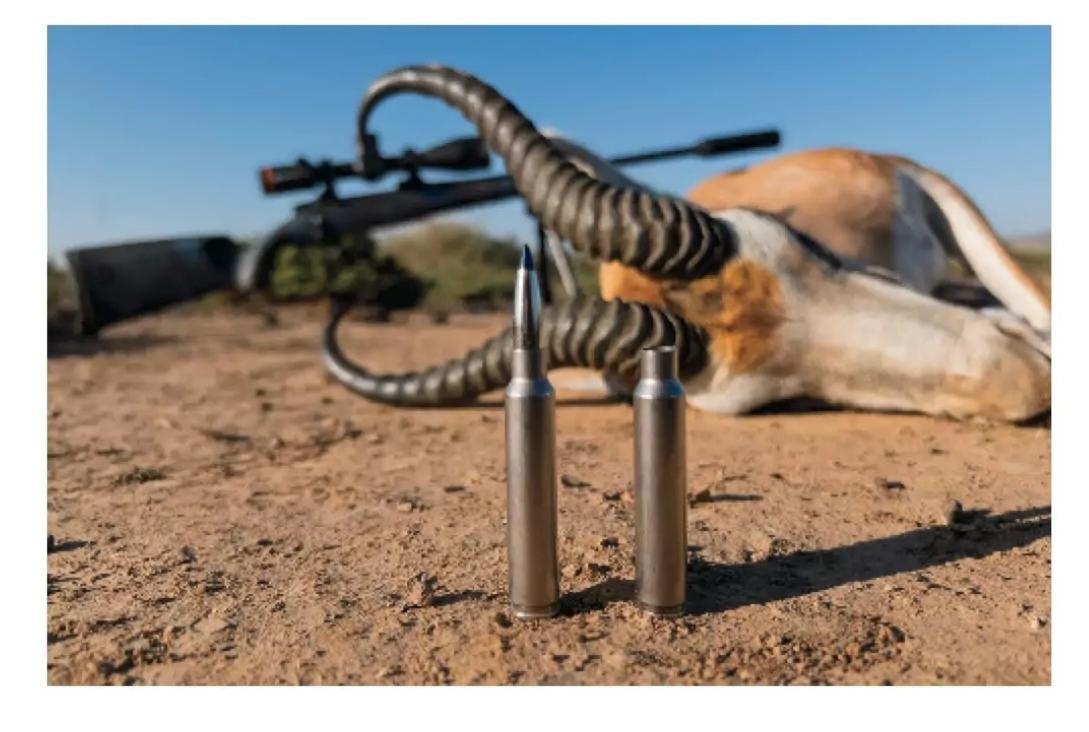
Backcountry on African plains game. I experienced some difficulty getting it to group well from the Clymr, though, whereas the 175grain Fusion Tipped and 168-grain Barnes LRX were nothing short of phenomenal. One three-shot group with the Barnes bullet measured .2 inch, which qualified as one of the top three smallest groups I've ever fired with factory ammunition, let alone hunt-

ing ammunition. There was no factory-loaded ammunition available with the 195-grain Berger at the time of my tests, but I look forward to seeing how it will shoot, also.



LOAD	VEL. (FPS)	ES	SD	BEST GROUP (IN.)	AVG. GROUP (IN.)
Federal Premium 168-gr. LRX	2,917	28.5	10.7	.2	.32
Federal 175-gr. Fusion Tipped	3,012	26	8.8	.34	.49
Fed. Prem. 170-gr. Term. Ascent	2,954	24.2	9.8	.87	1.02

Notes: Accuracy is the average of five, three-shot groups at 100 yards from a 20-inch barrel on a Gunwerks Clymer rifle. Velocity is the average of 10 shots measured with a Garmin Xero C1 Pro chronograph placed adjacent to the muzzle.



MORE TO COME

As high-pressure cartridges go, it would be hard to come up with a smarter or safer cartridge design than the 7mm Backcountry. It ushers in a new era for rifle cartridges. With Federal's Peak Alloy cartridge case and manufacturing capability, it is now possible to obtain magnum performance from a short barrel — without the increased

felt recoil. For those who hunt suppressed and are trained in long-range or all-range precision, Federal made the 7mm Backcountry for you.



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SUPERLATIVE

THE AIMPOINT COA AND A-CUT MOUNTING INTERFACE REVOLUTIONIZES HOW SHOOTERS SECURE AN OPTIC TO A GLOCK PISTOL.

BY ERIC R. POOLE | PHOTOS BY MICHAEL ANSCHUETZ

AS AIMPOINT CELEBRATES its 50th Anniversary, in a partnership with Glock, it has introduced the COA red-dot sight and A-CUT mounting interface for 2025. The COA is a slim-profile red-dot sight designed to reduce the height-over-bore of the optic window so that it may easily co-witness with standard pistol sights. Especially innovative is the mounting system, called "A-CUT," which will be exclusive to Glock pistols for one year. Aimpoint and Glock have also indicated that by mid-year 2025, Glock will offer replacement slide assemblies with A-CUT to enable existing owners of specific Glock models to benefit from this revolutionary, collaborative effort.

WHAT IS A-CUT?

A-CUT is a mounting profile that eliminates the need for adapters or plates to attach the Aimpoint COA sight. Initially available on compact and full-size Gen 5 models such as the Glock 19/45 and slim models such as the Glock 43X, COA is positioned deeper in the slide, closer to the bore-axis of the Glock Marksman Barrel (GMB) when mounted. This makes it faster and easier for shooters to recover the red dot inside the window with each shot. Downrange, shooters should expect to maintain or improve their

accuracy potential within tighter time restrictions.

Due to the longitudinal and tapered mounting interface, A-CUT supports the entire length of the COA sight that can't be loosened in any direction. Furthermore, the slide cut incorporates a unique wedge-andhook design to trap the front of the COA and a ramp at the rear that forms a wedge when the rear sight clamp is installed. The rear-sight clamp secures the COA to the Glock A-CUT slide using two pan-head hexalobular M3.5 "Torx" screws set to 2 Newtonmeter (nm), i.e, 17.7 inch-pounds (in.-lbs.). The provided Aimpoint T10 tool can be used to secure these screws or adjust windage and elevation.

The black, square notch-type rear sight is integral to the top clamping wedge. With the optic secured by the wedges at the front and rear, and interlocked underneath the base, COA can't move or become loose. To ensure that an optic won't loosen, the patented A-CUT design means that no stress from recoil energy is transferred to the screws either; the screws are isolated from the recoil, which can cause typical optic-mounting screws to fail. When compared to the usual optic set-ups on a pistol, COA also requires fewer screws (resulting in less weight) because the user doesn't need to mount an adapter plate to the slide and then an

Measuring 1.1-inches wide, the Aimpoint COA is no wider than the width of the slim Glock 43X, and requires no special accommodations for carrying in an optic-ready holster. The intensity level of the enclosed emitter is adjusted by pressing either button on the rubberized control pad; press and hold both to turn off the power.



optic to the mounting plate. The A-CUT solution enables extreme stability and is the most rugged and precise on the market.

When mounting an optic to a pistol slide, users are often faced with the issue of co-witnessing the pistol's sights as a backup system to the optic. Co-witnessing a set of sights to the red dot means that when aligning the front and rear sights, a zeroed red dot will sit atop

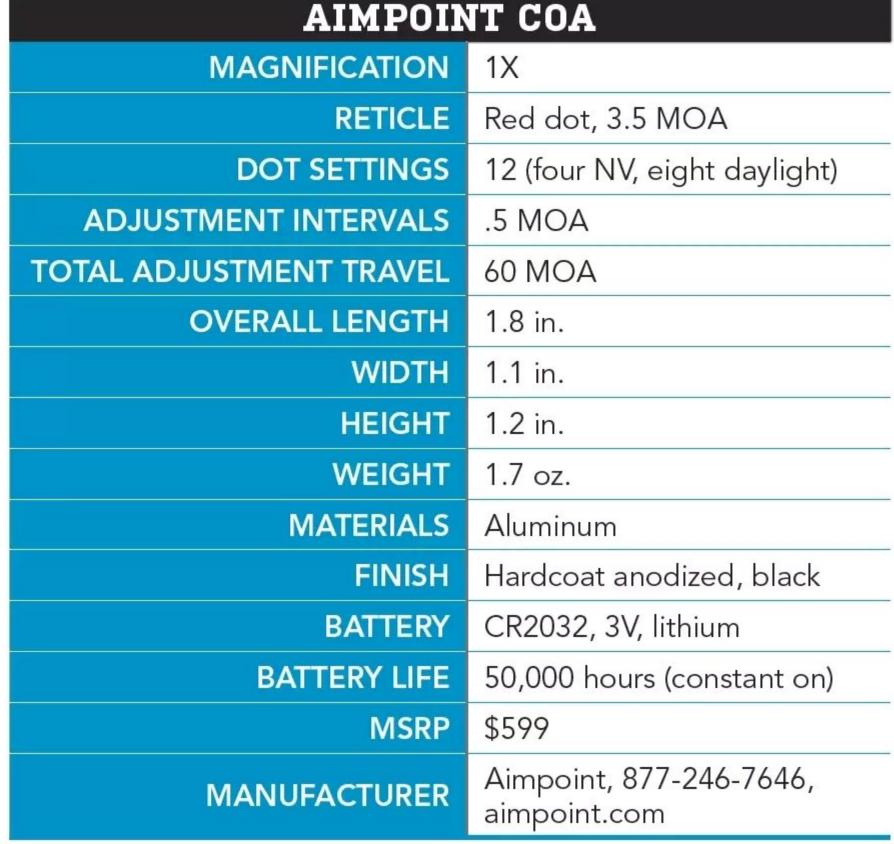
the front sight post. Due to inferior engineering and the stacking of thick mounting plates, most optics are too high to co-witness the red dot with standard-height sights. To achieve cowitness, users often choose to replace factory-installed sights with taller "suppressor-height" sights. This effort is unnecessary with the A-CUT and COA sight combination because the height of the enclosed optic windows is lower on the Glock slide. Users can retain the factory installed, standardheight sight and enjoy the benefits (such as not having to order a custom holster with a tall sight channel).

1			
The Control of the Co	Aimpoint.		

With the T10 screw removed, the user has access to the battery tray. To change the CR2032 battery, the COA does not have to be removed from the slide and re-zeroed.

THE AIMPOINT COA

The COA is an ultra-compact sight with a large aperture. It is an enclosed-emitter optic, a category invented by Aimpoint with the introduction of the ACRO in Guns & Ammo's November 2018 issue. "Enclosed emitter" means that the electronics and internal adjusters are encased in a ruggedized 6061 aluminum alloy housing. The housing is hardcoat anodized matte



black, which has been proven on Aimpoint products to resist the wear from hard use. The glass lenses are precision ground and coated before the optic is assembled and sealed in Sweden.

There is a subtle groove that wraps around the sides and top of the front of the COA. This channel was designed to support protective accessories that will be developed for the front window. Atop the COA, there are no buttons or adjustment screws that could be unintentionally pressed. Instead, users will find the windage adjustment on the right side just behind the battery access, and an elevation adjustment screw on the left side behind the rub-

berized intensity level and power-control pad. Note: When it's time to change the battery after 50,000 hours of constant on — about five years, 258 days, and eight hours — you won't have to remove the COA from the slide and forfeit its zero, nor will you have difficulty finding the CR2032 battery. It's an engineering feat that Aimpoint managed to locate



The A-Cut mounting interface was engineered to lower the optic, allowing the red dot to be used with standard-height sights and to eliminate the stress of recoil forces on mounting screws. The front of the COA interlocks like a wedge and is secured by the sight clamp fastened to the slide by two screws at the rear.

a common battery and maintain the optic's slim profile.

The battery powers the red dot, which is adjustable between 12 settings, eight for daylight and four for night vision (NV). Changing settings produces a smooth transition between intensity levels. With inferior sights that I've tested, pressing the up and down arrows results in the dot disappearing before reappearing with an increased or

THE TAKEAWAY

At launch, the Aimpoint COA will be offered preassembled from the Glock factory on G43X and G45 slides. It will be sold exclusively through Glock for 12 months, and the sight alone will be priced the same as the ACRO P-2: \$599. Anyone who carries a pistol for defense or duty should consider this collaborative effort. If your performance with a pistol requires dependable accuracy and durability, there is no better solution.

wear night-vision goggles (NVG). The dot is

easily visible while wearing all types of night vision, and

the manual of arms to successfully engage a target in the

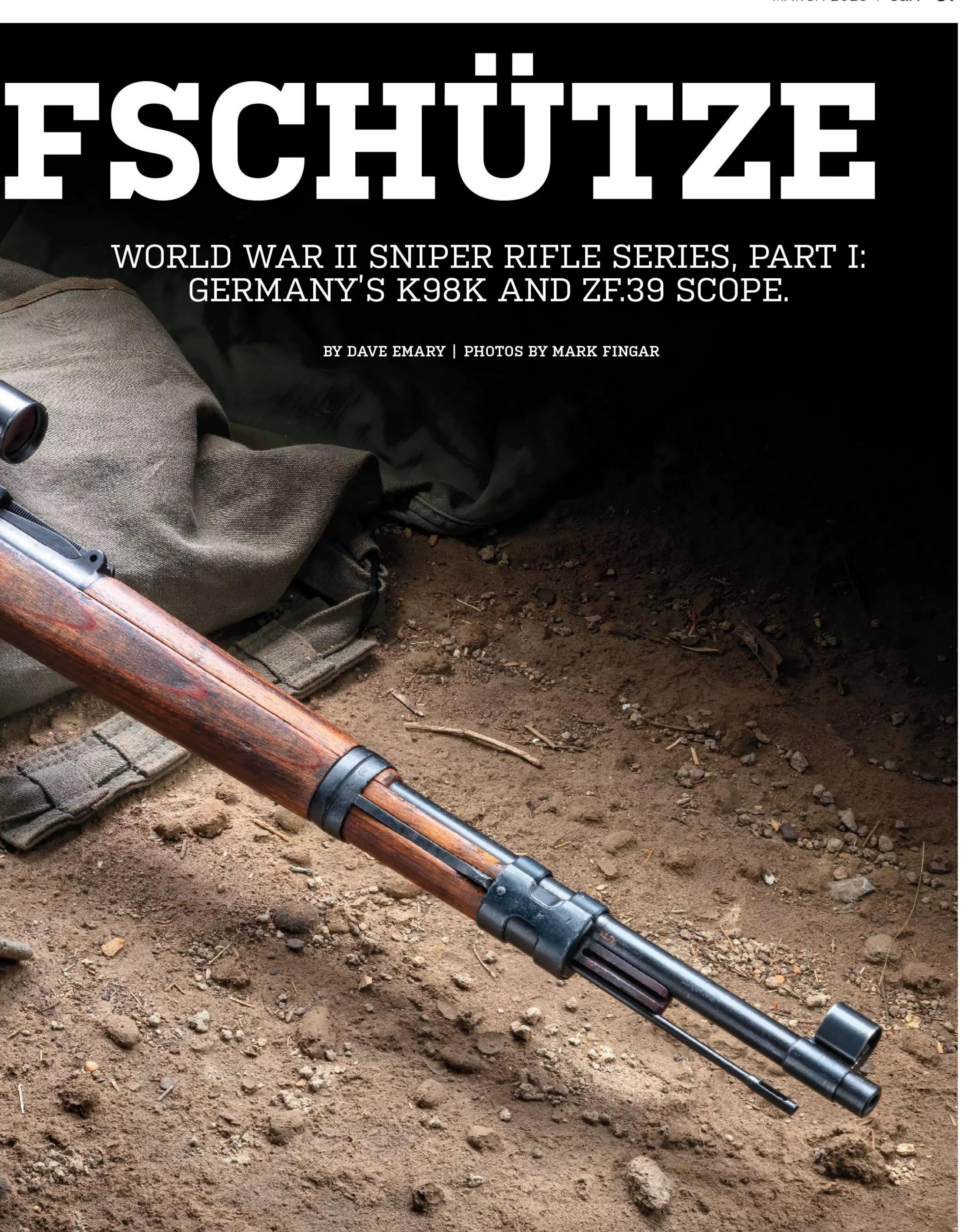
absence of light is no different with the Aimpoint COA.

When the ACRO was announced, gunwriters defined the name as an acronym for "Advanced Compact Reflex Optic." In truth, it means nothing. The same is so for COA. Legally, the name needed to be as unique as possible. Name aside, I have chosen to describe the COA as "brilliant." The superlative is often used as hyperbole to describe a fresh idea, but the A-CUT mount and Aimpoint COA are — undeniably — brilliant.



proved to be more robust.

I-vintage G98 rifles reworked to K98 specifica-











Russia campaign, a number of the

World War I-era G98 scoped rifles,

aforementioned, were reassembled

increasingly victim to Russian snipers.

and issued as the Wehrmacht fell

It was common practice, well into

1943, for the Germans to use cap-

Alleberger — 257 confirmed kills

— used a captured 91/30 PU rifle

for nearly a year, successfully, before

tured 91/30 sniper rifles against the

Russians. German sniper Josef "Sepp"

The Zf.39 turret mount was stout, involving both screws and soldering to the receiver. The rear mount (above, center) featured a quick-release lever to either lock the scope in place or remove it. A Carl Zeiss Zielvier 4X was sourced for testing.

At about the same time the SS was building sniper rifles, the Wehrmacht started a program for the ordnance department to assemble its own K98k sniper rifles with the low turret mount. It was a much stronger and more robust system than the side rail mount. It consisted of large bases on the front receiver ring and rear receiver bridge that were both screwed and soldered to the receiver. The scope was soldered into the rings. The scope and rings were turned into the front base and

rotated 90 degrees into a dovetail in the rear mount and locked in place with a small lever. The rear mounting ring allowed windage adjustment with two opposing screws. The ordnance department's requirements for rifles to convert to snipers noted they had to have a "perfect bore," whatever that meant. Accuracy testing was not done for rifle selection.



The Zf.39 featured a knurled ring for adjusting elevation with a bar in the middle to adjust focus.

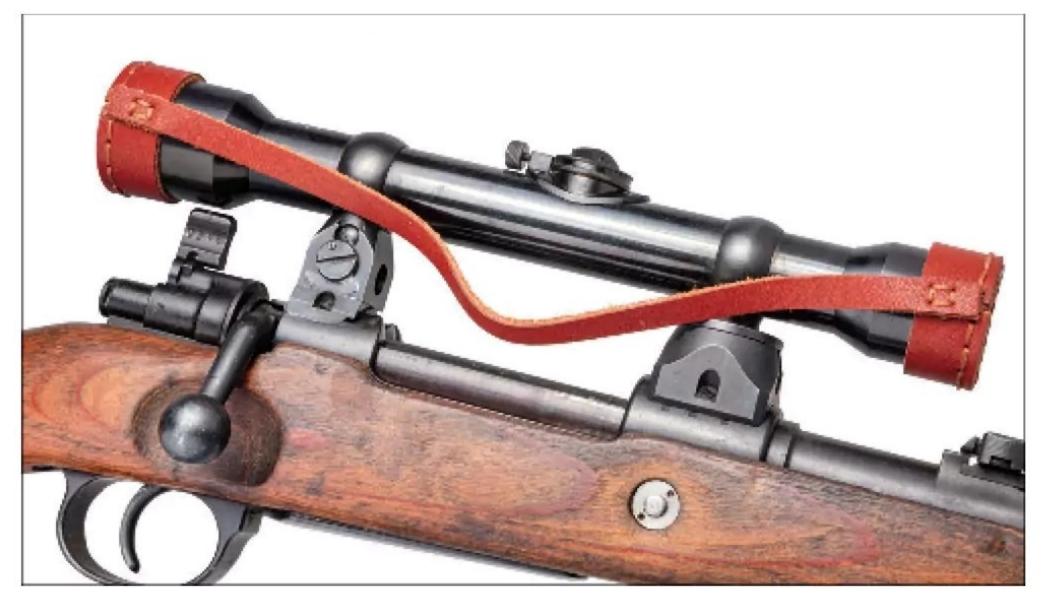
attending sniper school and being issued a K98k with Zf.39 scope in late-summer 1944.

Throughout the war, attempts were made to improve the performance of the K98k sniper rifles. Different types of scopes and mounts were experimented with, and the turret-mount scoped rifles became the most produced sniper. The Germans also fielded large numbers of the Zf.41 K98k

after 1941, equipped with essentially a long-eye-relief

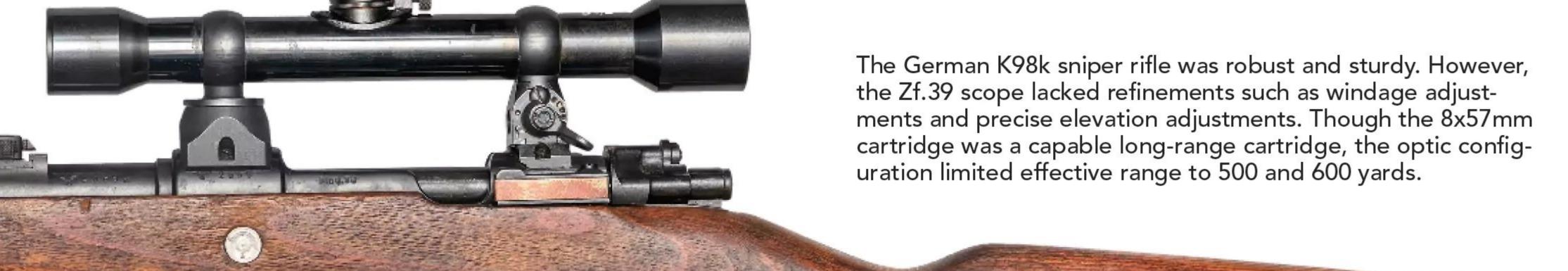
FORMAL PRODUCTION

After the invasion of Poland on September 1, 1939, the Wehrmacht awarded contracts to rifle manufacturers to build K98 sniper rifles. This provided far greater production and improved the performance of the system as the manufacturers selected the best-shooting rifles during production testing for conversion to a sniper rifle. Early in the



Snipers were issued a metal can to store the Zf.39 for transportation. A leather scope cover protected the lenses in the field.

scope mounted above the rear sight. It was a small aperture, dim and smallfield-of-view 1.5X magnification scope that was considered worthless and ineffective by troops. They also fielded large numbers of the semiautomatic Gewehr 43 (G43) rifle with the Zf-4 4X magnification scope. The G43 was not as accurate as the K98k, but it was valued for its firepower

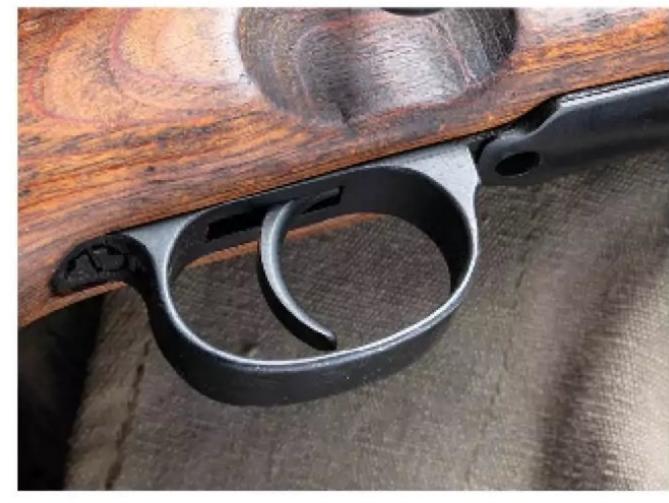




8x57 test ammunition (left-to-right), 1939 SmK; 1938 s.S. Patrone; 1940 s.S. Patrone.



The K98k Zf.39 carried the same rifle features as the standard-issue K98k, including the front sling-attachment point.



No special treatment was given to the triggers of the K98k Zf.39. Sniper rifles were selected for demonstrated accuracy.



Unlike some veterans' numbers-matching bring-back K98s, Russian capture examples often feature mismatched parts.



Stamped steel barrel bands and milled H-style barrel bands appeared on K98k Zf.39 sniper rifles.

and rapid follow-up shots.

As far as expectations of the German sniper, I could find little information on this. However, both Alleberger and sniper Bruno Sutkus stated that the majority of their engagements were from 150 to 400 meters. Alleberger added that there was much talk of kills at 800 meters, but he said this was a lot of bluster. The real snipers considered any attempts at those distances a circus shot.

My test Zf.39 K98k was a Russian-capture, "AR 41"coded Mauser Borsigwalde K98k with a nearly new bore. I acquired steel low-mount turrets and a Carl Zeiss Zielvier Zf.39 reproduction scope, which was made in Jena, Germany, to the same specifications as the original Zf.39. The only other work I did to the rifle was to adjust the bedding to produce 4 to 5 pounds of upward pressure on the barrel from the front of the forend. I also made sure that — other than the front 3 inches of the stock forend — the rest of

the stock barrel channel did not contact the barrel. I felt that these modifications were appropriate due to the rifle being a Russian capture with a number of mismatched parts. (Original rifles were assembled and fitted this way, too.) The trigger was clean with no creep but tested at a heavy 6 pounds, 11 ounces. The rifle weighed heavy at 10.9 pounds.

8x57mm MAUSER AMMUNITION

At the start of World War II, the standard-issue load for the German army was the s.S. Patrone with a 198-grain spitzer boattail bullet. The load was intended for long-range machine-gun fire. In 1940, the semi-armor-piercing S.m.E. load was introduced. Lead was in short supply in Germany, so the core was changed to a mild steel with a thin lead shell around it. The S.m.E. bullet weighed 178 grains, and the S.m.E. loads replaced the s.S. Patrone by 1942. The series





The K98k Zf.39 retained the tangent-curve, 100- to 2,000-meter, adjustable rear leaf sight in case the scope was damaged. The turrets had a tunnel to allow for use of the standard sights.

also included a tracer round called the S.m.E. "L'Spur," for "Leuchtspur." In 1943, the lead content was reduced further, but the length of the mild steel core was increased to offset the loss of lead in the core. The new load was called the S.m.E. "lang" for "long." This load had a near-identical trajectory as the s.S. Patrone to 1,531 yards (1,400 meters).

The s.S. Patrone and S.m.E. series were the mainstay of the German infantry in World War II. The S.m.K. AP load was produced throughout the war, and it featured a hardened steel core with a weight of 183 grains. The S.m.K. L'Spur was an AP-T tracer load with a hardened steel core, having a projectile weight of 157 grains. The s.S. Patrone and S.m.K. loads were sought after by snipers because they were known to be accurate. The s.S. "Anschuss" load was a special purpose, tight tolerance load that was used for accuracy testing of production rifles and in repair

centers. This was probably the most accurate load available and was highly sought after by snipers, but it was not readily available. Due to material shortages, cartridge cases were converted from brass to lacquered steel in the 1940 to '41 timeframe. By 1942, virtually all 8x57 ammunition was steel case. Incidentally, the S.m.K. load barely defeats 5/16-inch of armor at 500 yards. (I had a piece of armor at the test range and couldn't help myself.)

In the memoir "Sniper on the Eastern Front" (2008),



Neither the blued bolt or safety assemblies were altered on the K98k Zf.39. Some late-war rifles had a lower safety to improve its ease of use.



The handle of the Model 98a carbine was turned down, and the stock was relieved for clearance to grasp it. There was minimal risk of interference with the Zf.39 scope when lifting the bolt.

MAUSER MODEL 98K ZF.39					
TYPE	Bolt action				
CARTRIDGE	8x57mm Mauser				
CAPACITY	5 rds.				
BARREL	23.62 in., 1:9.45-in. twist rate				
LENGTH	43.6 in.				
WEIGHT	10 lbs., 14 oz. (tested)				
STOCK	Beech wood, laminate				
FINISH	Blued (steel), phosphate (steel)				
SIGHTS	Λ-post (front); V-notch, tangent curve leaf, elevation adjustment, 100m to 2,000m (rear); Zf.39 4X scope				
TRIGGER	6 lbs., 11 oz. (tested)				
SAFETY	Three-position lever				
MANUFACTURER	Mauser Werke, Germany				

Alleberger reported shooting s.S Anschuss ammunition at sniper school but never said it was available in his unit on the Eastern Front. In his memoir "Sniper Ace" (2009), Sutkus reported he hoarded any pre-war ammunition he could find, including captured Yugoslavian ammo. He stated these were both more accurate. In February of 1945, Hitler approved the use of the B-Patrone spotter (explosive) load for use on the Eastern Front. It was a last-ditch effort to exact heavier casualties on the Russians to try and slow their advance. For testing the Zf.39 K98k, I found some pre-war 1939 s.S. Patrone

ammunition and 1939 S.m.K. loads. I also found a small amount of early war s.S. Patrone ammunition from 1940.

AT THE RANGE

Testing was done on a known-distance (KD) range with targets at 100, 200, 300, 400 and 500 yards. We fired at the B27 human silhouette target to more closely match the sight picture that would have existed for a sniper. We only fired three-shot groups at each range to conserve our limited



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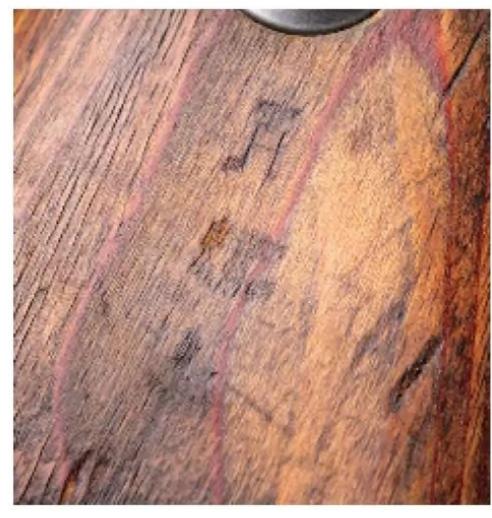
Guns & Ammo's test rifle was Russian-capture, evidenced by the markings on the stock and the stamped serial number.

ammunition supply, and we zeroed the Zf.39 K98k with a handload of 43.6 grains of IMR 4064 and Nosler's 200-grain boattail hollowpoint (BTHP) with several five-shot groups.

The Zf.39 scope has the worst elevation mechanism of war's sniper rifles. It is simply a course-threaded lead screw with a small tab on the reticle that engages the thread. It offered questionable repeatability and lots of backlash. It may have been a decent hunting scope, but it was not a precision riflescope. If adjustments were made in the same direction, the scope tracked reasonably well. Getting a precise adjustment was difficult. If you need to adjust it in the opposite direction, you have to go way beyond the target

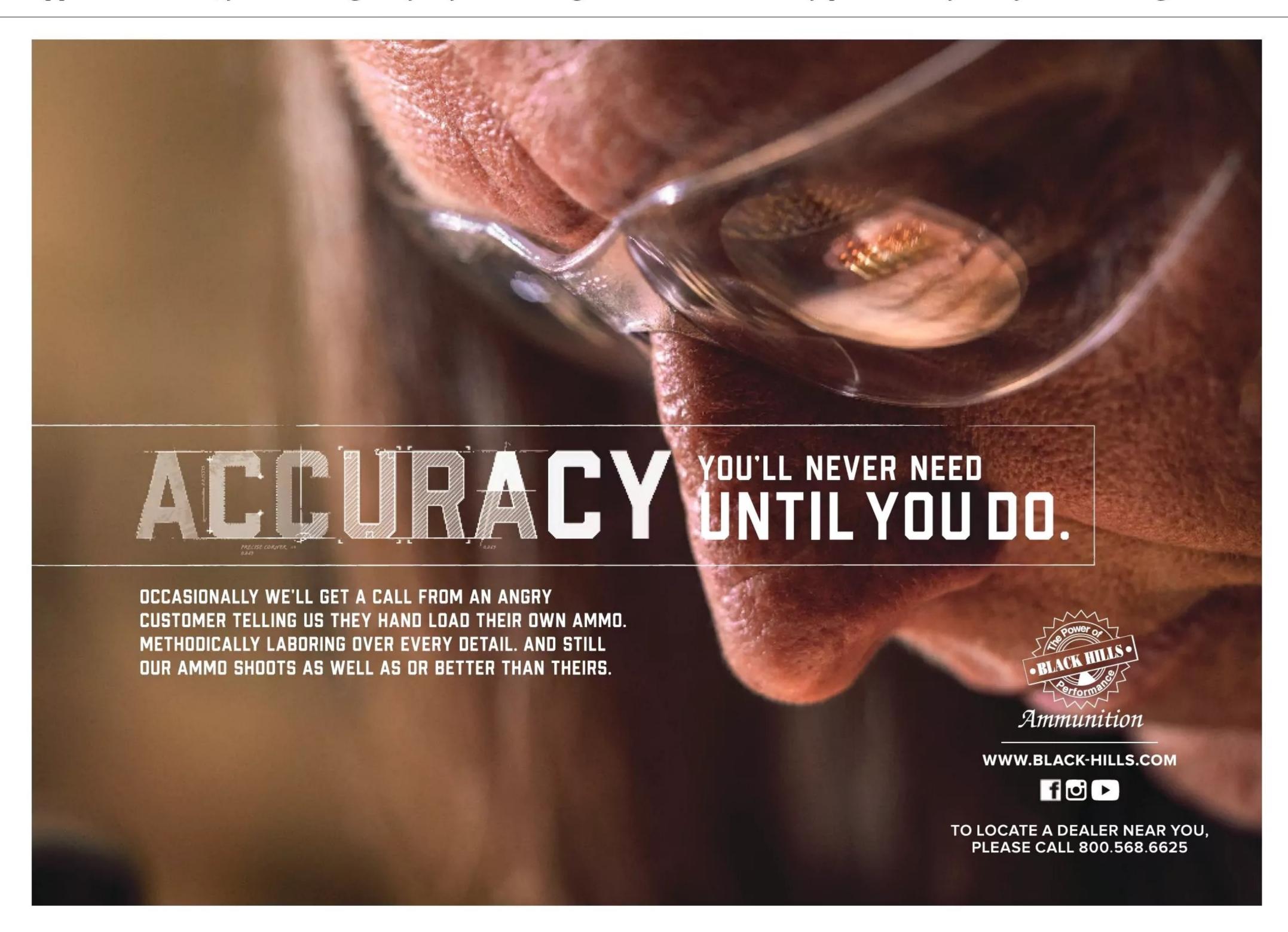


The "brg"-mark indicates the buttplate with waffenampt was made by H. W. Schmidt in Döbeln, Germany.



The 1941-manufactured rifle possesses waffenampts. The "H" and Nazi eagle designate "Heers," or regular army.

setting and then come back to it. Another problem with the scope is that elevation will change significantly when the turret-locking screw is tightened. Precise adjustments were nearly impossible. Sutkus reported that he was instructed in sniper school to get an accurate 300-meter zero and then not to touch the scope again. "Know your trajectory and compensate." I would totally agree with this for the Zf.39 scope. To zero the rifle in windage, the opposing screws in the rear scope ring must be adjusted. It was difficult to get a precise adjustment for testing. There was no consideration for adjusting windage to individual shots in the field. Holdoffs are the only practical way to adjust for windage.



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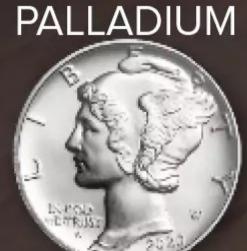
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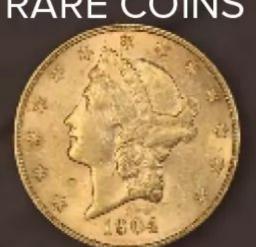
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After zeroing at 100 yards, the test team moved to 300 yards and zeroed with the handloaded ammunition. We then touched up the zero with the s.S. Patrone load, and fired at all ranges using the predicted trajectory of each period load. This effort proved acceptable for holding the torso of the target to 500 yards. Winds during the test were 10 to 20 miles per hour (mph), fishtailing from



Recoil from the 8x57mm-chambered K98k was significant. Lacking adjustment, the scope required estimated holds for hits.

12 o'clock to 2 o'clock. We avoided shooting against gusts, and Guns & Ammo Editor-in-Chief Eric Poole was the trigger man on the bench while I spotted for wind. Despite the issues with the Zf.39 scope, the K98k was accurate with all three loads. I would fully expect later war ammunition performance to progressively degrade, which was noted by Sutkus. (Results to be published in Part 4 for comparison.)

Our standard practice was to try and shoot in the same wind condition based on wind flags and observing vegetation, but it was too windy to read mirage. We succeeded most of the time, but several of the groups showed an obvious miss of calling a wind condition. With the low, fixed-power scope

and thick post reticle, wind corrections were generally "Hold right-half, hold rightedge of the silhouette," or "Hold right-edge of cardboard." Greater resolution wasn't possible, especially beyond 300 yards. In nearly every group, the elevation size of the group was less than — or much less than the windage group size.

The Zf.39 K98k, though accurate, was a difficult rifle

to use because of the scope issues. It would have required a well-trained sniper to use it effectively in war. As is the case with most any K98k and period ammunition, recoil was substantial. Shooting one of these in a protracted engagement would have left one bruised. The high-mounted scope and no cheekrest makes getting a consistent head position difficult, but a trained and practiced sniper would have been effective to 500 yards. Effectiveness would have decreased rapidly beyond 500 yards due to the low-power scope, thick post reticle and having to use holds instead of dialing.

In Part II, we examine the .303-caliber, Lee-Enfield No. 4 Mk I (T) sniper rifle with No. 32 scope.



PROOFHOUSE

LTT Beretta 1301 Blackout 12 ga.

The LTT 1301
Blackout includes several mounting points for accessories such as quick-detach-type slings and lights.

Langdon Tactical utilizes a Vang Comp Saddle (VCS) and mounting plate to carry up to six shells. A thumb strap enables the carrier to be quickly detached from the hook-and-look mounting strip.

The front sight offers a unique dual-sighting function. The wide portion of the sight supports rapid fire, such as when using buckshot. The narrow notch allows for precision shooting when using slugs, for example.



LTT BERETTA 1301 BLACKOUT

LTT BERETTA	A 1301 BLACKOUT			
TYPE	Gas-piston operated, semiautomatic			
GAUGE	12 ga.			
BARREL	18.5 in., 3-in. chamber			
OVERALL LENGTH	37.3 in.			
LENGTH OF PULL	12.25 in. to 14.75 in., adj.			
DROP AT HEEL	1.75 in.			
DROP AT COMB	1.5 in.			
WEIGHT	7 lbs., 4 oz.			
STOCK	Magpul SGA			
RECEIVER	Aluminum			
FINISH	Anodized			
TRIGGER	LTT, 4 lbs., 8 oz. (tested)			
SIGHTS	LTT Super Duty, windage adj. notch (rear); fixed post (front); Holosun 509T			
SAFETY	Crossbolt			
ACCESSORIES	Streamlight ProTac HL-X; Vang Comp side saddle; Magpul MS1 sling; hard case; Cylinder bore and Improved Cylinder (IC) OptimaBore choke tubes			

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GUNSMITH

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IMPORTER Beretta USA, beretta.com

SERVICE nology, 571-385-2979, langdontactical.com

Langdon Tactical Tech-

A COMPLETE PACKAGE

ALMOST SINCE ITS INTRODUCTION IN 1999,

many have considered the Benelli M4 to be the finest semiautomatic tactical shotgun available. A version was adopted by the U.S. Marine Corps as the M1014. In recent years, however, the Beretta 1301 Tactical — launched in 2013 — seems to be supplanting the M4 for that reputation. The Langdon Tactical Technologies (LTT) Beretta 1301 Blackout is an enhanced version that gun, making it a turnkey defensive package that includes an optic, light, side saddle and more.

LTT is helmed by Ernest Langdon, a 12-year U.S.

Marine veteran and instructor. He rose to fame as a national champion action pistol shooter, and for his trigger jobs on Beretta 92 pistols. He's worked with Beretta directly, and with several shops such as Wilson Combat to produce upgraded parts and productimproved projects of existing firearms. LTT has been so successful that Beretta has cataloged his firearms and most firearm-related retail businesses offer his products.

The LTT 1301 Blackout is built on the Beretta 1301 Tactical Mod. 2 shotgun (\$1,799, beretta.com). It is

barrel, 3-inch chamber, and seven-round-capacity magazine tube when filled with 2¾-inch shells. The barrel uses OptimaBore chokes, and Guns & Ammo's arrived with a cylinder bore choke installed and an Improved Cylinder choke in the case.

The 1301 Tactical has an aluminum receiver that is shorter than typical when compared to many shotguns. Combine this trait with a stock that has a shorter-than-average length of pull, and the 1301 Tactical appears as if it could be a short-barreled shotgun; it isn't. When comparing base models, the 1301 Tactical Mod. 2 is 2-inches shorter and more than a pound lighter than the Benelli M4 Tactical (\$2,000, benelli.com), even with barrels of the same length.

The 1301 Tactical features a rotating, chrome-plated bolt. Unique to the Beretta is its BLINK self-regulating gas-piston operating system with a split-ring valve. It reportedly seals tighter than any other system and is the main reason why the gun cycles so fast. Beretta states the 1301 Tactical Mod. 2 cycles 36-percent faster than any other shotgun. It was designed to handle everything from soft birdshot to heavy-recoiling buckshot loads. The piston is self-cleaning, and — as far as semiautomatic shotguns go, the 1301 Tactical Mod. 2 has proven itself to be as immune to fouling as semiauto scatterguns get.

Many shotgun users also believe the 1301 Tactical's controls are the best of any tactical shotgun available. The safety is a large, pronounced, reversible, triangular polymer button shaped to fit a fingertip. It's positioned exactly where the tip of a finger rests when gripping and shouldering the gun.

The bolt handle is big, too, extending beyond the receiver just more than an inch. The bolt release is also large, long and serrated.

LTT uses
a GG&G
adapter
to replace
the factory
stock with a
Magpul SGA
buttstock.

a semiauto 12-

gauge with

an 18½-

inch





The LTT 1301 retains the factory Beretta charging handle and bolt-release button. These features were already effective, intuitive to use, and tactile.



The safety is an enlarged, triangular version of a crossbolt design with fine texture on the touchpoint. The oversize button is also reversible for left-handed shooters.

Technically, the gun is based on the Beretta 1301 Gen 2 Mod 2. The Beretta 1301 Gen 2 has screw-in chokes and a beveled loading port on the underside of the receiver, but the biggest difference is the bolt release. If you accidentally hit the original Gen 1 bolt release while the bolt was forward with a round in the chamber, you'd experience a doublefeed underneath the bolt, locking the action. That was fixed with the Gen 2 design. The 1301 Gen 2 Mod. 2 added a few improvements, including an aggressively textured forend (first

appearing on the Beretta A300 Ultima Patrol) with M-Lok accessory slots, a semi-flat trigger, and an oversized carrier-stop push button with a lifter that stays up and out of the way while the magazine is being loaded.



A Holosun 509T is included as a value-add to the LTT 1301 Blackout package. It features an enclosed solar battery charger.



The Magpul SGA stock features a thick rubber buttpad, sling attachment points, and spacers to adjust the length of pull.

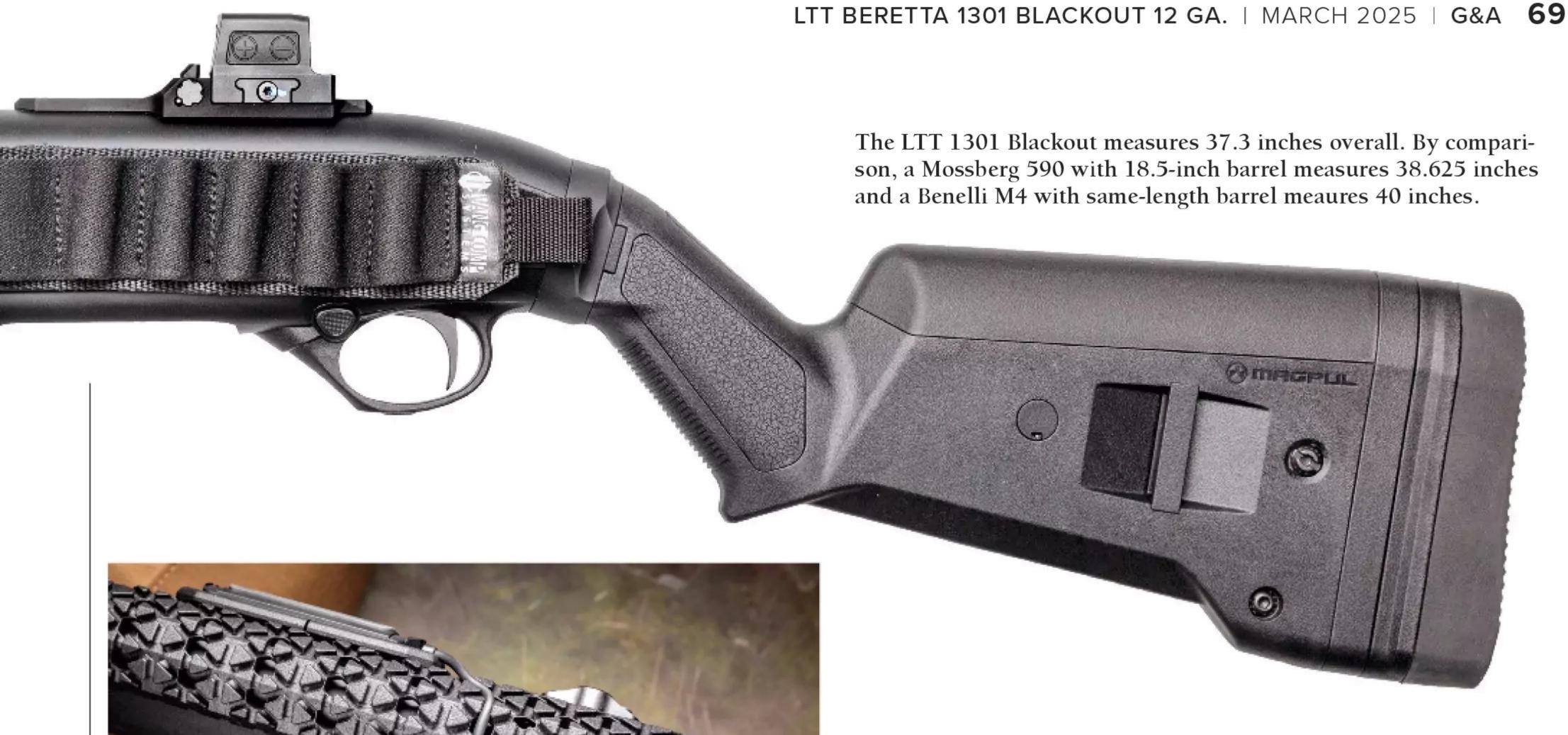
THE GOOD STUFF

LTT upgrades to the 1301 envelope are meant to maximize its function for defensive use. LTT swapped out the factory stock for a Magpul SGA stock, which was designed for the Mossberg 500. It is adapted to the 1301 using a GG&G mount. Five half-inch spacers are included with the shotgun. With no spacers installed, the overall length of the shotgun is 37.3 inches and the length of pull is 12¼ inches, which is very short. The stock and forend are set up with Magpul quick-detach (QD) sling-swivel mounts; a Magpul MS1 two-point sling is also included.

LTT replaced the serviceable ghost ring factory sights with perhaps the best tactical shotgun sights I have ever seen: LTT Super Duty Sights. This setup includes the FastBack optic mount. The FastBack mount positions the included Holosun optic low enough on the receiver to allow the shooter to align the iron sights through the window. It's far enough back that it's out of the way if you need to go over the top of the gun and stuff a shell directly into the chamber for a quick reload.

The Super Duty rear sight is a simple, pistol-style notch forward of the optic. It's 1-MOA click-adjustable for windage, and it can be adjusted using the rim of a shell.

The front sight is a wide .275-inch post with no protective wings (to reduce visual clutter). The front sight is roughly 30-MOA wide and was designed to be fast when firing buckshot. When shooting slugs, the center of the



The forend and LTT heat shield feature a clever cable management system to support lights, switches and activation pads. The design prevents damage to wires that can result from kinked angles.



The loading port is wide and beveled, preventing injury to a thumb.

front sight has a tiny notch for increased precision. Wide, notched front sights balancing speed and precision are not new and date back (at least) to the French Berthier carbines used in World War I. The sights are nitride-finished steel for durability. The sights are not adjustable for elevation, but LTT indicates it regulated elevation for Federal's low-recoil TruBall shotgun slugs at 50 yards.

The provided Holosun 509T is an enclosed optic with a titanium housing that has a 2-MOA/32-MOA circle-dot reticle; users can switch to the dot only, or just the circle. Langdon prefers running the circle reticle because it is



The remote switch for the light is positioned where the support hand falls naturally on the handguard. A lot of surface area on the handguard allow users to configure its location for individual preference.

roughly the size of the shot group at every range with premium buckshot. This makes it a quick way to gauge coverage of the target area based on the size of the circle over the target, and whether buckshot is preferrable or a switch to slugs. The optic is both battery and solar powered for up to 50,000 hours.

The factory Beretta 1301 Tactical Mod. 2 forend features aggressive raised checkering and includes M-Lok attachment slots at 3, 6 and 9 o'clock. As part of the Blackout package, the LTT 1301 shotgun comes with a Streamlight ProTac HL-X on a Magpul cantilever aluminum mount. This is a 1,000-lumen light kit that includes a cable and pressure switch to activate.

The most eye-catching part of this build is the LTT Heat Shield with Labyrinth Cable Management. The ventilated, insulative nylon heat shield does not touch the barrel and will not get too hot to burn you. Its utility is as a convenient way to manage electrical cables and switches you might have on the front of your gun. Simply push the cables down into the channels to your preference, and they'll stay out of the way. The modular switch mount holding the pressure

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PERFORMANCE

12-GAUGE, 2¾-INCH, SLUGS						
LOAD	VELOCITY (FPS)	ES	SD	BEST GROUP (IN.)	AVERAGE GROUP (IN.)	
Federal Premium 1-oz. TruBall	1,303	28	13	2.8	3.4	
Winchester 1-oz. Super-X	1,569	31	15	5.8	6.8	
Hornady 1-oz. American Gunner	1,287	36	14	6.3	7.6	

Notes: Accuracy is the average of five, three-shot groups at 100 yards from a sandbag rest. Velocity is the average of 10 shots measured with an Oehler Model 35 chronograph set at 12 feet from the muzzle.

pad for the light is set up on the left side of the forend, but you can move it if you so desire.

The LTT 1301 Blackout is also treated to an LTT trigger job. The LTT servicing noticeably smoothed out the trigger feel and provided a rolling break at 4½ pounds.

On the left side of the receiver is a Vang Comp side saddle. It is an elastic strip with Velcro backing. When not stuffed with shells, it lies flat. Keep up to six spare shells available and change out the chamber in a second.

The advantage of an extended magazine on a shotgun means that you will reload less. A shotgun is extremely effective in critical situations. The side saddle is best utilized to hold alternative types of shells that are not carried in the magazine tube such as birdshot, buckshot, slugs or breaching rounds.

AT THE RANGE

The LTT 1301 Blackout shotgun was fed a variety of birdshot, buckshot and slugs to test its reliability. It ran everything. It proved nicely accurate with all slugs tested, but Federal's low-recoil TruBall was the standout, delivering one-hole groups at 25 yards while sighting it in.

As this is a tactical shotgun, patterning was accomplished with 00-buckshot. Winchester's Super-X buckshot produced nice 6½-inch groups; Hornady's American Gunner low-recoil load averaged about 4 inches, with the occasional flyer that opened up the groups; and Federal Premium's nine-pellet low recoil Personal Defense load (PD132/LE132) was incredible, averaging 2½-inch groups. Hence, it was selected as our recommended defensive load for use in the LTT 1301 Blackout.

LASTING IMPRESSIONS

The LTT 1301 Blackout proved accurate and completely reliable. As shipped — empty but with the optic and light mounted — the tested LTT 1301 Blackout weighed 7 pounds, 11 ounces. Felt recoil was typical for a 7 ½-pound shotgun. The upgrades and accessories in this package make Beretta's premium tactical shotgun even more capable. It's not inexpensive, but you get what you pay for.

The LTT 1301 Blackout package is a Lipsey's distributor exclusive, but LTT plans on building 1301 Blackouts for as long as people like us are interested in buying them.



The LTT Fastback optic mount is secured to the topstrap of the receiver by three T20 mounting screws at 15 inch-pounds. The LTT heat shield attaches to the hand-guard and covers all of the barrel except for the muzzle and a polished ring at the receiver junction.

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Military Armament Corp. MAC 9DS-D 1911 9mm





MILITARY ARMAMENT CORP. MAC 9DS-D

TYPE	Recoil operated, hammer fired, semiautomatic					
CARTRIDGE	9mm					
CAPACITY	17+1 rds.					
BARREL	4.9 in., hammer forged 4140 steel, Tenifer QPQ finish					
LENGTH	8.8 in.					
HEIGHT	6 in.					
WIDTH	1.4 in.					
WEIGHT	2 lbs., 11 oz. (tested)					
SLIDE	4140 hammer-forged steel, Tenifer QPQ finish					
FRAME	Carbon steel, Tenifer QPQ finish; polymer grip and mainspring housing					
SIGHTS	Green fiber optic (front), black serrated notch (rear); optic ready, RMR footprint					
TRIGGER	2 lbs., 8 oz. (tested)					
SAFETY	Grip safety lever, bilateral thumb safety lever					
MSRP	\$1,100					
ANUFACTURER	Military Armament Corporation, militaryarmamentcorp.com; TISAS, Trabzon, Turkey					

IMPORTER SDS Arms, 865-604-6894, sdsarms.com





The muzzle of the MAC 9DS-D features a suppressor-height fiber-optic front sight, bushingless barrel and full-length rail.

Like the MAC 9DS, the MAC 9DS-D has a flared aluminum magazine well that helps guide magazines into the pistol for sure-hand loading. As beneficial as a magazine well can be, it can also print through the fabric of

a cover garment, making the gun more difficult to conceal. Since the magazine well is removable, the user can decide whether it stays.

The MAC 9DS-D comes with two metal 17-round magazines that protrude slightly from the magazine well. Scallops on both sides of the magazine well and corresponding scallops on the magazine basepad give the user something to grab should a magazine need to be stripped



The grip module mimics a 1911 frame, but is a one-piece polymer. The sides feature wave texture, and a 25-lpi checkered frontstrap.



Lightening cuts at the front of the slide reduce weight and provide tactile touchpoints for cycling the slide.

from the pistol.

The squared triggerguard is another feature carried over from the 9DS design, and it gives the shooter an option for placing and pressing the support-hand index finger against.

Unlike the MAC 9DS, the MAC 9DS-D has a full-length accessory rail that runs the entire length of the dust cover. It's also a single-slot rail as opposed to a four-slot rail.

CONTROLS

The beavertail grip safety on the MAC 9DS-D isn't as upswept as that of the MAC 9DS, but it continues the memory bump, making it easier to disengage the safety.



The hammer can be locked using the bilateral serrated thumb-safety lever. The beavertail grip safety protects against hammer bite.



In a worst-case scenario involving a stuck magazine, a scalloped basepad and magwell offer pinch points for manual extraction.



The grip module includes a molded square triggerguard fastened to the steel frame. The flat-face trigger was tested at just 3 pounds.

Similarly, the oversized, ambidextrous thumb safety is easily flicked on and off. Serrations support the thumb while pressing the safety lever. The "tactile" theme for controls include the slide-lock lever, and trigger, also. The bilateral safety lever doesn't just benefit lefties, either. It's useful when operating the pistol with the non-dominant hand. Like its predecessor, the no-texture magazine release on the MAC 9DS-D is reversible.

The oversized slide-stop lever is accessible to shooters with average-sized hands. The large slide-stop enabled a right-handed shooter to press and release the slide for-

ward with their left thumb after inserting a magazine. Some feel this technique is more efficient than racking the slide, and prevents accidentally sending the slide forward before the magazine is seated, which can happen when the right thumb hits the slide-stop early. (Often, this can cause a shooter to assume there is a round in the chamber when there is not.)

Of course, one of the main reasons for the 1911's longevity is the singleaction sliding trigger design. Since the trigger moves straight back, it's more conducive to accurate fire than a hinged trigger.

The MAC 9DS-D has skeletonized trigger shoe and hammer, and the trigger face is flat, save for a slight flare at the top and bottom. The trigger demonstrated little take-up, tested cleanly and offered a short reset.

THE SLIDE ASSEMBLY

Not only is the MAC 9DS-D distinctive, the rear serrations





Standard sights are tall for suppressor clearance and could be drifted for windage adjustment in the dovetails.







The MAC 9DS-D features an optic-ready slide. The optic mounting plate has an RMR footprint and a dovetailed rear sight to co-witness with the front fiber optic in the lower-fifth of the optic's window. The rear sight may also be adjusted for precise alignment.

offer three ridges rather than five, and there are only two front serrations compared to three on the MAC 9DS. The sides of the slide have lightening cuts inside the front serrations, too, providing a nice aesthetic and reducing weight.

Dovetailed sights include a green fiber-optic at the front, and a black serrated notch at the rear. The pistol is optic cut, so the rear sight is removed with the coverplate plate. The adapter plate accepts the Trijicon RMR footprint, and includes a tall, dovetailed rear for a lower-fifth co-witness with the red dot. The

sights are low enough that they do not obstruct the view through the window of an optic.

AT THE RANGE

The pistol shot accurately during testing. An average fiveshot group measured about 1.2 inches from a rest at 25 yards. The MAC 9DS-D favored Black Hills 115-grain jack-



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PERFORMANCE

LOAD	VELOCITY (FPS)	ES	SD	BEST GROUP (IN.)	AVG. GROUP (IN.)
Hornady Critical Duty +P 124-gr. FlexLock	1,161	15	5	.7	1.8
Black Hills EXP 115-gr. JHP	1,245	23	9	.9	1.2
Hornady Critical Defense 115-gr. FTX	1,176	21	7	1.8	2.1

Notes: Accuracy is the average of five, five-shot groups at 25 yards from a Ransom Multi Cal. Steady Rest. Velocity is the average of 10 shots measured using a Garmin Xero C1 Pro chronograph placed adjacent to the muzzle.



The lightening cuts within the front slide serrations support users who prefer inspecting the chamber status with a press check.

eted hollowpoint (JHP) Extra Power (EXP) load during Guns & Ammo's tests. The MAC 9DS-D was also soft shooting. It seemed as though the slide was under just enough tension to cycle, but sometimes not quite enough. The MAC 9DS-D incurred failures to feed and failures to extract with Black Hills 125-grain Honey Bad-



The MAC 9DS-D is unusual for its fulllength dustcover and rail with a single slot available to mount a light.

ger round and with Wilson Combat's 135-grain jacketed training load. A heavier recoil spring could solve this problem, but the malfunctions served as a reminder that just because you pair a quality pistol with quality ammunition doesn't equate reliability. Test your ammo prior to carrying it.

If you've been wanting to add a double-stack 9mm 1911 to your arsenal, the MAC 9DS-D won't cause you to overspend. It's an updated version of the popular MAC 9DS with most of the features and aesthetics you've admired on guns from prominent manufacturers — but without the sticker shock. CA



Lightweight and compact, yet robust and rugged enough for duty use as well as for concealed carry applications

Tactile, ambidextrous switching allows for intuitive activation in both momentary-and constant-on modes

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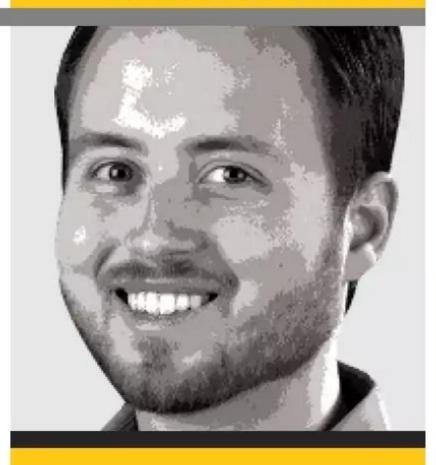




Precision starts with a crisp break

MARCH 2025 G&A 79 CONNECT

A podcast for the scoop on what's new.



ANTONIO ACITELLI

LISTEN UP!

NEW RELEASES are a tricky subject to cover in the firearms industry. Media is incentivized to be the first out the gate with as much information as possible. Traditionally, Guns & Ammo achieved this through "First Look" articles in print and on gunsandammo.com. In these reports, we aim to provide a clear, objective overview of the product's features and performance potential, usually with support provided by the manufacturer. The downside of these briefs is that they can be too impersonal or may not address every question.

To bridge the conversational gap, Guns & Ammo has launched the "Buzz Podcast," where editors and contributors sit down with manufacturers to discuss the development and testing surrounding new products. There's no set length to each episode; they run as long as the conversation demands.

TRENDSETTER W/ ROB LEATHAM

The Echelon 4.0C is a compact version of G&A's Handgun of the Year. It features a 4-inch barrel, short grip and slide, and 15- to 18-round capacity.





FROM HAMMER TO MUZZLE

With a rail and optic-ready slide, the Kimber 2K11 is a double-stack 1911 available in 9mm and .45 ACP. \$1,995 - \$2,125

Kicking off the first episode, Editor Eric Poole and Handgun Editor James Tarr discussed the Kimber 2K11 with Marketing Director Everett Deger. After that, Poole and Tarr reviewed the Springfield Armory Echelon 4.0C 9mm — a compact version of the Echelon pistol — with shooting legend Rob Leatham. Finally, rounding out the inital episodes, the Ruger/Magpul collaboration was discussed concerning the Ruger RXM 9mm chassis pistol.

CHASSIS PISTOL W/ DOUG KOENIG

The RXM was collaborative effort between Ruger and Magpul, and is a chassis-based, optic-ready design with an interchangeable grip.



Of course, the podcast isn't just for first-look product launches; it just so happened to be that the first three recordings were gun reveals. We have designed the Buzz Podcast around casual conversations that shouldn't be suppressed or shadow banned by Big Tech. If you're interested in getting to know us in a more

casual, down-to-earth conversation, give the Guns & Ammo Buzz Podcast a listen on Spotify, or watch it on You-Tube. Summaries of new releases will keep being posted, and you'll always learn more at gunsandammo.com.

Have a subject or interest that might not fit into an article, but would be a great conversation starter? Email us at gaeditor@outdoorsg.com with your suggestions for topics.

TOP COMMENTS

In response to December 2024 "Connect" column, "Terms & Conditions": I was pleasantly surprised to find mention of "Hickock45" in the December issue of Guns & Ammo. Indirectly, Mr. Kinman and his videos were what piqued my interest in firearms. His videos are always informative and never feel like a sales pitch. Hickock45 says what he means, and means what he says.

A newer YouTube channel that I thoroughly enjoy is @HonestOutlawReviews.

I'll be turning 28 in January and hopefully have several decades to enjoy firearms and the history thereof. I appreciate these content creators and all the writers and staff of Guns & Ammo for the hard work and dedication towards informing the public, as well as staying true to the 2nd Amendment.

— Logan B., Email



Respond to articles, find community and join the conversation in the Guns & Ammo forums and by engaging with us on social media:

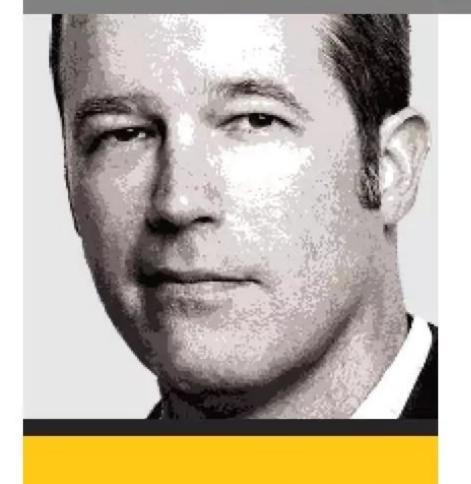








80 G&A MARCH 2025



Pulsar Thermion 2 LRF XP60

KEITH WOOD

HOT SHOTS

I'M TOLD THAT IT'S IMPOSSIBLE to hunt coyotes to extinction. The more you shoot, the more they breed. Most of the coyote activity in my area takes place at night, and some states allow them to be hunted after dark with night vision and thermal devices. Much like anything electronic, thermal optics have become smaller, less expensive and feature excellent resolution.

I mainly target coyotes when the deer are dropping fawns, and are most vulnerable. I evaluated a prototype Pulsar Thermion 2 LRF XP60 thermal optic (\$6,200, pulsarnv.com) and mounted it to a Horizon Firearms Vandal X .22 Creedmoor to protect the local deer herd (\$2,799, horizonfirearms. com). The XP60 represents the latest in premium thermal riflescope technology.

mal riflescope technology.

At its core is a 640x480 sensor and a 60mm lens.

Without getting too technical, the resolution is amazing.

It detects targets to a little more than 2,100 yards. The resolution is so good that the XP60 can be effectively used both day and night; it picks up tiny differences in heat between objects such the leaves of a tree versus a branch.

The sensor can even detect the heat differences between

white target paper and a colored bullseye, so zeroing is simple. Living creatures such as coyote and hogs stand out like they're wearing neon lights.

Judging range at night can be next to impossible using traditional rangefinders, making long shots difficult. However, the XP60 features an integrated laser that is effective to 875 yards. Coupled with its onboard ballistic software, the optic can be matched to a rifle's trajectory to provide real-time solutions — in pitch dark.

Nearly all of the controls on the XP60 are menu-based.

I'm not super tech savvy, but after watching a few YouTube videos, I had the system pretty well figured out. There are several color modes and reticle shapes to choose from. I liked the "picture in picture" mode the best, which provides a small zoomed-in box above the main image that allows precise aiming while maintaining a wide field-of-view. There is internal video and photo

capability with 64 GB of memory and a 7-hour battery life. Despite all of the features, the entire package weighs only 2½ pounds.

I used the XP60 side-byside with a high-quality set of L3 Harris AN/PVS-31 night vision goggles (NVG). While the lightweight NVGs were great for navigating terrain at night, they were no match for the Pulsar when it came

to identifying and targeting live animals. While scanning a large field where I'd set up to call for coyotes, I saw a faint object with the night vision. Switching to the Thermion 2 XP60, the dark blur morphed into the distinct white-hot shape of a coyote. The difference was startling.

Switching devices wasted valuable time, alerting the dog to sense danger. He trotted away as I sent a hurried

shot, putting an 80-grain ELD-X just over his back. Despite all of this technology, I missed. This latest experience reminded me as to why I enjoy predator hunting — because it's hard!

Soon, I will use the Pulsar
Thermion 2 XP60 LRF to plant that
coyote and eliminate some hogs.
The technology and features built
into this optic is amazing. Whether
targeting predators, feral hogs or
managing pests, Pulsar's thermal
optics have the capability to get it
done, day or night. Do you?





The Pulsar Thermion 2 LRF XP60 features a 60mm lens, allowing up to 2,500-yard detection ranges. It's ideal for ranging and shooting at night. \$6,200



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Kimber's new CDS9 is a fully machined handgun designed for the modern everyday carry handgun owner. It is fully ambidextrous, with a reversible magazine release and a direct-to-slide mount optic-cut compatible with all RMSc optic footprints. An accessory rail and multiple magazine capacities make the CDS9 a versatile, concealable platform. Find a dealer near you.







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